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Chevron Environmental Management Company

Annual 2015 Groundwater Monitoring Report

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

September 16, 2015

ARCADIS

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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 annual 2015 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 August 16, 2015. 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 August 16, 2015, two site monitoring wells, MW-11 and MW-13, 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-12 was not gauged, a vehicle parked over the monument obstructed access. Monitoring wells GEI-1 through GEI-9, MW-1 through MW-13, and recovery well RW-1 were removed from the sampling program. Measurable LNAPL was not detected in the monitoring wells. Groundwater gauging data are presented in **Table 1**.

In order to prevent the possibility of cross-contamination, wells were gauged in the order of lowest to highest historical petroleum hydrocarbon concentrations in groundwater. 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

Depth-to-groundwater during the August 2015 event was measured at 8.69 feet below top of casing (btoc) in monitoring well MW-11 and to 9.64 feet btoc in monitoring well MW-13. Groundwater elevation was 424.22 feet above mean sea level (msl) in monitoring well MW-13. Monitoring well MW-11 needs surveying to calculate groundwater elevation.

Based on the water levels measured during the August 2015 sampling event and insufficient data collected, the groundwater flow was not determined, although historical data indicates gradient is relatively flat with a westerly trend. (Groundwater elevations are summarized in **Table 1** and shown on **Figure 3**).

3. Groundwater Monitoring Results

3.1. Groundwater Sampling Methods

Groundwater samples were collected using no purge sampling procedures in accordance with the Alaska Department of Conservation (ADEC) field sampling procedures (ADEC 2010). Non-purge sampling procedures were conducted in accordance with ADEC Draft Field Sampling Guidance (ADEC, 2010), ARCADIS Bailer-Grab Groundwater Sampling (ARCADIS, 2009), and ARCADIS *Groundwater sampling with HydraSleeves – Standard Operating Procedure* (ARCADIS 2011). Disposable Teflon® bailers and HydraSleeves™ were used to collect the samples. HydraSleeves™ were lowered into the water column and were allowed to sit in the monitoring wells for at least two hours prior to sampling. After the necessary sample bottles were filled using the HydraSleeves™ for analysis of gasoline range organics (GRO) and benzene toluene, ethylbenzene, and total xylenes (BTEX), Teflon® disposable bailers (bailers) were used to fill the remaining sample bottles for analysis of diesel range organics (DRO) and residual range organics (RRO). Bailers were lowered slowly into the water column to mitigate potential volatilization.

Groundwater samples were labeled, stored in a cooler packed with ice and submitted to Pace Laboratories (Pace) in Minneapolis, Minnesota, under proper chain-of-custody procedures. Groundwater samples from monitoring wells MW-11 and MW-13 were submitted to the analytical laboratory for the following analyses:

- GRO by Alaska method AK101
- DRO by Alaska method AK102
- RRO by Alaska method AK103
- BTEX by Environmental Protection Agency (EPA) method 8260B

Concentrations of DRO include not only dissolved petroleum hydrocarbons, but also polar non-hydrocarbon compounds. Polar compounds can result from 1) biodegradation of original petroleum hydrocarbons, 2) sampling or lab artifacts, 3)

other chemicals (e.g. chlorinated compounds), or 4) naturally occurring organics. In some cases, polar compounds are a very large portion of the organics being measured as DRO. Groundwater samples from the August 2014 event were analyzed for both DRO and DRO using SGC protocols for comparison. Historical DRO and DRO with SGC data are presented in **Table 2**.

Duplicate groundwater sample BD-1 (MW-13) were collected and submitted blind to the laboratory for GRO, DRO, and BTEX analysis.

3.2. Groundwater Analytical Results

Analytical results for groundwater samples collected from monitoring wells MW-11 and MW-13 did not contain concentrations greater than their respective ADEC groundwater cleanup levels (GCLs). Analytical results obtained from the annual 2015 groundwater monitoring event are summarized in **Table 2** and are shown on **Figure 4**. Historical geochemical parameters are summarized in **Table 3**. Historical hydrographs are presented as **Figures 5** through **19**.

4. Laboratory Data Quality Assurance Summary

As required by ADEC (Technical Memorandum 06-002, dated March 2009), ARCADIS completed a laboratory data review checklist for the Pace report during the annual 2015 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).

4.2. Accuracy

The data met accuracy objectives as indicated by the laboratory quality control samples, which were within method/laboratory limits, with the following exceptions:

- Sample MW-13 was outside the acceptable limits for MS/MSD % recovery for GRO at 12% and 10%.

- Sample MW-13 failed for the MS/MSD % recovery for DRO at 70% and 73%.

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.

5. Conclusions

The groundwater flow was not determined during the August 2015 event, although historical data indicates gradient is relatively flat with a westerly trend. Groundwater samples were collected from two monitoring wells MW-11 and MW-13. Monitoring well MW-12 was inaccessible. The remaining monitoring wells were removed from the sampling program.

The analytical results of the August 2015 groundwater sampling event did not contain concentrations not greater than their respective ADEC GCLs, concentrations were indicated less than their respective laboratory reporting limits. Historical analytical

results of these three downgradient wells (MW-11, MW-12, and MW-13) indicate concentrations are below laboratory reporting limits.

The annual 2016 groundwater sampling event will be conducted in the third quarter of 2016. 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.

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

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

ADEC. *Low-Flow Groundwater Purging and Sampling Procedures for Monitoring Wells*. February 2, 2011.

ARCADIS. *Groundwater sampling with HydraSleeves – Standard Operating Procedure*. February, 2011.

ARCADIS

Tables

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)	LNAPL Removed (Gallons)
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	--	Trace	90.52	--
		07/14/08	8.22	--	Trace	91.65	--
		08/06/08	5.83	--	Trace	94.04	--
		09/10/08	8.22	8.20	0.02	91.67	--
		11/24/08	9.88	--	Trace	89.99	--
		12/18/08	10.06	--	Trace	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	--	Trace	92.67	--
		08/16/10	7.21	--	Trace	92.66	--
	[1] 432.17	09/23/10	8.29	8.25	0.04	423.91	--
		10/25/10	10.67	--	Trace	421.50	--
		11/16/10	11.46	--	Trace	420.71	--
		12/14/10	Well not measured				--
		01/05/11	Well not measured				--
		02/08/11	10.71	--	Trace	421.46	--
		03/23/11	11.39	--	Trace	420.78	--
		04/13/11	11.27	10.84	0.43	421.25	--
		06/09/11	9.40	--	Trace	422.77	--
		08/23/11	7.28	--	Trace	424.89	--
		06/12/12	9.21	--	Trace	422.96	--
		08/06/13	7.25	--	--	424.92	--
		07/09/14	6.27	--	--	425.90	--

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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)	LNAPL Removed (Gallons)
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	--
		08/23/11	7.25	--	--	424.90	--
		06/12/12	9.21	--	--	422.94	--
		08/06/13	7.32	--	--	424.83	--
		07/09/14	6.29	--	--	425.86	--
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	--	Trace	422.72	--
		08/23/11	7.25	--	Trace	424.82	--
		06/12/12	9.22	--	Trace	422.85	--
		08/06/13	7.29	--	--	424.78	--
		07/09/14	6.33	--	--	425.74	--

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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	--
		08/23/11	7.09	--	Trace	424.88	--
		06/12/12	9.00	--	Trace	422.97	--
		08/06/13	7.08	--	--	424.89	--
		07/09/14	6.03	--	--	425.94	--
GEI-5	99.88	09/04/03	8.28	5.97	2.31	93.49	--
		04/24/04	10.11	9.71	0.40	90.10	--
		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	--	--	91.93	--
		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	--	Trace	422.74	--
		08/23/11	7.84	7.56	0.28	424.82	0.2
		06/12/12	9.55	--	Trace	422.88	--
		08/06/13	8.52	7.43	1.09	424.80	--
		07/09/14	6.80	6.61	0.19	425.79	--

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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	--	Trace	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	--
		08/23/11	8.59	7.50	1.09	424.79	1.2
		06/12/12	9.75	--	Trace	422.74	--
		08/06/13	8.47	7.55	0.92	424.77	--
		07/09/14	6.73	6.72	0.01	425.77	--

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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	0.2
		08/23/11	7.33	--	--	424.81	--
		06/12/12	9.42	9.27	0.15	422.84	0.15
		08/06/13	7.21	--	--	424.93	--
		07/09/14	6.25	--	--	425.89	--
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	--
		08/23/11	7.86	--	--	424.82	--
		06/12/12	Well not measured-obstructed by ice				
		08/06/13	7.60	--	--	425.08	--
		07/09/14	6.67	--	--	426.01	--

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)	LNAPL Removed (Gallons)
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	--
		08/23/11	7.99	--	Trace	424.82	--
		06/12/12	10.07	10.01	0.06	422.79	--
		08/06/13	7.82	--	--	424.99	--
		07/09/14	6.97	--	--	425.84	--
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] 432.50	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	--
		08/23/11	7.69	--	--	424.81	--
		06/12/12	9.68	9.59	0.09	422.89	0.01
		08/06/13	7.68	--	--	424.82	--
		07/09/14	6.65	--	--	425.85	--

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)	LNAPL Removed (Gallons)
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	--
		08/23/11	6.87	--	--	424.90	--
		06/12/12	8.82	--	--	422.95	--
		08/06/13	6.90	--	--	424.87	--
		07/09/14	5.92	--	--	425.85	--
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] 432.90	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	--
		08/23/11	8.08	--	--	424.82	--
		06/12/12	10.00	--	--	422.90	--
		08/06/13	8.07	--	--	424.83	--
		07/09/14	7.09	--	--	425.81	--
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	--
		08/23/11	7.42	--	--	424.89	--
		06/12/12	9.44	--	--	422.87	--
		08/06/13	7.52	--	--	424.79	--
		07/09/14	6.62	--	--	425.69	--

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)	LNAPL Removed (Gallons)
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	--
		08/23/11	8.02	--	--	424.83	--
		06/12/12	10.02	--	--	422.83	--
		08/06/13	8.10	--	--	424.75	--
		07/09/14	7.12	--	--	425.73	--
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	--
		08/23/11	7.73	--	--	424.85	--
		06/12/12	9.68	--	--	422.90	--
		08/06/13	7.77	--	--	424.81	--
		07/09/14	6.87	--	--	425.71	--
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	--
		08/23/11	8.01	--	--	424.77	--
		06/12/12	10.02	--	--	422.76	--
		08/06/13	8.12	--	--	424.66	--
		07/09/14	7.20	--	--	425.58	--

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)	LNAPL Removed (Gallons)
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	--
		08/23/11	8.35	--	--	424.76	--
		06/12/12	10.29	--	--	422.82	--
		08/06/13	8.38	--	--	424.73	--
		07/09/14	7.42	--	--	425.69	--
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'				--
		08/23/11	7.61	--	--	424.78	--
		06/12/12	9.66	--	--	422.73	--
		08/06/13	7.70	--	--	424.69	--
		07/09/14	6.78	--	--	425.61	--
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	--
		08/23/11	7.91	--	--	424.84	--
		06/12/12	10.91	--	--	421.84	--
		08/06/13	8.02	--	--	424.73	--
	432.86	07/09/14	7.02	--	--	425.84	--
MW-11	NE	10/11/13	10.61	--	--	NE	--
		07/09/14	6.69	--	--	NE	--
		08/16/15	**8.69**	**--**	**--**	**NE**	**--**
MW-12	433.00	10/11/13	11.10	--	--	421.90	--
		07/09/14	7.49	--	--	425.51	--
		08/16/15	**Inaccessible -vehicle parked over well at least a week**				
MW-13	433.86	10/11/13	11.59	--	--	422.27	--
		07/09/14	7.72	--	--	426.14	--
		08/16/15	**9.64**	**--**	**--**	**424.22**	**--**

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)	LNAPL Removed (Gallons)
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	--
		08/23/11	7.45	--	Trace	424.85	--
		06/12/12	9.37	--	Trace	422.93	--
		08/06/13	7.42	--	--	424.88	--
		07/09/14	6.48	--	--	425.82	--

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.
"--" = Not applicable.
NE = not established
[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	DRO with SGC	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead	1,2 Dibromo-ethane
ADEC Groundwater Cleanup Levels [1]		*2,200*	*1,500*	*1,500*	*1,100*	*5*	*1,000*	*700*	*10,000*	*470*	*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										
	09/23/10	LNAPL Present - Well not sampled										
	06/10/11	LNAPL Globules Present - Well not sampled										
	08/25/11	LNAPL Globules Present - Well not sampled										
	06/13/12	LNAPL Globules Present - Well not sampled										
	08/07/13	970	49,800	43,600	<1,100	6.6	<1.0	16.9	125	<1.0	--	--
Duplicate	08/07/13	1,280	90,700	--	<1,000	6.7	<1.0	17.5	130	<1.0	--	--
	07/10/14	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										
	09/23/10	<10	2,500	--	210	<0.5	<0.5	<0.5	<1.5	--	<0.052	--
	06/10/11	13	6,100	--	930	<0.5	<0.5	<0.5	<1.00	--	--	--
	08/25/11	<10	1,100	--	840	<0.5	<0.5	<0.5	<1.50	--	--	--
Duplicate	08/25/11	<10	--	--	--	<0.5	<0.5	<0.5	<1.50	--	--	--
	06/13/12	<10	320	79	980	<0.5	<0.5	<0.5	<1.5	--	--	--
Duplicate	06/13/12	<10	190	--	--	<0.5	<0.5	<0.5	<1.5	--	--	--
	08/07/13	<100	960	<420	<1,000	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	LNAPL Globules Present - Well not sampled										
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										
	09/23/10	450	2,400	--	<140	<0.5	<0.5	2.2	8.6	--	<0.052	--
	06/10/11	LNAPL Globules Present - Well not sampled										
	08/25/11	LNAPL Globules Present - Well not sampled										
	06/13/12	LNAPL Globules Present - Well not sampled										
	08/07/13	529	25,800	23000	<1,000	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	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										
	09/23/10	LNAPL Present - Well not sampled										
	06/10/11	3,900	270,000	--	<14,000	<2.5	<10	<2.5	8.2	--		
	08/25/11	LNAPL Globules Present - Well not sampled										
	06/13/12	LNAPL Globules Present - Well not sampled										
	08/08/13	473	344,000	323,000	6300	4.3	<1.0	1.2	4.4	<1.0	--	--
	07/10/14	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	DRO with SGC	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead	1,2 Dibromo-ethane
ADEC Groundwater Cleanup Levels [1]		*2,200*	*1,500*	*1,500*	*1,100*	*5*	*1,000*	*700*	*10,000*	*470*	*15*	*0.05*
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										
	09/23/10	LNAPL Present - Well not sampled										
	06/10/11	LNAPL Globules Present - Well not sampled										
	08/25/11	LNAPL Globules Present - Well not sampled										
	06/13/12	LNAPL Present - Well not sampled										
	08/07/13	LNAPL Present - Well not sampled										
	07/10/14	LNAPL Present - Well not sampled										
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										
	09/23/10	LNAPL Present - Well not sampled										
	06/10/11	1,300	170,000	--	<8,400	2.9	<0.5	19	61			
	08/25/11	LNAPL Globules Present - Well not sampled										
	06/13/12	LNAPL Present - Well not sampled										
	08/07/13	LNAPL Present - Well not sampled										
	07/10/14	LNAPL Present - Well not sampled										
GEI-7	04/24/04	2,440	43,200	--	--	6.97	<5.00	7.58	20.0		--	--
	09/16/04	363	5,660	--	--	<0.500	1.34	8.89	14.2		--	--
	04/21/05	1,080	13,600	--	--	32.6	2.52	64.6	92.0		--	--
	09/30/05	226	6,700	--	<397	<0.500	<0.500	3.68	4.72		--	--
	04/19/06	934	25,200	--	<856	37.9	4.11	77.8	103		<1.00	--
	09/21/06	470	4,100	--	<98	1.2	<0.5	14	15		--	--
	04/03/07	2,200	12,000	--	<980	50	4	90	200		--	--
	04/03/07 [D]	2,200	12,000	--	<980	40	4	90	200		--	--
	09/29/07	1,500	130,000	--	<2,000	<5	<5	<10	<20		27.9	--
	09/29/07 [D]	900	92,000	--	<2,000	<5	<5	<10	<20		--	--
	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										
	09/24/10	570	1,900	--	200	<2.0	<2.0	9.7	11		<0.052	--
	06/10/11	LNAPL Present - Well not sampled										
	08/25/11	LNAPL Globules Present - Well not sampled										
	06/13/12	LNAPL Present - Well not sampled										
	08/08/13	561	37,200	34000	<1,200	<1.0	<1.0	12.2	14.7	<1.0	--	--
	07/10/14	203	102,000	78,900	630	<1.0	<1.0	1.2	<3.0	--	--	--
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										
	09/23/10	11	530	--	220	<0.5	<0.5	<0.5	<1.5	--	<0.052	--
	06/10/11	1,300	26,000	--	<3,400	<2.5	<2.5	<2.5	<7.5	--	--	--
	08/25/11	20	99,000	--	<3,500	<0.5	<0.5	<0.5	<1.5	--	--	--
Duplicate	08/25/11	32	--	--	--	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/13/12	Obstruction - Well not sampled										
	08/08/13	<100	**4,200**	**3,500**	<1,000	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
Duplicate	08/08/13	<100	3,000	--	<1,000	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	<100	1,200	910	<400	<1.0	<1.0	<1.0	<3.0	--	--	--
GEI-9	04/24/04	8,370	33,700	--	--	9.53	<5.00	113	321	--	--	--
	09/16/04	1,350	77,400	--	--	17.3	<0.500	58.3	57.5	--	--	--
	04/21/05	Well buried by snow/ice										
	09/30/05	838	50,900	--	<443	16.2	<0.500	55.4	82.3	--	--	--
	04/19/06	Well buried by snow/ice										
	09/21/06	1,200	95,000	--	<1,900	23.0	<0.5	52	80	--	36.5	--
	09/21/06 [D]	1,300	43,000	--	<980	22.0	<0.5	50	75	--	--	--
	04/03/07	1,600	9,700	--	<400	6.0	<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										
	09/23/10	LNAPL Present - Well not sampled										
	06/10/11	LNAPL Present - Well not sampled										
	08/25/11	LNAPL Globules Present - Well not sampled										
	06/13/12	LNAPL Present - Well not sampled										
	08/07/13	512	29,800	25,200	<1,000	8.20	<1.0	12.8	39	<1.0	--	--
	07/10/14	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	DRO with SGC	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead	1,2 Dibromo-ethane
ADEC Groundwater Cleanup Levels [1]		*2,200*	*1,500*	*1,500*	*1,100*	*5*	*1,000*	*700*	*10,000*	*470*	*15*	*0.05*
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										
	09/24/10	1,800	12,000	--	<1,500	21	<0.5	55	130	--	--	--
	09/24/10	1,800	--	--	--	22	<0.5	56	130	--	--	--
	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	--	--	--
	08/25/11	2,600	82,000	--	<3,400	32.0	9.1	45	130	--	--	--
	06/13/12	LNAPL Present - Well not sampled										
	08/08/13	678	8,300	5,000	<1,000	13.7	<1.0	51.7	97.2	<1.0	--	--
	07/10/14	Well not sampled										
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	--
	09/23/10	<10	100	--	150	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/10/11	<10	85	--	200	<0.5	<0.5	<0.5	<1.5	--	--	--
	08/25/11	<10	1,000	--	790	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/13/12	<10	170	<50	170	<0.5	<0.5	<0.5	<1.5	--	--	--
	08/07/13	<100	<420	<420	<1,000	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	<100	510	<400	<400	<1.0	<1.0	<1.0	<3.0	--	--	--
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	--	--	--
	09/24/10	27	510	--	91	<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	--	--	--
	08/25/11	71	10,000	--	<690	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/13/12	LNAPL Globules Present - Well not sampled										
	08/08/13	<100	15,100	14,200	<1,100	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	121	11,000	9,900	<420	<1.0	<1.0	<1.0	<3.0	--	--	--
Duplicate	07/10/14	<100	17,300	14,500	<400	<1.0	<1.0	<1.0	<3.0	--	--	--
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	Well not sampled										
	09/24/10	<10	56	--	75	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/10/11	<10	<50	--	<71	<0.5	<0.5	<0.5	<1.5	--	--	--
	08/25/11	20	62	--	77	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/13/12	<10	120	<50	<71	<0.5	<0.5	<0.5	<1.5	--	--	--
	08/07/13	<100	<450	<450	<1,100	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	<100	<400	--	<400	<1.0	<1.0	<1.0	<3.0	--	--	--
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	--	--	--
	09/24/10	230	6,500	--	<690	<0.5	<0.5	4.3	7.8	--	--	--
Duplicate	09/24/10	240	--	--	--	<0.5	<0.5	4.6	8.0	--	--	--
	06/10/11	3,800	63,000	--	<6,900	<0.5	<0.5	5.2	23	--	--	--
	08/25/11	210	2,700	--	<140	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/13/12	130	7,000	10,000	<720	<0.5	<0.5	0.6	2.8	--	--	--
	08/08/13	<100	3,600	2,900	<1,100	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	<100	1,800	1,500	<400	<1.0	<1.0	<1.0	<3.0	--	--	--
Duplicate	07/10/14	<100	1,300	--	<430	<1.0	<1.0	<1.0	<3.0	--	--	--
MW-6	09/24/10	81	560	--	86	<0.5	<0.5	2.3	3.9	--	--	--
	06/10/11	86	730	--	1,600	<0.5	<0.5	0.6	<5	--	--	--
	08/25/11	58	770	--	430	<0.5	<0.5	1.1	2	--	--	--
	06/13/12	41	460	160	150	<0.5	<0.5	<0.5	<1.5	--	--	--
	08/07/13	<100	450	<420	<1,000	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	<100	<420	--	<420	<1.0	<1.0	<1.0	<3.0	--	--	--
MW-7	09/24/10	<10	200	--	92	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/10/11	<10	650	--	2,000	<0.5	<0.5	<0.5	<1.5	--	--	--
	08/25/11	<10	150	--	190	<0.5	<0.5	<0.5	<1.5	--	--	--
	06/13/12	<10	360	<52	770	<0.5	<0.5	<0.5	<1.5	--	--	--
	08/08/13	<100	<420	<420	<1,000	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	<100	<400	--	<400	<1.0	<1.0	<1.0	<3.0	--	--	--
MW-8	09/24/10	1,000	4,500	--	<360	1.3	<0.5	38	69		--	--
	06/10/11	LNAPL Globules Present - Well not sampled										
	08/25/11	LNAPL Globules Present - Well not sampled										
	06/13/12	LNAPL Globules Present - Well not sampled										
	08/08/13	313	7,800	4,500	<1,100	<1.0	<1.0	<1.0	3.4	<1.0	--	--
	07/10/14	100	7,800	7,400	<400	<1.0	<1.0	<1.0	<3.0	--	--	--
MW-9	09/24/10	890	6,000	--	<730	7.3	<0.5	50	55		--	--
	06/10/11	Obstruction - Well not sampled										
	08/25/11	460	260	--	350	5.9	<2.5	35	42		--	--
	06/13/12	Obstruction - Well not sampled										
	08/08/13	304	3,200	1,500	<1,000	2.9	<1.0	32.2	23.5	<1.0	--	--
	07/10/14	<100	<420	--	<420	<1.0	<1.0	<1.0	<3.0	--	--	--

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

Monitoring Well	Date Sampled	GRO	DRO	DRO with SGC	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead	1,2 Dibromo-ethane
ADEC Groundwater Cleanup Levels [1]		***2,200***	***1,500***	***1,500***	***1,100***	***5***	***1,000***	***700***	***10,000***	***470***	***15***	***0.05***
MW-10	09/24/10	<10	850	--	520	<0.5	<0.5	<0.5	<1.5		--	--
	06/10/11	<10	700	--	480	<0.5	<0.5	<0.5	<1.5		--	--
	08/25/11	<10	960	--	530	<0.5	<0.5	<0.5	<1.5		--	--
	06/13/12	<10	630	<50	240	<0.5	<0.5	<0.5	<1.5		--	--
	08/08/13	<100	900	<420	<1,000	<1.0	<1.0	<1.0	<3.0	<1.0	--	--
	07/10/14	<100	<420	--	<420	<1.0	<1.0	<1.0	<3.0	--	--	--
MW-11	10/11/13	<100	<420	--	<420	<1.0	<1.0	<1.0	<3.0	--	--	--
	07/10/14	<100	<400	--	<400	<1.0	<1.0	<1.0	<3.0	--	--	--
	08/16/15	**<100**	**<400**	**--**	**<400**	**<1.0**	**<1.0**	**<1.0**	**<3.0**	**--**	**--**	**--**
MW-12	10/11/13	<100	<420	--	<420	<1.0	<1.0	<1.0	<3.0	--	--	--
	07/10/14	<100	<430	--	<430	<1.0	<1.0	<1.0	<3.0	--	--	--
	08/16/15	**Inaccessible - vehicle parked over well for a week, unable to locate owner**										
MW-13	10/11/13	<100	<390	--	<390	<1.0	<1.0	<1.0	<3.0	--	--	--
Duplicate	10/11/13	<100	<430	--	<430	<1.0	<1.0	<1.0	<3.0	--	--	--
	07/10/14	<100	<400	--	<400	<1.0	<1.0	<1.0	<3.0	--	--	--
	08/16/15	**<100**	**<400**	**--**	**<400**	**<1.0**	**<1.0**	**<1.0**	**<3.0**	**--**	**--**	**--**
Duplicate	**08/16/15**	**<100**	**<400**	**--**	**<400**	**<1.0**	**<1.0**	**<1.0**	**<3.0**	**--**	**--**	**--**
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	--	--	--
	09/24/10	330	4,100	--	<350	<0.5	<2.0	1.3	8.6	--	--	--
	06/10/11	3,500	140,000	--	<6,800	<2.5	<10	4	39	--	--	--
	08/25/11	LNAPL Globules Present - Well not sampled										
	06/13/12	LNAPL Globules Present - Well not sampled										
	08/07/13	317	3,900	2,600	<1,100	<1.0	<1.0	1.5	8.1	<1.0	--	--
	07/10/14	LNAPL Globules Present - Well not sampled										

Notes:
GRO = Gasoline range organics by Alaska method 101
DRO = Diesel range organics by Alaska method 102
SGC = Silica gel cleanup
RRO = Residual range organics by Alaska method 103
BTEX and 1,2-Dibromoethane by EPA method 8021B
EPA = Environmental Protection Agency
MTBE = Methyl-tert-butyl ether by EPA method 8260B
Lead by EPA method 6020
ADEC = Alaska Department of Environmental Conservation
GCL = groundwater cleanup level
All results are reported in micrograms per liter (µg/l).
-- = 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.
LNAPL = light non-aqueous phase liquid

[D] - duplicate of preceding sample.
Bold Type indicates most recent sampling event.
[1] ADEC Groundwater Cleanup Levels (GCL) per 18 AAC 75.345, Table C, Register 188, October 9, 2008.
[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.

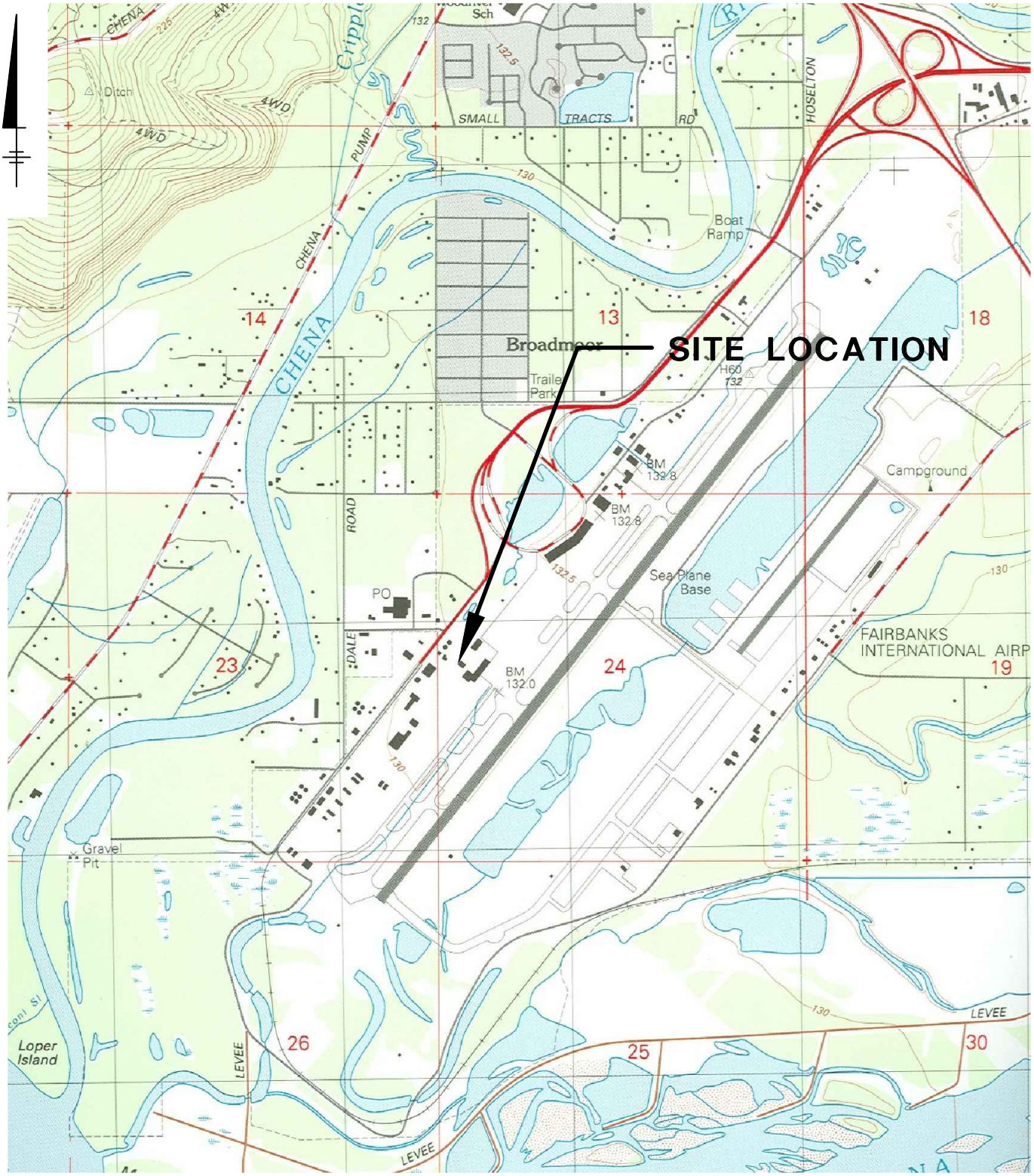
Table 3
Geochemical Parameter Monitoring Data
Former Chevron Facility 306443
Gate 28, West Ramp, Fairbanks International Airport
Fairbanks, Alaska

Relative Location	Monitoring Well ID	Date Sampled	DO (mg/L)[1]	ORP (mV)[1]	Total Alkalinity (mg/L as $CaCO_3$)[2]	Sulfate (mg/L)[3]	Nitrate as Nitrogen (mg/L)[3]	Methane (mg/L)[4]	Ferrous Iron (mg/L)[5]	Nitrate by Field Measurement (mg/L)[5]
Cross gradient	GEI-4	04/22/09	0.56	-80.61	349	6.22	<0.20	1.95 [6]	4.0	0.0
Within Plume Close to Source	GEI-8	04/22/09	0.60	-93.16	588	7.40	<0.20	0.468	6.2	0.0
Cross gradient	MW-1	04/22/09	0.32	-108.16	540	<0.40	<0.20	16.5 [6]	5.6	0.0
Cross gradient	**MW-2**	**06/13/12**	**--**	**--**	**412**	**31**	**1.2**	**0.014**	**--**	**--**
Down gradient	MW-3	04/22/09	1.07	-108.06	338	8.24	<0.20 [7]	1.05 [6]	3.0	0.0
Down gradient	**MW-4**	**06/13/12**	**--**	**--**	**268**	**22.0**	**<0.25**	**0.011**	**--**	**--**
Down gradient	MW-5	04/22/09	0.31	-84.71	438	6.88	<0.20 [7]	1.2 [6]	5.0	0.0
Down gradient	MW-5 [D]	04/22/09	--	--	429	6.84	<0.20 [7]	0.832	--	--
Down gradient	**MW-7**	**06/13/12**	**--**	**--**	**305**	**19.2**	**<0.25**	**0.110**	**--**	**--**
Up gradient	**MW-10**	**06/13/12**	**--**	**--**	**440**	**28.4**	**<0.25**	**0.069**	**--**	**--**

Notes:
[1]: DO and ORP measured using an In-Situ® 9500 and flow through cell instrument.
[2]: Total alkalinity analyzed using EPA method 310.1.
[3]: Sulfate and nitrate as nitrogen analyzed by EPA method 300.0.
[4]: Methane analyzed using GC/FID, with exception of 6/13/12 analyzed by RSKSOP-175 modified.
[5]: Ferrous iron and nitrate field measurement analyzed using a Hach field kit.
[6]: Sample required dilution due to high concentrations of target analyte.
[7]: The holding time was not met.

DO = Dissolved oxygen
ORP = Oxidation-reduction potential
"<" = Indicates analyte not detected above MRL
"--" = Indicates analyte was not sampled or analyzed for
[D] Duplicate
mV = millivolts
Bold Type indicates most recent sampling event, which was in 2012.
MRL = Method reporting limit
$CaCO_3$ = Calcium carbonate
EPA = Environemental Protection Agency
mg/L = milligrams per liter
µg/L = micrograms per liter
ADEC = Alaska Department of Environmental Conservation

Figures



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.

ANNUAL 2015 GROUNDWATER MONITORING REPORT

SITE LOCATION MAP

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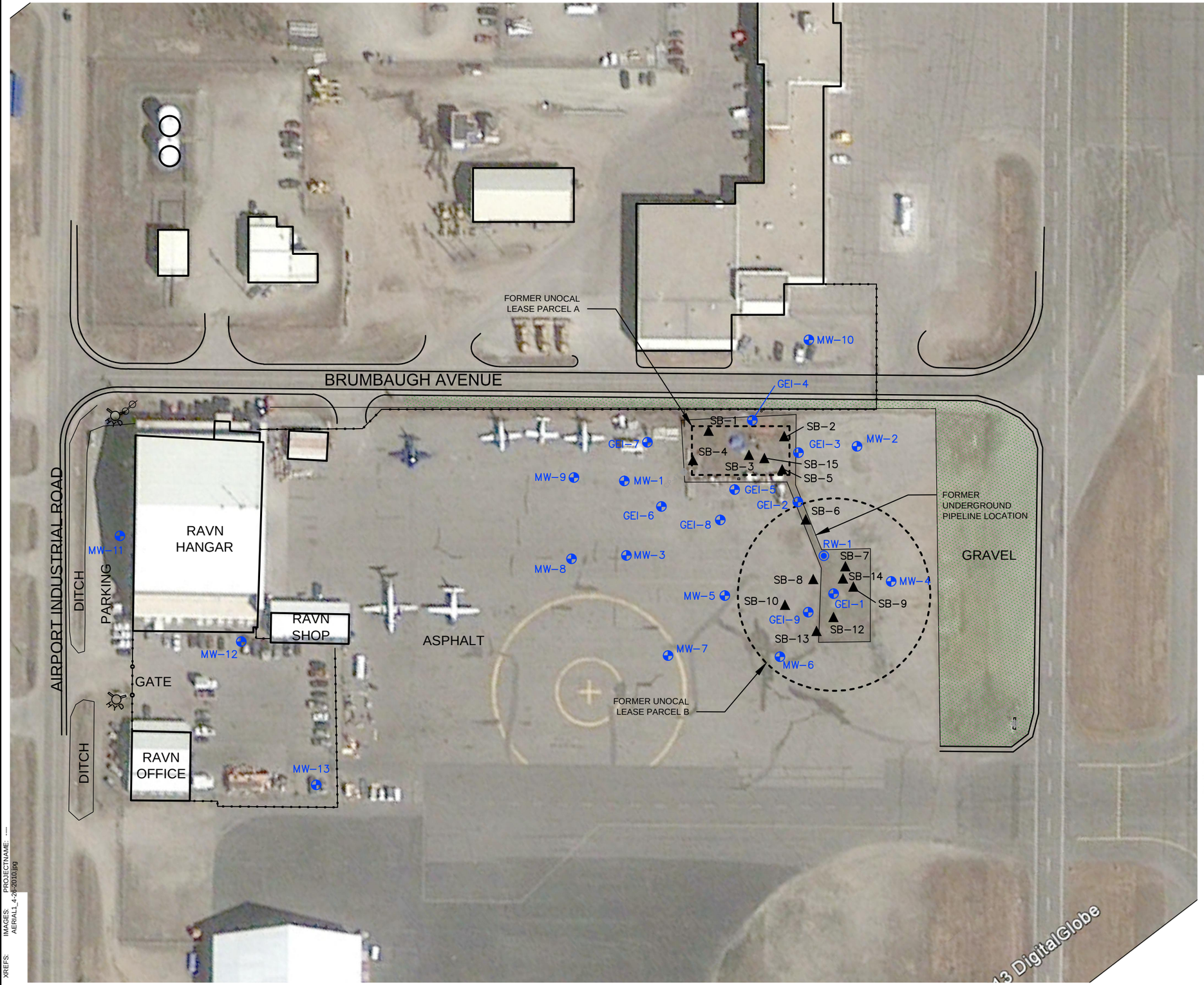
FIGURE 1



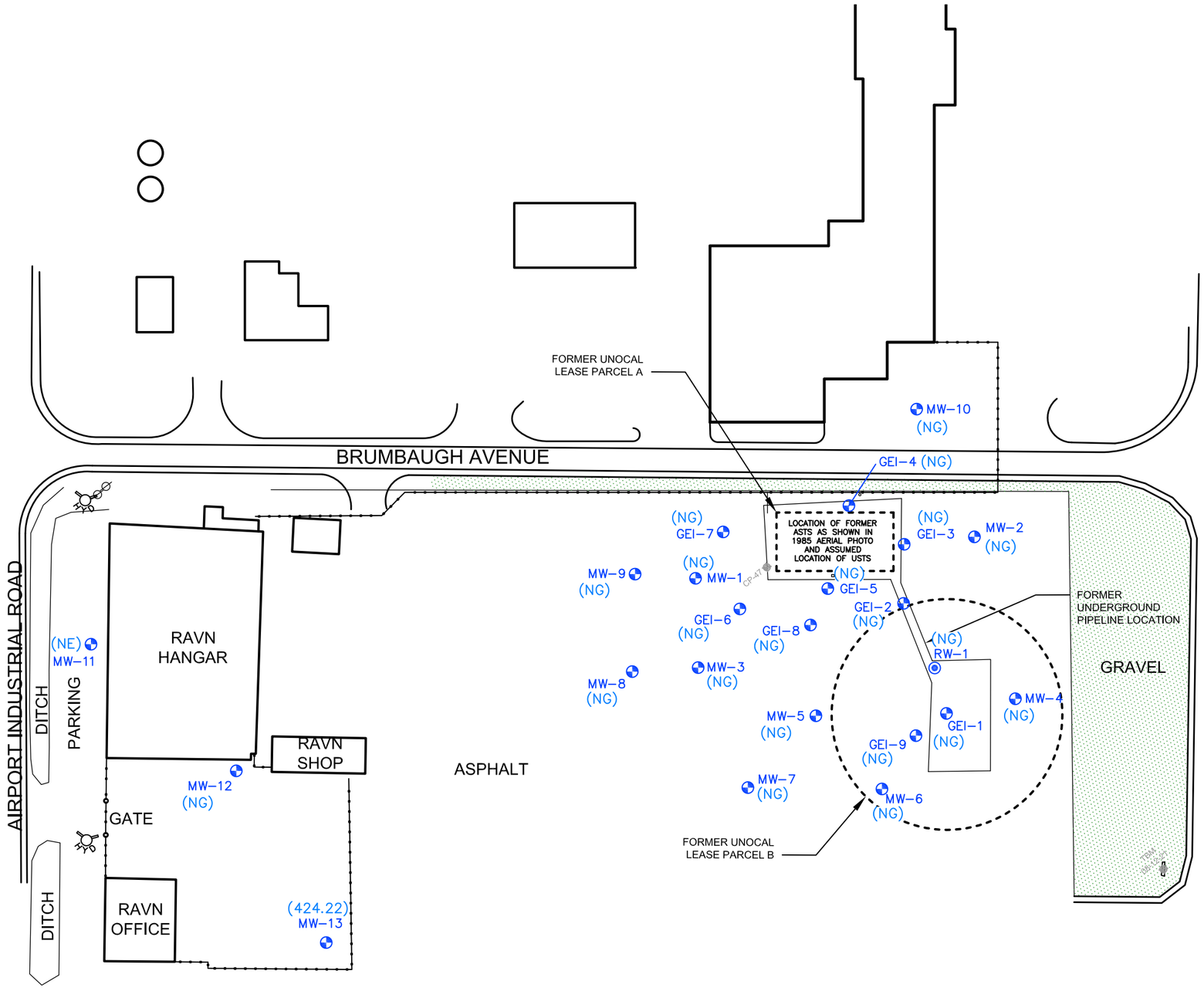
SOURCE: Base map provided by GEOENGINEERS. Map date 5/15/05, full scale. Base map updated with survey information by "McLane Consulting, Inc.", Date 8/31/08 and 10/28/10.

CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
GATE 28, WEST RAMP, FAIRBANKS AIRPORT, FAIRBANKS, AK.
ANNUAL 215 GROUNDWATER MONITORING REPORT

SITE MAP

ARCADIS

FIGURE
2



LEGEND

- FIRE HYDRANT
- POWER POLE
- CHAINLINK FENCE
- MONITORING WELL
- RECOVERY WELL
- (424.22) WATER–TABLE ELEVATION (FEET)
- (NE) NOT ESTABLISHED
- (NG) NOT GAUGED

NOTE: UNABLE TO SHOW CONTOURS, INSUFFICIENT DATA AND SITE IS RELATIVELY FLAT.

0 100' 200'

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.

ANNUAL 215 GROUNDWATER MONITORING REPORT

GROUNDWATER ELEVATION MAP - AUGUST 16, 2015

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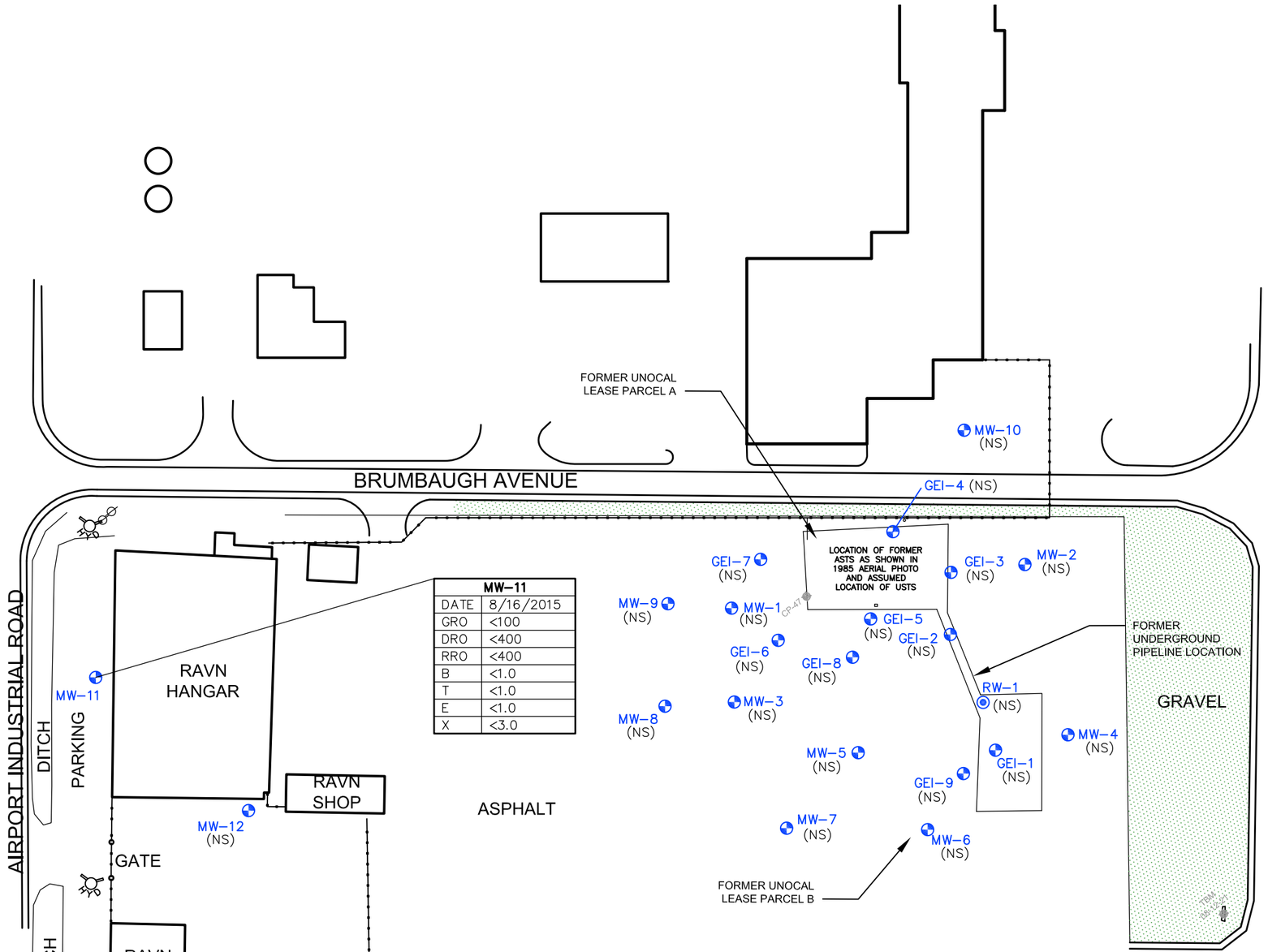
FIGURE
3

CITY:TMA-A, FL DIV/GROUP:85 DB:R PETRIE LD:J RICHARDS PIC:(Opt) PM:(Reqd) TM:(Opt) LYRs:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\TAMPA\ACT\Chevron\USA\Chevron 306443\B0045507\2015\00115.GWR01\Annual 2015 GMRIB0045507B01.dwg LAYOUT: 3 SAVED: 9/9/2015 2:43 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 9/9/2015 2:44 PM BY: RICHARDS, JIM
XREFS: IMAGES: PROJECTNAME: ---
AERIAL1_4-26-2010.jpg



MW-11	
DATE	8/16/2015
GRO	<100
DRO	<400
RRO	<400
B	<1.0
T	<1.0
E	<1.0
X	<3.0

MW-13	
DATE	8/16/2015
GRO	<100/<100
DRO	<400/<400
RRO	<400/<400
B	<1.0/<1.0
T	<1.0/<1.0
E	<1.0/<1.0
X	<3.0/<3.0

LEGEND

- FIRE HYDRANT
- POWER POLE
- CHAINLINK FENCE
- MONITORING WELL
- RECOVERY WELL

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)

<1.0/<1.0 = DUPLICATE SAMPLE COLLECTED

NS = NOT SAMPLED

0 100' 200'

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.

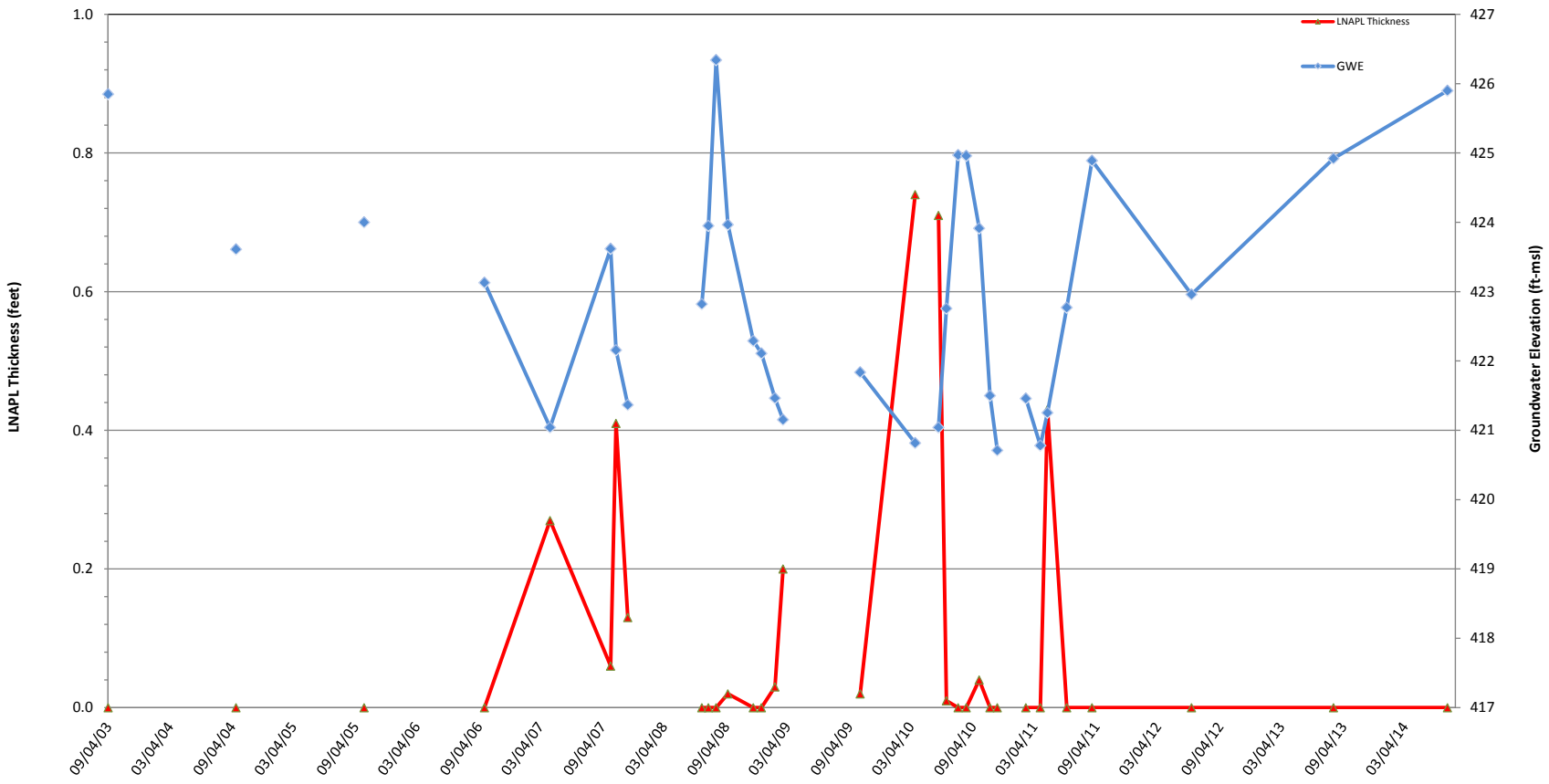
CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
GATE 28, WEST RAMP, FAIRBANKS AIRPORT, FAIRBANKS, AK.
ANNUAL 215 GROUNDWATER MONITORING REPORT

GROUNDWATER ANALYTICAL DATA AUGUST 16, 2015

ARCADIS

FIGURE
4

CITY:TMA-A, FL DIV/GROUP:85 DB:R.PETRIE LD:J.RICHARDS PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\TAMPA\ACT\Chevron\USA\Chevron 306443\B0045507\2015\0015.GWR01\Annual 2015 GMRB0045507B01.dwg LAYOUT: 4 SAVED: 9/9/2015 2:53 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 9/9/2015 2:54 PM BY: RICHARDS, JIM
XREFS: IMAGES: PROJECTNAME: ---
AERIAL1_4-26-2010.jpg



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well GEI-1 Historical Groundwater Elevation and LNAPL Thickness

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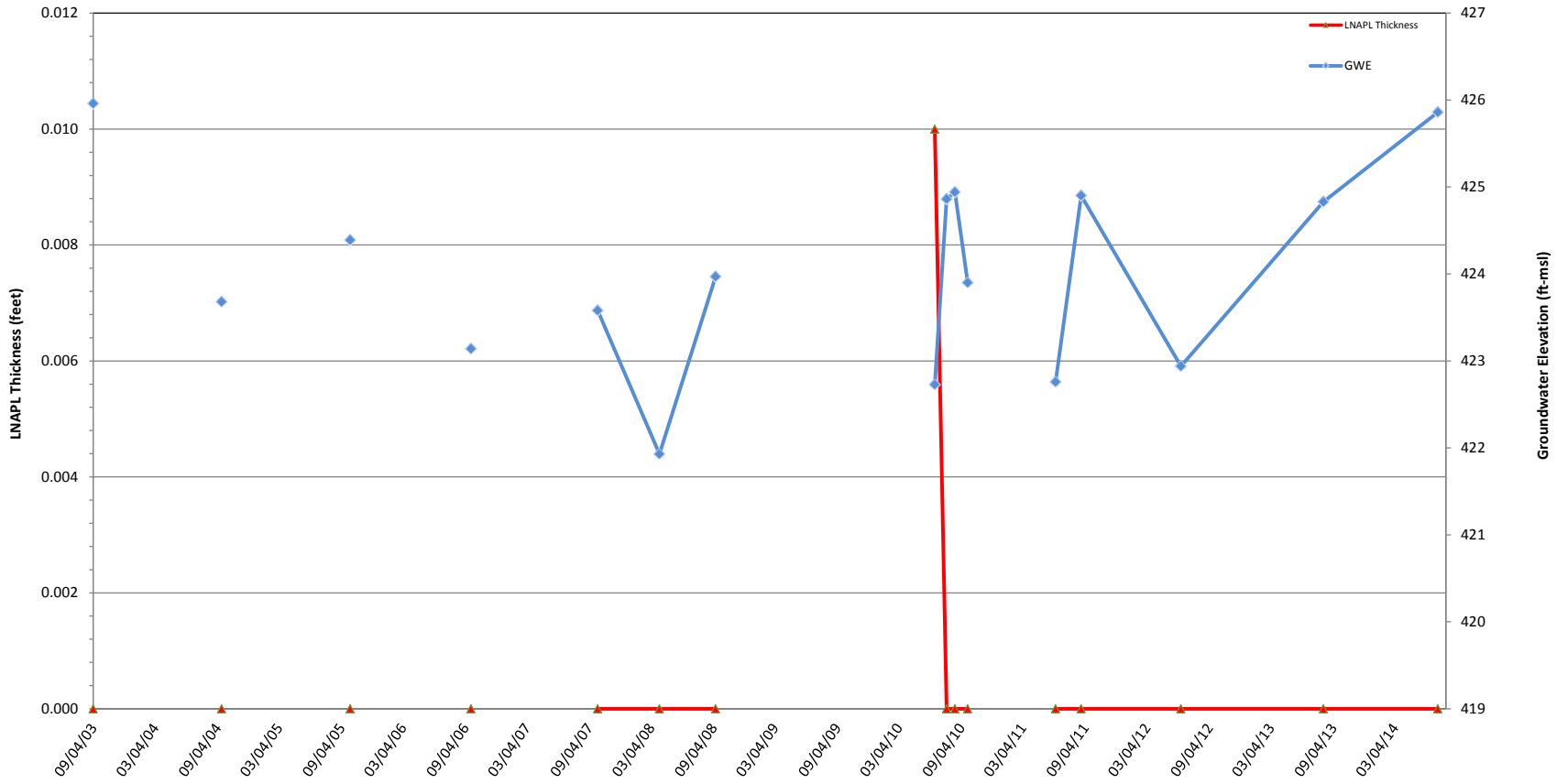
FIGURE
5



LEGEND:

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CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
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Monitoring Well GEI-2 Historical Groundwater Elevation and LNAPL Thickness

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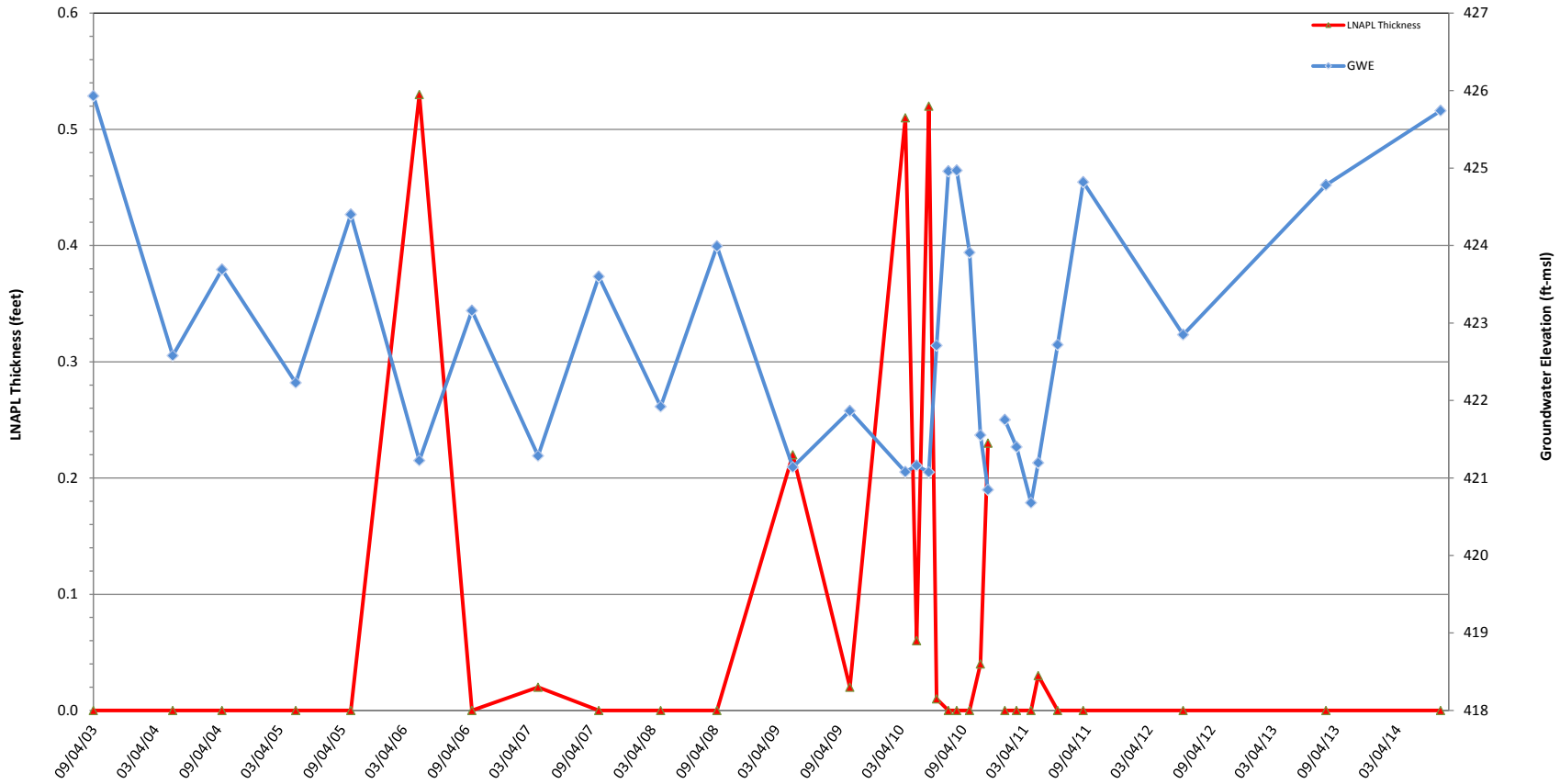
FIGURE
6



LEGEND:

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LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
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Monitoring Well GEI-3 Historical Groundwater Elevation and LNAPL Thickness

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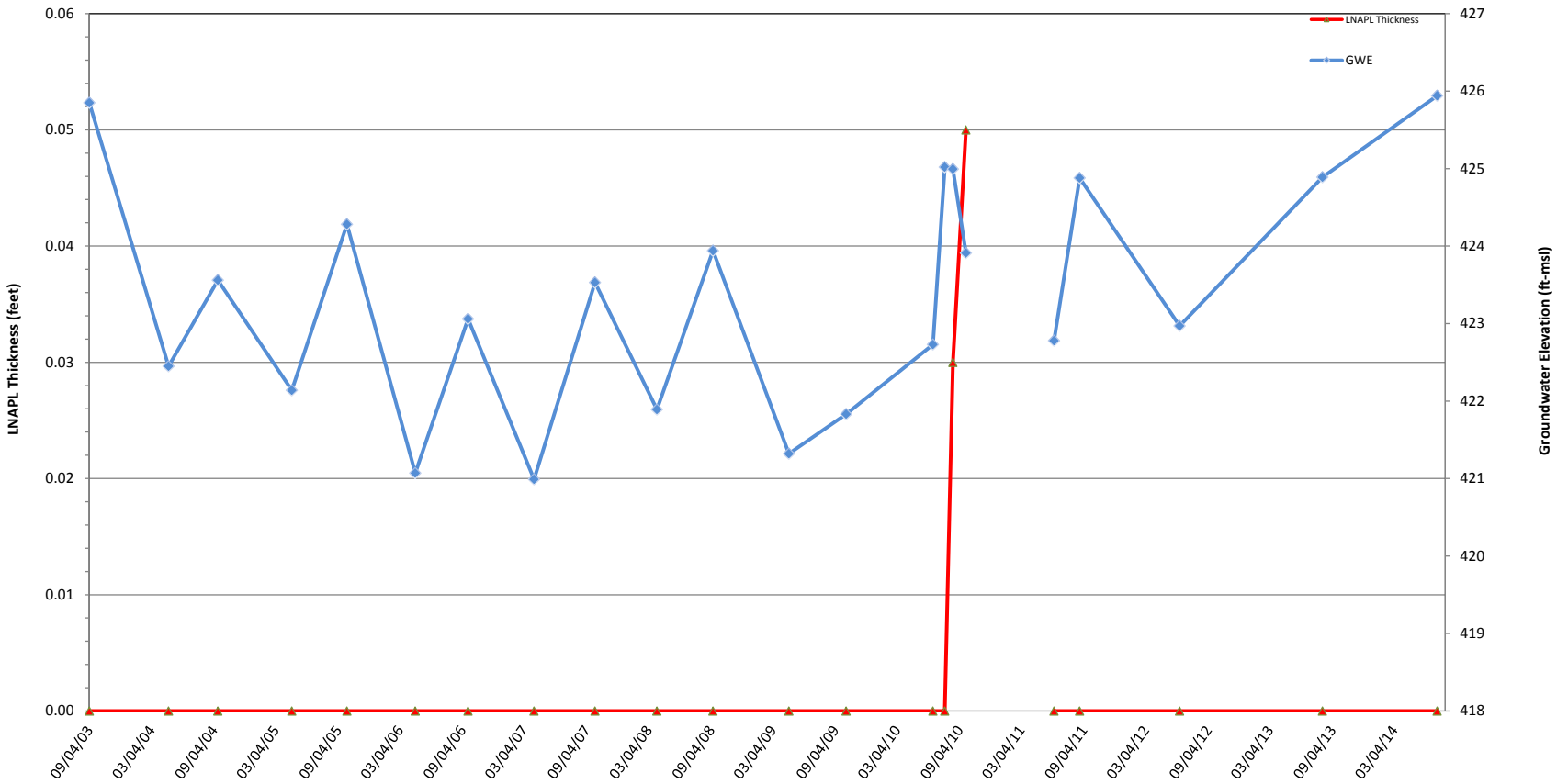
FIGURE
7



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well GEI-4 Historical Groundwater Elevation and LNAPL Thickness

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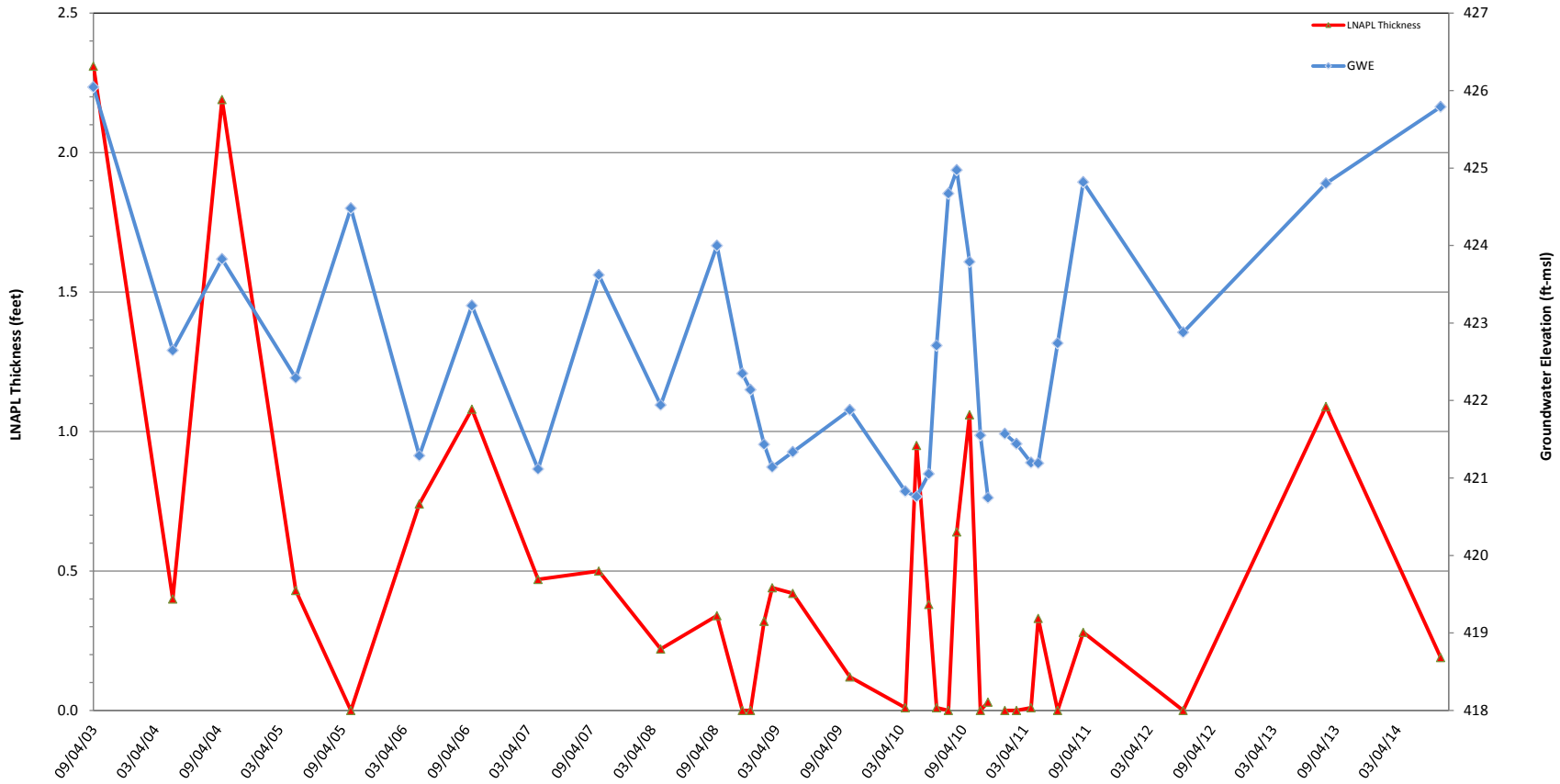
FIGURE
8



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well GEI-5 Historical Groundwater Elevation and LNAPL Thickness

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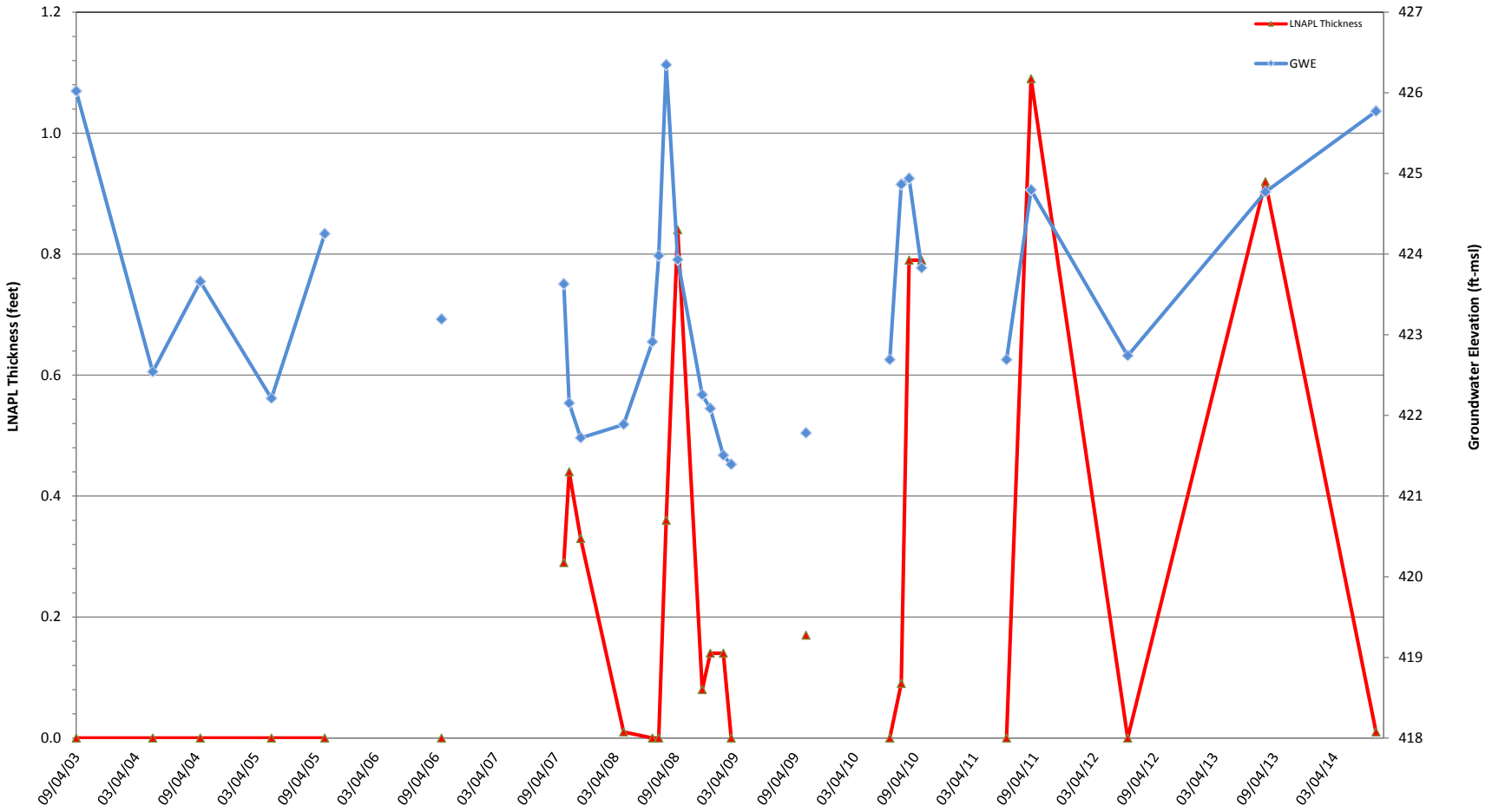
FIGURE
9



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well GEI-6 Historical Groundwater Elevation and LNAPL Thickness

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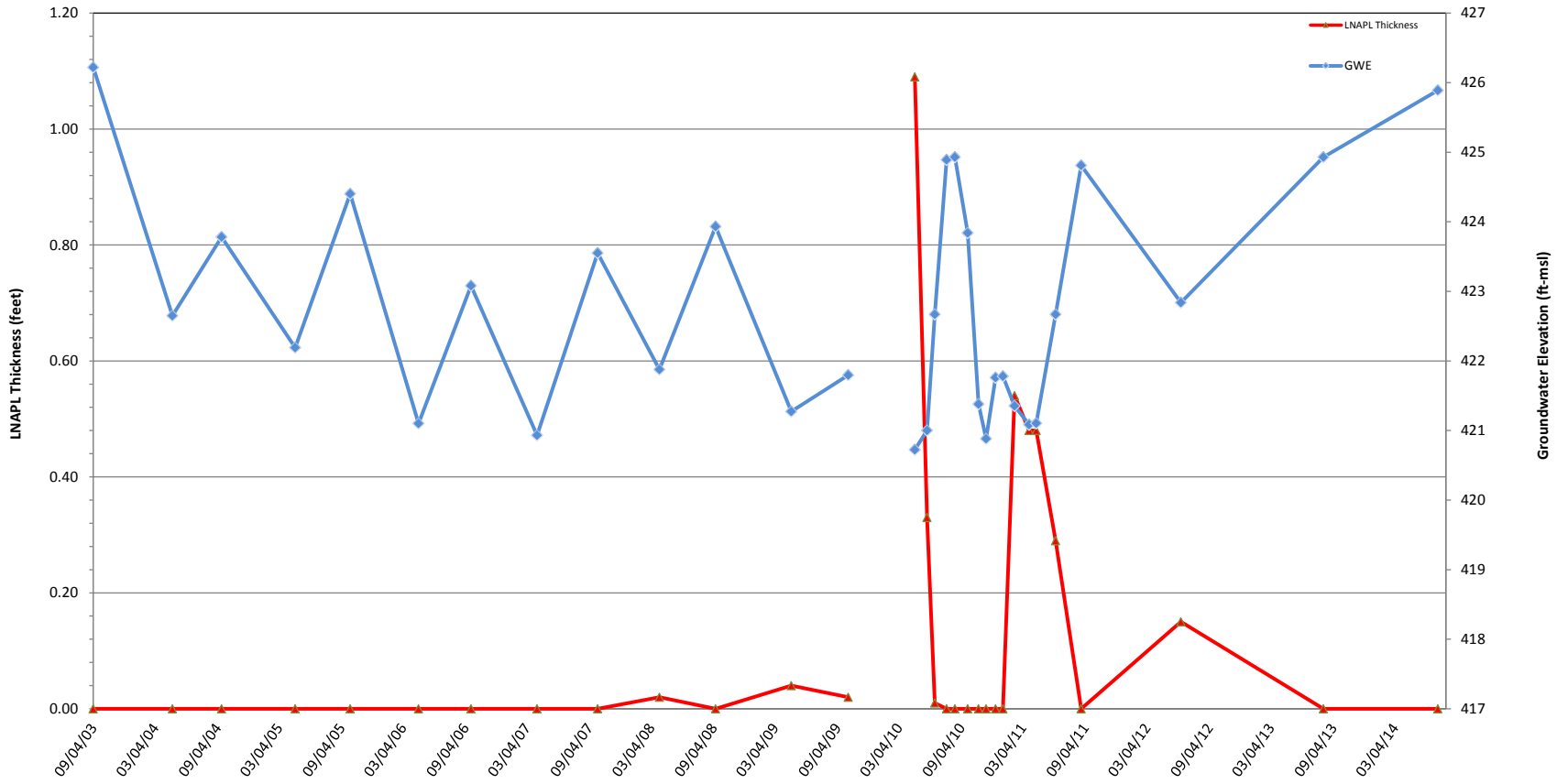
FIGURE 10



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well GEI-7 Historical Groundwater Elevation and LNAPL Thickness

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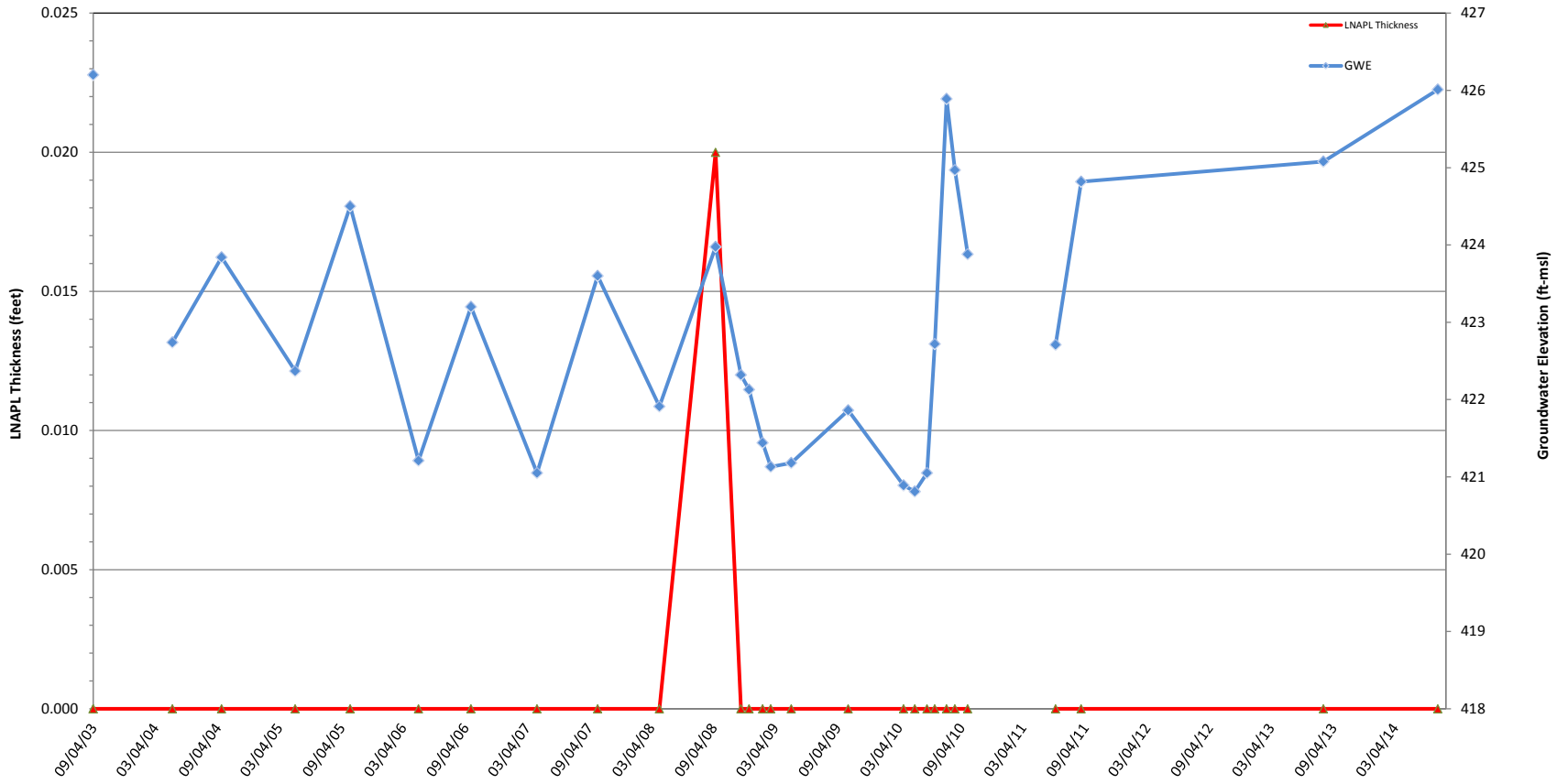
FIGURE
11



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged, including First Semi-Annual 2012

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

Monitoring Well GEI-8 Historical Groundwater Elevation and LNAPL Thickness

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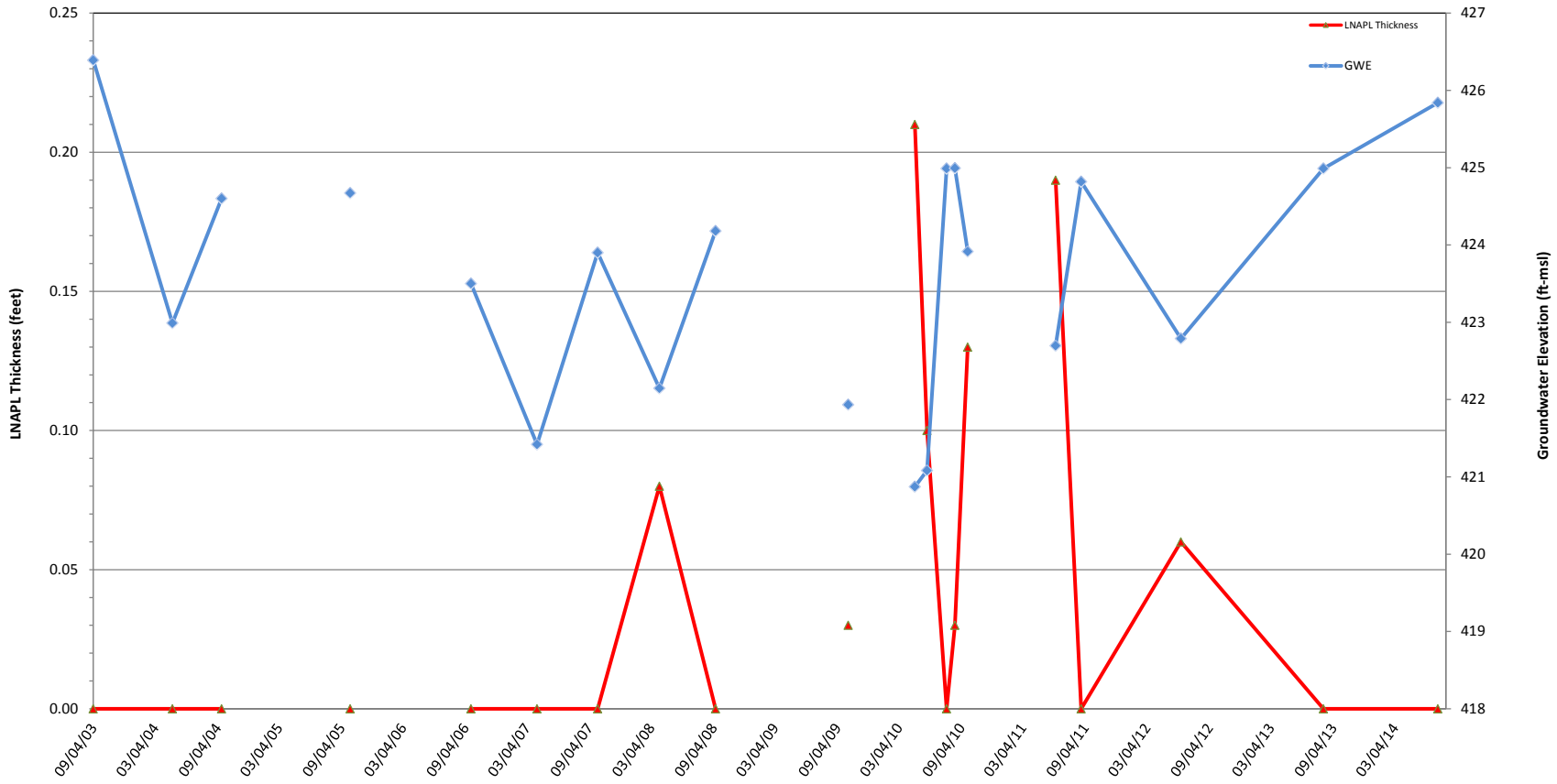
FIGURE
12



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well GEI-9 Historical Groundwater Elevation and LNAPL Thickness

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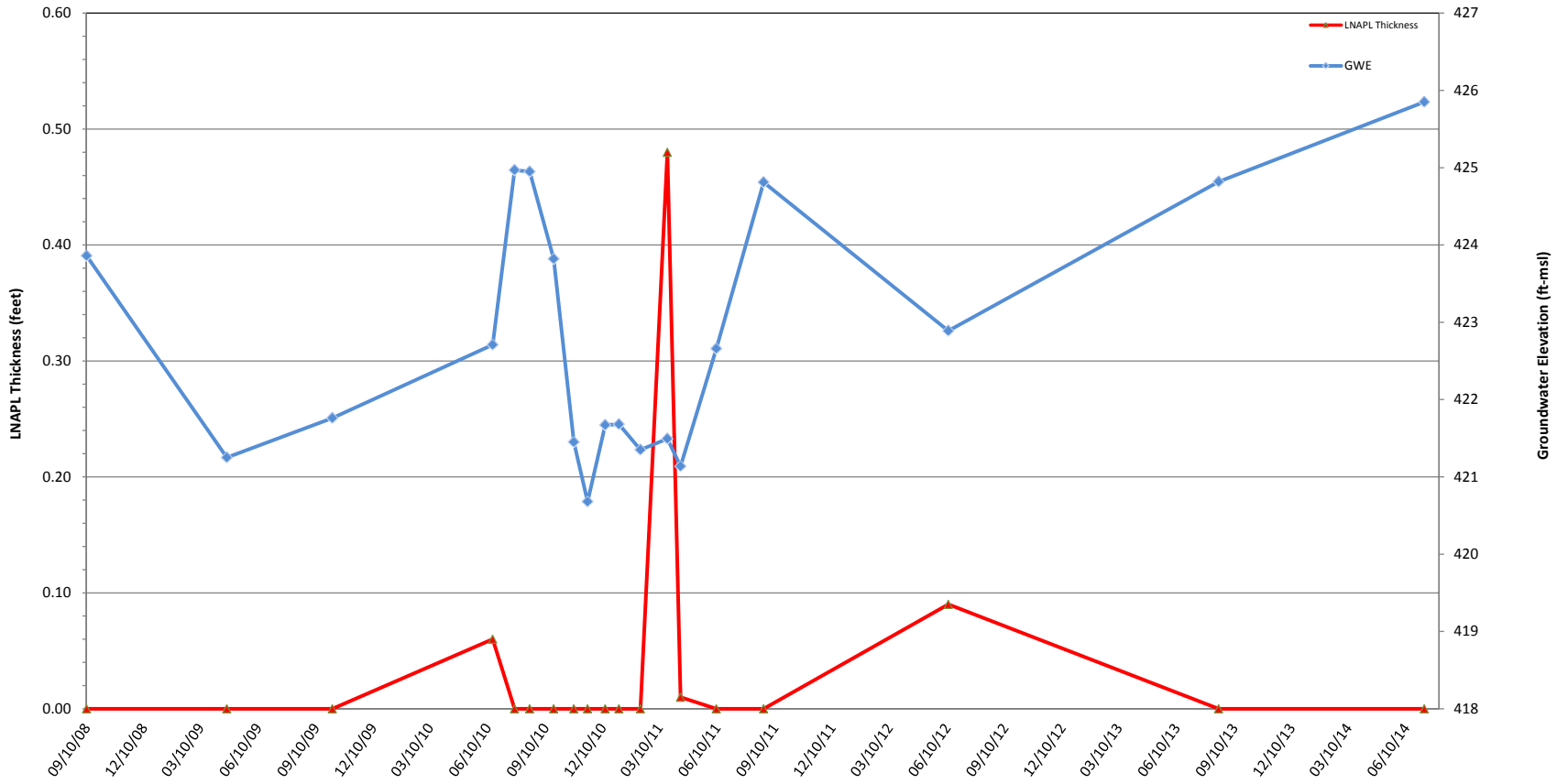
FIGURE
13



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well MW-1 Historical Groundwater Elevation and LNAPL Thickness

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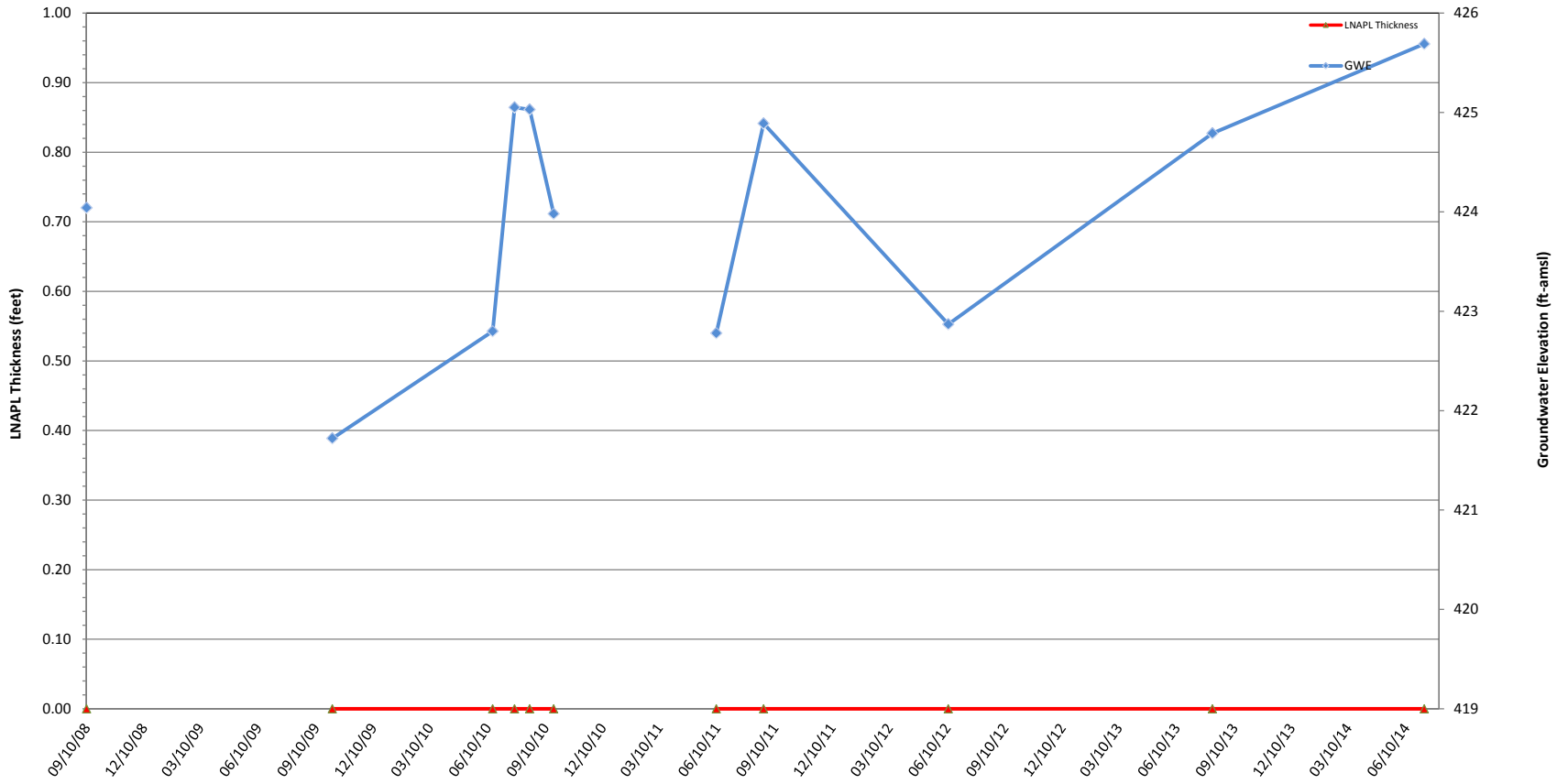
FIGURE
14



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well MW-4 Historical Groundwater Elevation and LNAPL Thickness

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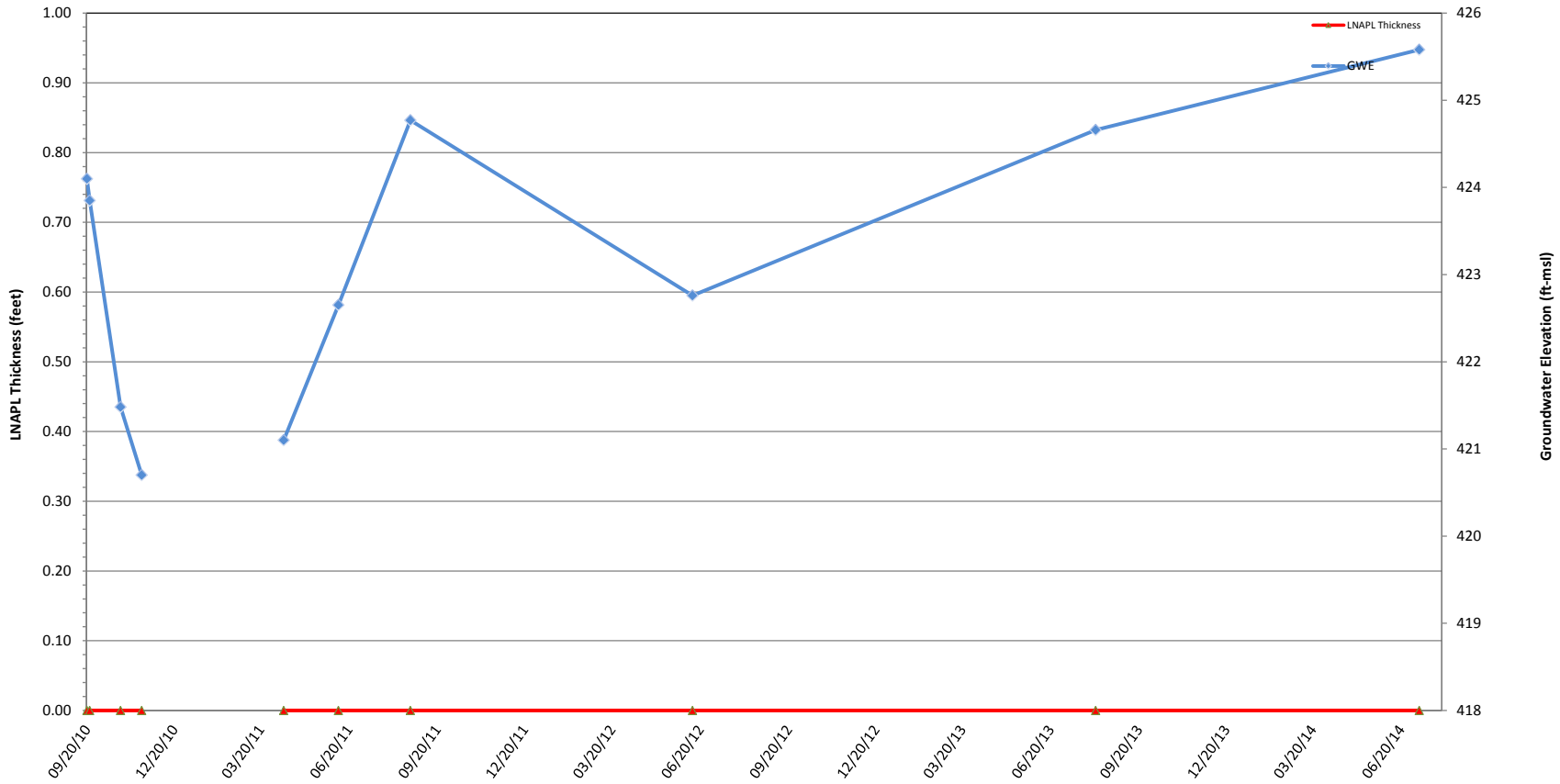
FIGURE
15



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well MW-7 Historical Groundwater Elevation and LNAPL Thickness

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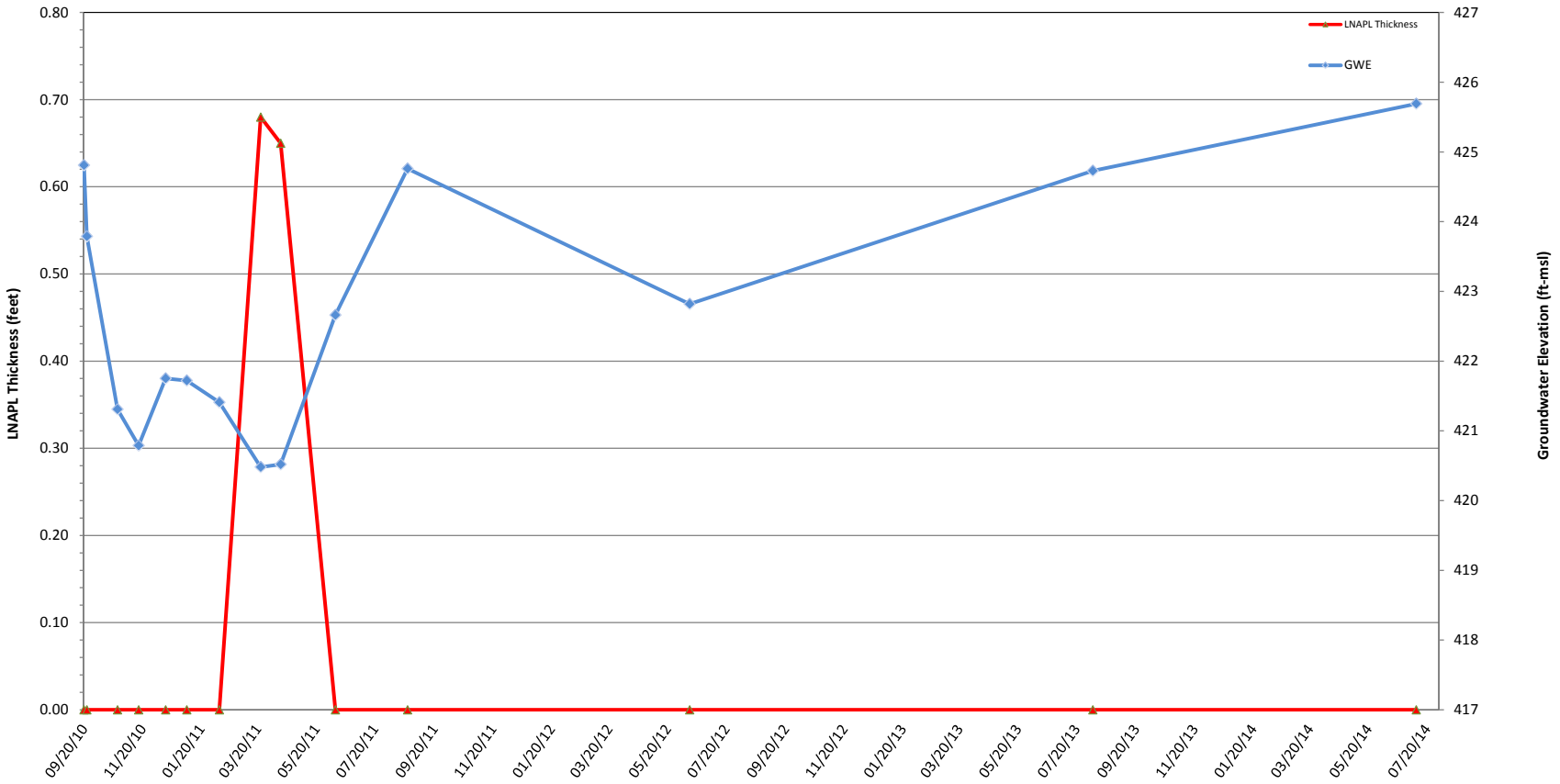
FIGURE
16



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well MW-8 Historical Groundwater Elevation and LNAPL Thickness

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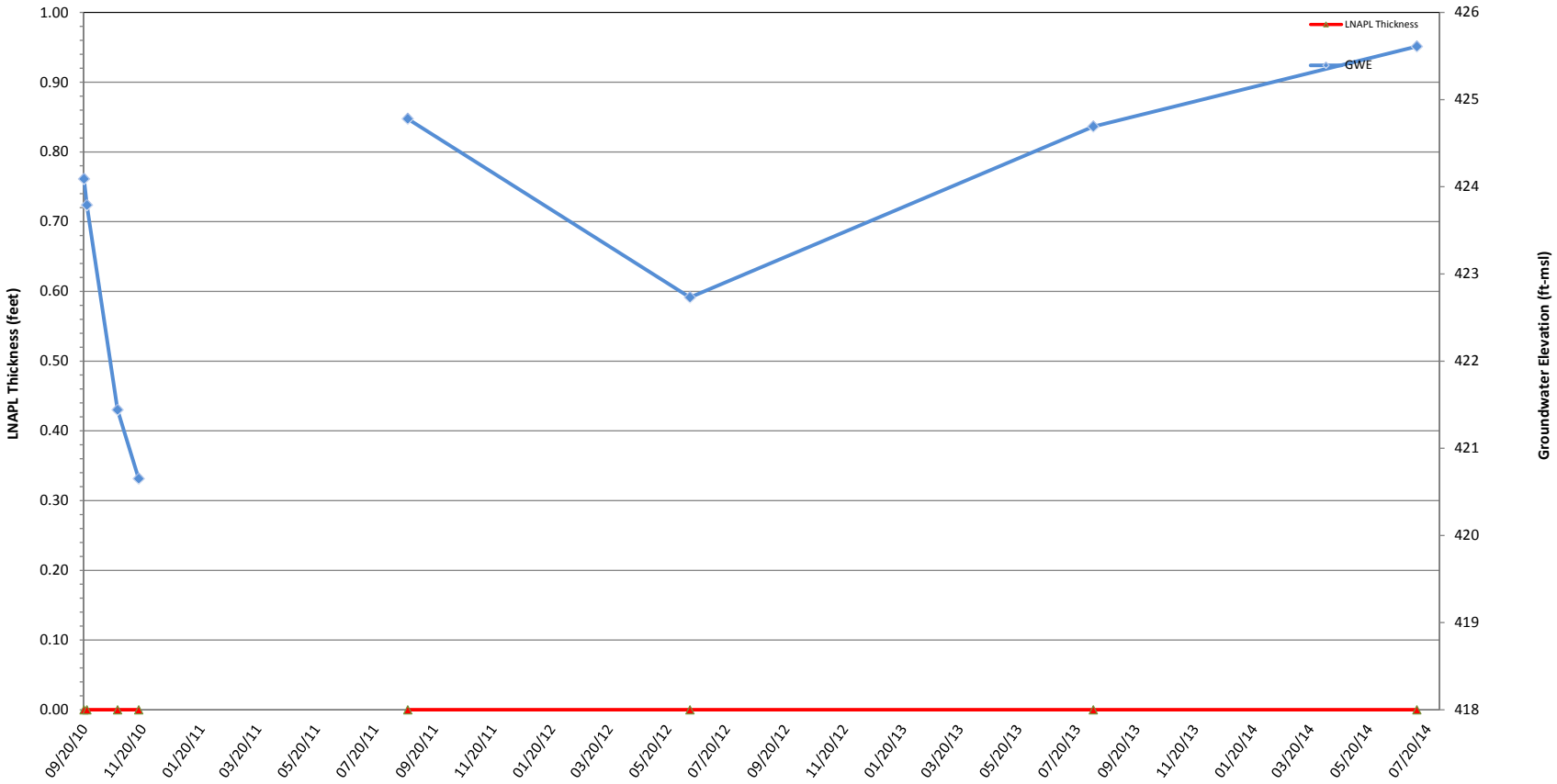
FIGURE
17



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well MW-9 Historical Groundwater Elevation and LNAPL Thickness

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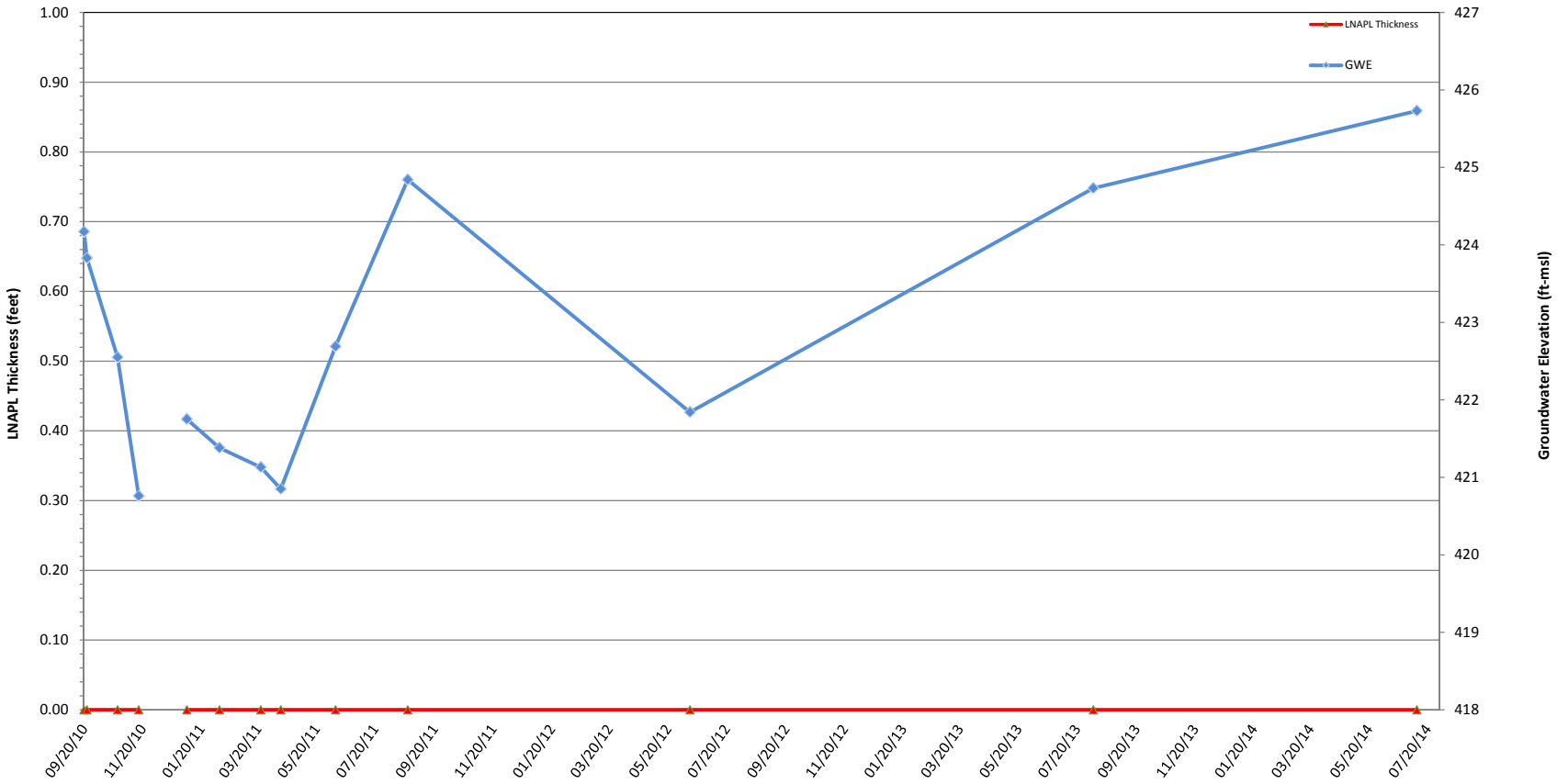
FIGURE
18



LEGEND:

GWE = Groundwater elevation
LNAPL = Light non-aqueous phase liquid
ft-msl = Feet above mean sea level
Data gaps = wells were inaccessible and not gauged

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

Monitoring Well MW-10 Historical Groundwater Elevation and LNAPL Thickness

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FIGURE
19

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Appendix A

Field Data Sheets

8/16/15

Activity: 2015 Annual GWM

Personnel: M. Mac Daniel

Weather: Overcast, 60F

14:00 Arrive on site. Conduct H+S tailgate. Review SOW, review hazards. Complete H+S docs.

14:20 Begin collecting Gauging data and groundwater samples from monitoring wells MW-11, 12, and 13.

GWM Data Summary in table below:

Well ID	DTW	DTB	PID	Sample Time	Comments
MW-11	8.69	16.58	0.0	14:50	MS/MSD
MW-12	NA	NA	NA	NA	Well obstructed by truck
MW-13	9.64	15'	0.0	15:45	BD-1

16:00 MW-12 was obstructed by truck. Employee at Raven stated truck had been parked in that location for over a week.
Samples collected from MW-11 + MW-13 were packed on ice and will be shipped to Test Analytical on 8/17/15. Analysis for GRO, BTEX, DRO and RRO, plus DRO w/ SG will be performed

16:05 Site is cleared and wells are secured. ARCADIS Mobilized off-site

ARCADIS

Appendix B

Laboratory Analytical Reports

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

August 31, 2015

Gregory Montgomery
Arcadis US, Inc.
1100 Olive Way
Suite 800
Seattle, WA 98101

RE: Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Dear Gregory Montgomery:
Enclosed are the analytical results for sample(s) received by the laboratory on August 18, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lori Castille for
Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Beaudoin, Arcadis US, Inc.
Michael MacDaniel, Arcadis US, Inc.
Tammy Parise, Arcadis US, Inc.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10318729001	**MW-11-W-081615**	Water	08/16/15 14:50	08/18/15 09:45
10318729002	**MW-13-W-081615**	Water	08/16/15 15:45	08/18/15 09:45
10318729003	**BD-1-W-081615**	Water	08/16/15 00:00	08/18/15 09:45
10318729005	**Trip Blank**	Water	08/16/15 00:00	08/18/15 09:45

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SAMPLE ANALYTE COUNT

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10318729001	**MW-11-W-081615**	Alaska 102/103	MT	4	PASI-M
		Alaska 101	AEJ	2	PASI-M
		EPA 8260B	DJB	7	PASI-M
10318729002	**MW-13-W-081615**	Alaska 102/103	MT	4	PASI-M
		Alaska 101	AEJ	2	PASI-M
		EPA 8260B	DJB	7	PASI-M
10318729003	**BD-1-W-081615**	Alaska 102/103	MT	4	PASI-M
		Alaska 101	AEJ	2	PASI-M
		EPA 8260B	DJB	7	PASI-M
10318729005	**Trip Blank**	Alaska 101	AEJ	2	PASI-M
		EPA 8260B	DJB	7	PASI-M

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PROJECT NARRATIVE

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Method: **Alaska 102/103**
Description: RRO by AK102/103
Client: Arcadis_Chevron
Date: August 31, 2015

General Information:
3 samples were analyzed for Alaska 102/103. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3510C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Method: **Alaska 101**
Description: AK101 GCV
Client: Arcadis_Chevron
Date: August 31, 2015

General Information:
4 samples were analyzed for Alaska 101. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: GCV/14291

S0: Surrogate recovery outside laboratory control limits.

- LCSD (Lab ID: 2057055)
  - a,a,a-Trifluorotoluene (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: GCV/14291

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10318729001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2057057)
  - AK101 Gasoline Range Organics
- MSD (Lab ID: 2057056)
  - AK101 Gasoline Range Organics

Additional Comments:

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PROJECT NARRATIVE

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Method: **Alaska 101**
Description: AK101 GCV
Client: Arcadis_Chevron
Date: August 31, 2015

Analyte Comments:

QC Batch: GCV/14291

N2: The lab does not hold TNI accreditation for this parameter.

- BD-1-W-081615 (Lab ID: 10318729003)
  - AK101 Gasoline Range Organics
- BLANK (Lab ID: 2057053)
  - AK101 Gasoline Range Organics
- LCS (Lab ID: 2057054)
  - AK101 Gasoline Range Organics
- LCSD (Lab ID: 2057055)
  - AK101 Gasoline Range Organics
- MS (Lab ID: 2057057)
  - AK101 Gasoline Range Organics
- MSD (Lab ID: 2057056)
  - AK101 Gasoline Range Organics
- MW-11-W-081615 (Lab ID: 10318729001)
  - AK101 Gasoline Range Organics
- Trip Blank (Lab ID: 10318729005)
  - AK101 Gasoline Range Organics

- LCSD (Lab ID: 2057055)
  - a,a,a-Trifluorotoluene (S)

QC Batch: GCV/14304

N2: The lab does not hold TNI accreditation for this parameter.

- BLANK (Lab ID: 2059106)
  - AK101 Gasoline Range Organics
- LCS (Lab ID: 2059107)
  - AK101 Gasoline Range Organics
- LCSD (Lab ID: 2059108)
  - AK101 Gasoline Range Organics
- MW-13-W-081615 (Lab ID: 10318729002)
  - AK101 Gasoline Range Organics

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PROJECT NARRATIVE

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Method: **EPA 8260B**
Description: 8260B MSV UST
Client: Arcadis_Chevron
Date: August 31, 2015

General Information:
4 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Sample: MW-11-W-081615 **Lab ID: 10318729001** Collected: 08/16/15 14:50 Received: 08/18/15 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
RRO by AK102/103	Analytical Method: Alaska 102/103 Preparation Method: EPA 3510C							
DRO by AK 102	ND	mg/L	0.40	1	08/24/15 13:16	08/25/15 15:54		
Residual Range Organics AK103	ND	mg/L	0.40	1	08/24/15 13:16	08/25/15 15:54		
Surrogates								
o-Terphenyl (S)	74	%.	50-150	1	08/24/15 13:16	08/25/15 15:54	84-15-1	
n-Triacontane (S)	77	%.	50-150	1	08/24/15 13:16	08/25/15 15:54	638-68-6	
AK101 GCV	Analytical Method: Alaska 101							
AK101 Gasoline Range Organics	ND	ug/L	100	1		08/21/15 21:23		M1,N2
Surrogates								
a,a,a-Trifluorotoluene (S)	98	%.	50-150	1		08/21/15 21:23	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		08/25/15 17:14	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		08/25/15 17:14	100-41-4	
Toluene	ND	ug/L	1.0	1		08/25/15 17:14	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		08/25/15 17:14	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-125	1		08/25/15 17:14	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1		08/25/15 17:14	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	75-125	1		08/25/15 17:14	460-00-4	

Sample: MW-13-W-081615 **Lab ID: 10318729002** Collected: 08/16/15 15:45 Received: 08/18/15 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
RRO by AK102/103	Analytical Method: Alaska 102/103 Preparation Method: EPA 3510C							
DRO by AK 102	ND	mg/L	0.40	1	08/24/15 13:16	08/25/15 16:59		
Residual Range Organics AK103	ND	mg/L	0.40	1	08/24/15 13:16	08/25/15 16:59		
Surrogates								
o-Terphenyl (S)	82	%.	50-150	1	08/24/15 13:16	08/25/15 16:59	84-15-1	
n-Triacontane (S)	85	%.	50-150	1	08/24/15 13:16	08/25/15 16:59	638-68-6	
AK101 GCV	Analytical Method: Alaska 101							
AK101 Gasoline Range Organics	ND	ug/L	100	1		08/24/15 16:55		N2
Surrogates								
a,a,a-Trifluorotoluene (S)	99	%.	50-150	1		08/24/15 16:55	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		08/25/15 18:35	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		08/25/15 18:35	100-41-4	
Toluene	ND	ug/L	1.0	1		08/25/15 18:35	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		08/25/15 18:35	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%.	75-125	1		08/25/15 18:35	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		08/25/15 18:35	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125	1		08/25/15 18:35	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Sample: BD-1-W-081615 **Lab ID: 10318729003** Collected: 08/16/15 00:00 Received: 08/18/15 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
RRO by AK102/103	Analytical Method: Alaska 102/103 Preparation Method: EPA 3510C							
DRO by AK 102	ND	mg/L	0.40	1	08/24/15 13:16	08/25/15 17:20		
Residual Range Organics AK103	ND	mg/L	0.40	1	08/24/15 13:16	08/25/15 17:20		
Surrogates								
o-Terphenyl (S)	85	%.	50-150	1	08/24/15 13:16	08/25/15 17:20	84-15-1	
n-Triacontane (S)	88	%.	50-150	1	08/24/15 13:16	08/25/15 17:20	638-68-6	
AK101 GCV	Analytical Method: Alaska 101							
AK101 Gasoline Range Organics	ND	ug/L	100	1		08/21/15 21:03		N2
Surrogates								
a,a,a-Trifluorotoluene (S)	110	%.	50-150	1		08/21/15 21:03	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		08/25/15 18:52	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		08/25/15 18:52	100-41-4	
Toluene	ND	ug/L	1.0	1		08/25/15 18:52	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		08/25/15 18:52	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	106	%.	75-125	1		08/25/15 18:52	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1		08/25/15 18:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		08/25/15 18:52	460-00-4	

Sample: Trip Blank **Lab ID: 10318729005** Collected: 08/16/15 00:00 Received: 08/18/15 09:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
AK101 GCV	Analytical Method: Alaska 101							
AK101 Gasoline Range Organics	ND	ug/L	100	1		08/21/15 18:43		N2
Surrogates								
a,a,a-Trifluorotoluene (S)	100	%.	50-150	1		08/21/15 18:43	98-08-8	
8260B MSV UST	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		08/25/15 16:25	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		08/25/15 16:25	100-41-4	
Toluene	ND	ug/L	1.0	1		08/25/15 16:25	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		08/25/15 16:25	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	105	%.	75-125	1		08/25/15 16:25	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1		08/25/15 16:25	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1		08/25/15 16:25	460-00-4	

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QUALITY CONTROL DATA

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

QC Batch: GCV/14291 Analysis Method: Alaska 101
QC Batch Method: Alaska 101 Analysis Description: AK101W GCV Water
Associated Lab Samples: 10318729001, 10318729003, 10318729005

METHOD BLANK: 2057053 Matrix: Water
Associated Lab Samples: 10318729001, 10318729003, 10318729005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
AK101 Gasoline Range Organics	ug/L	ND	100	08/21/15 18:03	N2
a,a,a-Trifluorotoluene (S)	%.	94	60-120	08/21/15 18:03	

LABORATORY CONTROL SAMPLE & LCSD: 2057054 2057055

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
AK101 Gasoline Range Organics	ug/L	1000	1070	1150	107	115	60-120	7	20	N2
a,a,a-Trifluorotoluene (S)	%.				116	127	60-120			S0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2057057 2057056

Parameter	Units	10318729001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
AK101 Gasoline Range Organics	ug/L	ND	2000	2000	278	236	12	10	75-146	16	30	M1,N2
a,a,a-Trifluorotoluene (S)	%.						107	106	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

QC Batch: GCV/14304 Analysis Method: Alaska 101
QC Batch Method: Alaska 101 Analysis Description: AK101W GCV Water
Associated Lab Samples: 10318729002

METHOD BLANK: 2059106 Matrix: Water
Associated Lab Samples: 10318729002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
AK101 Gasoline Range Organics	ug/L	ND	100	08/24/15 16:35	N2
a,a,a-Trifluorotoluene (S)	%.	97	60-120	08/24/15 16:35	

LABORATORY CONTROL SAMPLE & LCSD: 2059107 2059108

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
AK101 Gasoline Range Organics	ug/L	1000	1040	1150	104	115	60-120	10	20	N2
a,a,a-Trifluorotoluene (S)	%.				118	119	60-120			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

QC Batch: MSV/32920 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
Associated Lab Samples: 10318729001, 10318729002, 10318729003, 10318729005

METHOD BLANK: 2059498 Matrix: Water
Associated Lab Samples: 10318729001, 10318729002, 10318729003, 10318729005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	08/25/15 15:52	
Ethylbenzene	ug/L	ND	1.0	08/25/15 15:52	
Toluene	ug/L	ND	1.0	08/25/15 15:52	
Xylene (Total)	ug/L	ND	3.0	08/25/15 15:52	
1,2-Dichloroethane-d4 (S)	%.	104	75-125	08/25/15 15:52	
4-Bromofluorobenzene (S)	%.	100	75-125	08/25/15 15:52	
Toluene-d8 (S)	%.	99	75-125	08/25/15 15:52	

LABORATORY CONTROL SAMPLE: 2059499

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.7	93	71-125	
Ethylbenzene	ug/L	20	18.3	91	75-125	
Toluene	ug/L	20	18.4	92	74-125	
Xylene (Total)	ug/L	60	56.5	94	75-125	
1,2-Dichloroethane-d4 (S)	%.			106	75-125	
4-Bromofluorobenzene (S)	%.			99	75-125	
Toluene-d8 (S)	%.			100	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2059500 2059501

Parameter	Units	10318729001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	20	20	20.2	20.4	101	102	53-139	1	30	
Ethylbenzene	ug/L	ND	20	20	19.9	20.1	99	100	55-139	1	30	
Toluene	ug/L	ND	20	20	19.8	19.6	99	98	52-148	1	30	
Xylene (Total)	ug/L	ND	60	60	60.3	59.4	101	99	54-144	2	30	
1,2-Dichloroethane-d4 (S)	%.						109	109	75-125			
4-Bromofluorobenzene (S)	%.						100	100	75-125			
Toluene-d8 (S)	%.						99	100	75-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

QC Batch: OEXT/30510 Analysis Method: Alaska 102/103
QC Batch Method: EPA 3510C Analysis Description: AK1023 GCS
Associated Lab Samples: 10318729001, 10318729002, 10318729003

METHOD BLANK: 2058666 Matrix: Water
Associated Lab Samples: 10318729001, 10318729002, 10318729003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
DRO by AK 102	mg/L	ND	0.40	08/25/15 14:49	
Residual Range Organics AK103	mg/L	ND	0.40	08/25/15 14:49	
n-Triacontane (S)	%.	86	60-120	08/25/15 14:49	
o-Terphenyl (S)	%.	83	60-120	08/25/15 14:49	

LABORATORY CONTROL SAMPLE & LCSD: 2058667 2058668

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
DRO by AK 102	mg/L	2	1.6	1.5	80	76	75-125	5	20	
Residual Range Organics AK103	mg/L	2	1.7	1.7	86	86	60-120	1	20	
n-Triacontane (S)	%.				84	84	60-120			
o-Terphenyl (S)	%.				83	82	60-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2058669 2058670

Parameter	Units	10318729001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
DRO by AK 102	mg/L	ND	2	2	1.6	1.6	70	73	50-150	4	30	
Residual Range Organics AK103	mg/L	ND	2	2	1.8	1.9	78	81	50-150	4	30	
n-Triacontane (S)	%.						78	80	50-150			
o-Terphenyl (S)	%.						76	79	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

METHOD CROSS REFERENCE TABLE

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV UST	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Chevron# 306443 FIA Unocal
Pace Project No.: 10318729

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10318729001	**MW-11-W-081615**	EPA 3510C	OEXT/30510	Alaska 102/103	GCSV/16530
10318729002	**MW-13-W-081615**	EPA 3510C	OEXT/30510	Alaska 102/103	GCSV/16530
10318729003	**BD-1-W-081615**	EPA 3510C	OEXT/30510	Alaska 102/103	GCSV/16530
10318729001	**MW-11-W-081615**	Alaska 101	GCV/14291		
10318729002	**MW-13-W-081615**	Alaska 101	GCV/14304		
10318729003	**BD-1-W-081615**	Alaska 101	GCV/14291		
10318729005	**Trip Blank**	Alaska 101	GCV/14291		
10318729001	**MW-11-W-081615**	EPA 8260B	MSV/32920		
10318729002	**MW-13-W-081615**	EPA 8260B	MSV/32920		
10318729003	**BD-1-W-081615**	EPA 8260B	MSV/32920		
10318729005	**Trip Blank**	EPA 8260B	MSV/32920		

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10318729

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Arcadis U.S., Inc.	Report To:	Gregory Montgomery	Attention:	Accounts Payable
Address:	1100 Olive Way, Suite 600	Copy To:	David Beaudoin/ Michael MacDaniel	Company Name:	Arcadis U.S., Inc.
	Seattle, WA 98101		Tammy Parise	Address:	1100 Olive Way, Suite 600, Sea, 98101
Email To:	gregory.montgomery@arcadis-us.com	Purchase Order No.	B0045507.0015	Pace Quote Reference:	
Phone:	206.726.4742 Fax	Client Project ID:	Chevron# 306443 FIA Unocal	Pace Project Manager:	Jenni Gross
Requested Due Date/TAT:	10 Day (Standard)	Container Order Number:	68400	Pace Profile #:	32337 #12

Regulatory Agency
ADEC
State / Location
AK/ Fairbanks

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	GRO by AK101	BTEX by 8260	DRO/RRO by AK102/103	DRO+SG by AK102	Additional Volume for MS/MSD	Residual Chlorine (Y/N)	
1	MW-11-W-081615	WT		8/16/15	14:50				9				X						X	X	X	X	X		001
2	~~MW-12~~	WT		~~8/16/15~~	—																				
3	MW-13-W-081615	WT		8/16/15	15:45				9				X						X	X	X	X			002
4	DUP-1-W-081615	WT		8/16/15	—				9				X						X	X	X	X			003
5	MS-W-081615	WT		8/16/15	14:50				8				X						X	X	X				004
6	Trip Blank	OT		—	—				3				X						X	X					004 ~~005~~ 8/18/15
7	MS/SD-W-081615	WT		8/16/15	14:50				8				X						X	X	X				
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	/ARCADIS	8/17/15	9:10		8/18/15	9:45	1.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Michael MacDaniel

SIGNATURE of SAMPLER: DATE Signed: 8/17/15

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-MN-L-213-rev.13	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Arcadis U.S. Inc. **Project #:** WO#: 10318729

10318729

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:
Tracking Number: 807069066702

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No Seals Intact? ☑ Yes ☐ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: Temp Blank? ☑ Yes ☐ No

Thermometer Used: ☐ B88A9130516413 ☑ B88A912167504 ☐ B88A0143310098 Type of Ice: ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.7 Cooler Temp Corrected (°C): 1.7 Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A
Temp should be above freezing to 6°C Correction Factor: +0.0 Date and Initials of Person Examining Contents: KAC 8/19/15

USDA Regulated Soil (☑ N/A, water sample)
Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? ☐ Yes ☐ No
Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes ☑ Yes	☐ No ☐ No	☑ N/A ☐ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☑ No	☐ N/A	14.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased): 052615-01				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐ Yes ☑ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: ENM Date: 8/20/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical	Document Name: Sample Container Count	Document Revised: 30Jul2014 Page 1 of 1
	Document No.: F-MN-C-090-Rev.04	Issuing Authority: Pace Minnesota Quality Office

15-6
1129

Client: Arcadis **Project #:** 10318729 **COC ID:** — **COC Page:** 1 of 1

Sample Line Item	BP1U	BP2U	BP3U	BP3S	BP3N	AG1U	AG1H	AG3S	AGIT	JGFU	JGCU	BJFU	WPDU	VG9M	VG9H	GN	SP5T	DWC
☐	Check the box to the left to indicate that the container(s) received for line items ____ - ____ are identical to the container(s) documented for line item 1 for this CoC.																	
1							3								6			
2							3								6			
3							3								6			
4							2								6			
5															3-RB			
6							2								6			
7																		
8																		
9																		
10																		
11																		
12																		

Comments:

Container Codes:

AG1H	1 L amber glass HCL	BP1N	1 L plastic HNO3	DG9C	40 mL vial with ascorbic acid	VG9B	40 mL clear VOA vial Na Bisulfate
AG1S	1 L amber glass H2SO4	BP1S	1 L plastic H2SO4	DG9T	40 mL amber VOA vial Na Thio	VG9H	40 mL clear VOA vial HCl
AG1T	1 L amber glass Na Thiosulfate	BP1U	1 L plastic unpreserved	DG9U	40 mL amber VOA vial	VG9M	40 mL clear VOA vial MeOH
AG1U	1 L amber glass unpreserved	BP1Z	1 L plastic NaOH, Zn Ac	DWC	Dry weight container	VG9S	40 mL clear VOA vial H2SO4
AG2H	500 mL amber glass HCl	BP2A	500 mL plastic NaOH	EZH	25 g Encore	VG9T	40 mL clear VOA vial Na Thiosulfate
AG2N	500 mL amber glass HNO3	BP2N	500 mL plastic HNO3	GJ	1 Gallon jug	VG9U	40 mL clear VOA vial
AG2S	500 mL amber glass H2SO4	BP2S	500 mL plastic H2SO4	GN	General unpreserved	VG9W	40 mL clear VOA vial DI Water/stir bar
AG2U	500 mL amber unpreserved	BP2U	500 mL plastic unpreserved	GNN	General preserved with Nitric Acid	VSG	Headspace septa vial and HCl
AG3H	250 mL amber glass HCl	BP2Z	500 mL NaOH, Zn Ac	GNS	General with H_2SO_4	WGFX	4 oz wide jar and wipe Hexane
AG3S	250 mL amber glass H2SO4	BP3A	250 mL plastic NaOH, Asc Acid	JGCU	8 oz clear wide jar	WPDU	16 oz clear wide mouth jar
AG3U	250 mL amber glass unpreserved	BP3N	250 mL plastic HNO3	JGFM	4 oz amber wide jar MeOH	XAD	XAD trap
AG4S	120 mL amber glass H2SO4	BP3S	250 mL plastic H2SO4	JGFU	4 oz wide jar		
AG4U	125 mL amber glass unpreserved	BP3U	250 mL plastic unpreserved	PB	Clear zip-lock bag		
BJFM	4 oz clear jar MeOH	BP3Z	250 mL plastic NaOH, Zn Ac	PUF	Polyurethane Foam		
BJFU	4 oz amber tared weight	BP4N	125 mL plastic HNO3	SP5T	120 mL Coliform NA Thiosulfate		
BJTM	2 oz clear MeOH	BP4U	125 mL plastic unpreserved	T	Tedlar Bag		
BJTU	2 oz clear wide jar	C	Air Cassettes	TDT	Thermal desorption tube		
BP1A	1 L plastic NaOH	DG9H	40 mL amber VOA vial HCl	U	Summa Can		

Data File: \\192.168.10.12\chem\10gcv6.i\082115-2.b/23328.d

Report Date: 08/24/2015

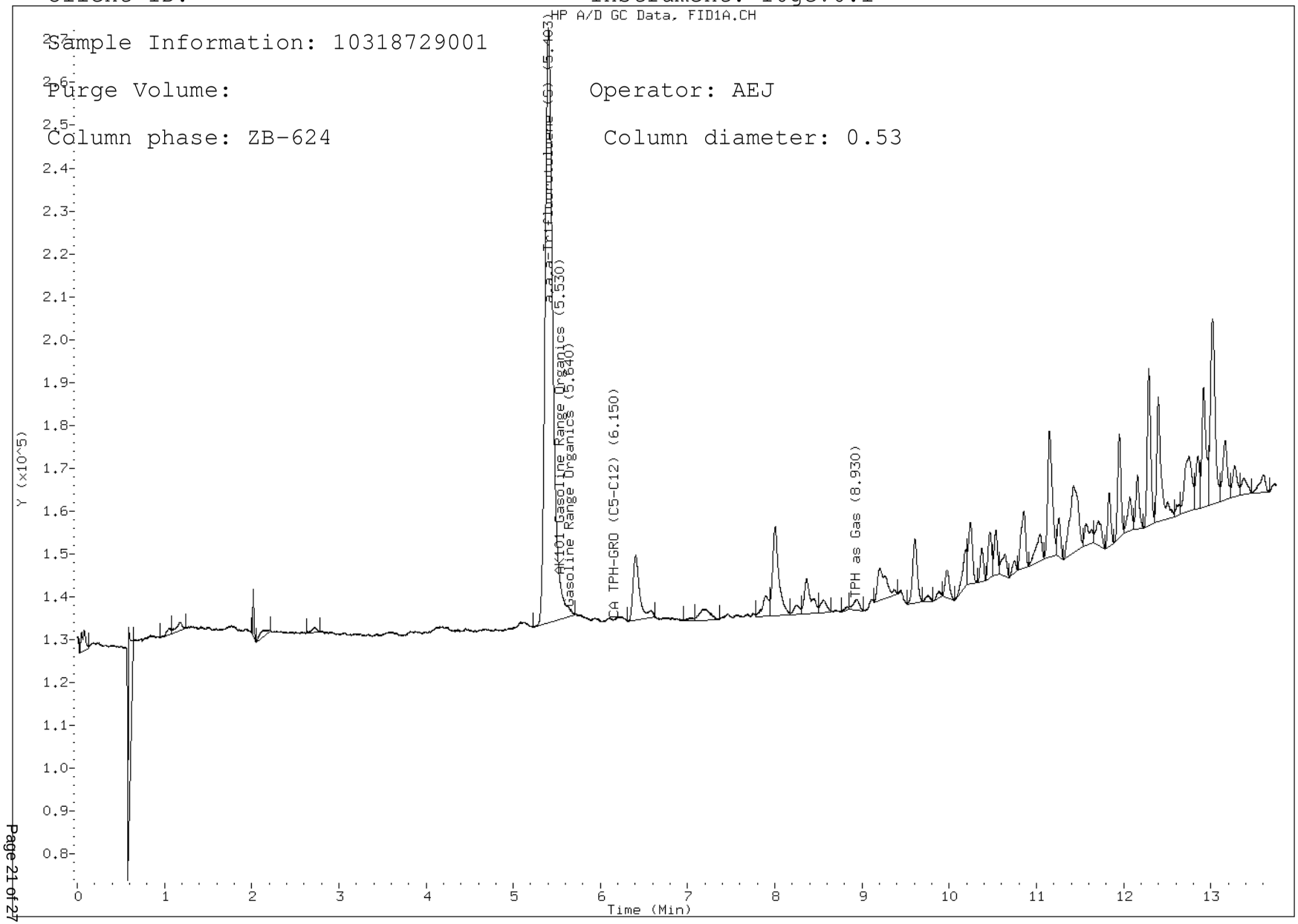
Sample ID: 10318729001

Client ID: Instrument: 10gcv6.i

Sample Information: 10318729001

Purge Volume: Operator: AEJ

Column phase: ZB-624 Column diameter: 0.53



Data File: \\192.168.10.12\chem\10gcv6.i\082415-2.b/23616.d

Report Date: 08/25/2015

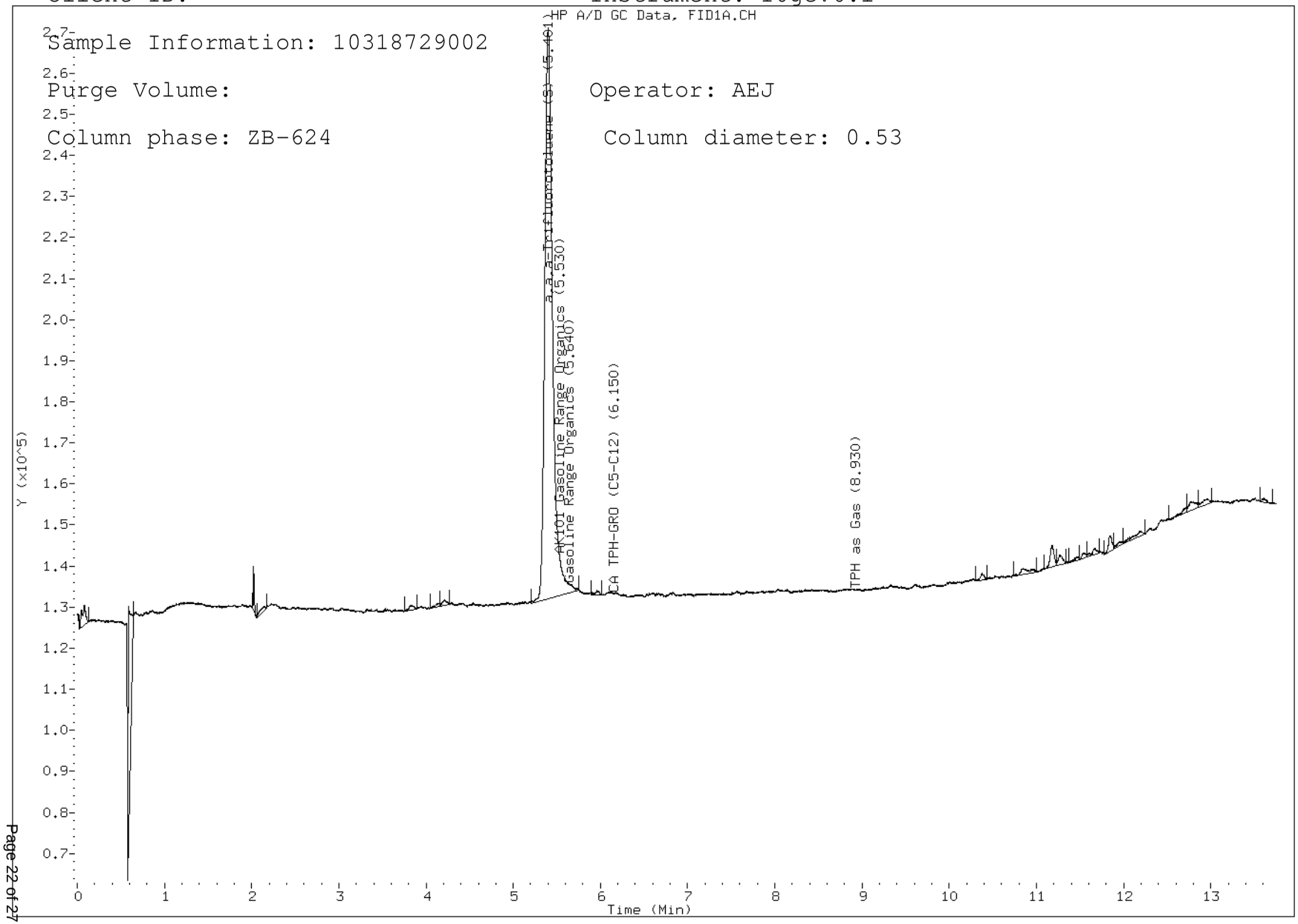
Sample ID: 10318729002

Client ID: Instrument: 10gcv6.i

Sample Information: 10318729002

Purge Volume: Operator: AEJ

Column phase: ZB-624 Column diameter: 0.53



Data File: \\192.168.10.12\chem\10gcv6.i\082115-2.b/23327.d

Report Date: 08/24/2015

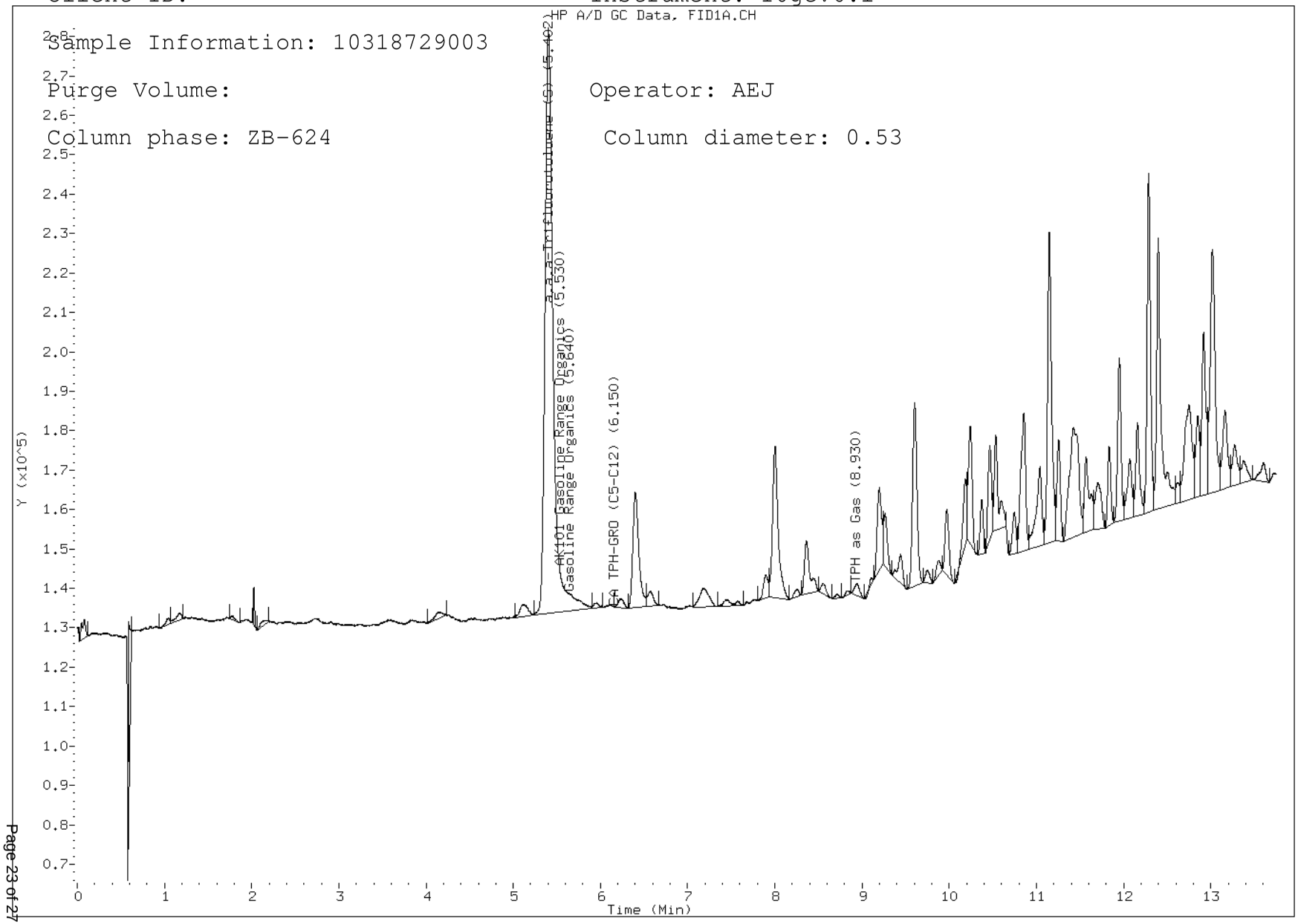
Sample ID: 10318729003

Client ID: Instrument: 10gcv6.i

Sample Information: 10318729003

Purge Volume: Operator: AEJ

Column phase: ZB-624 Column diameter: 0.53



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Report Date: 08/24/2015

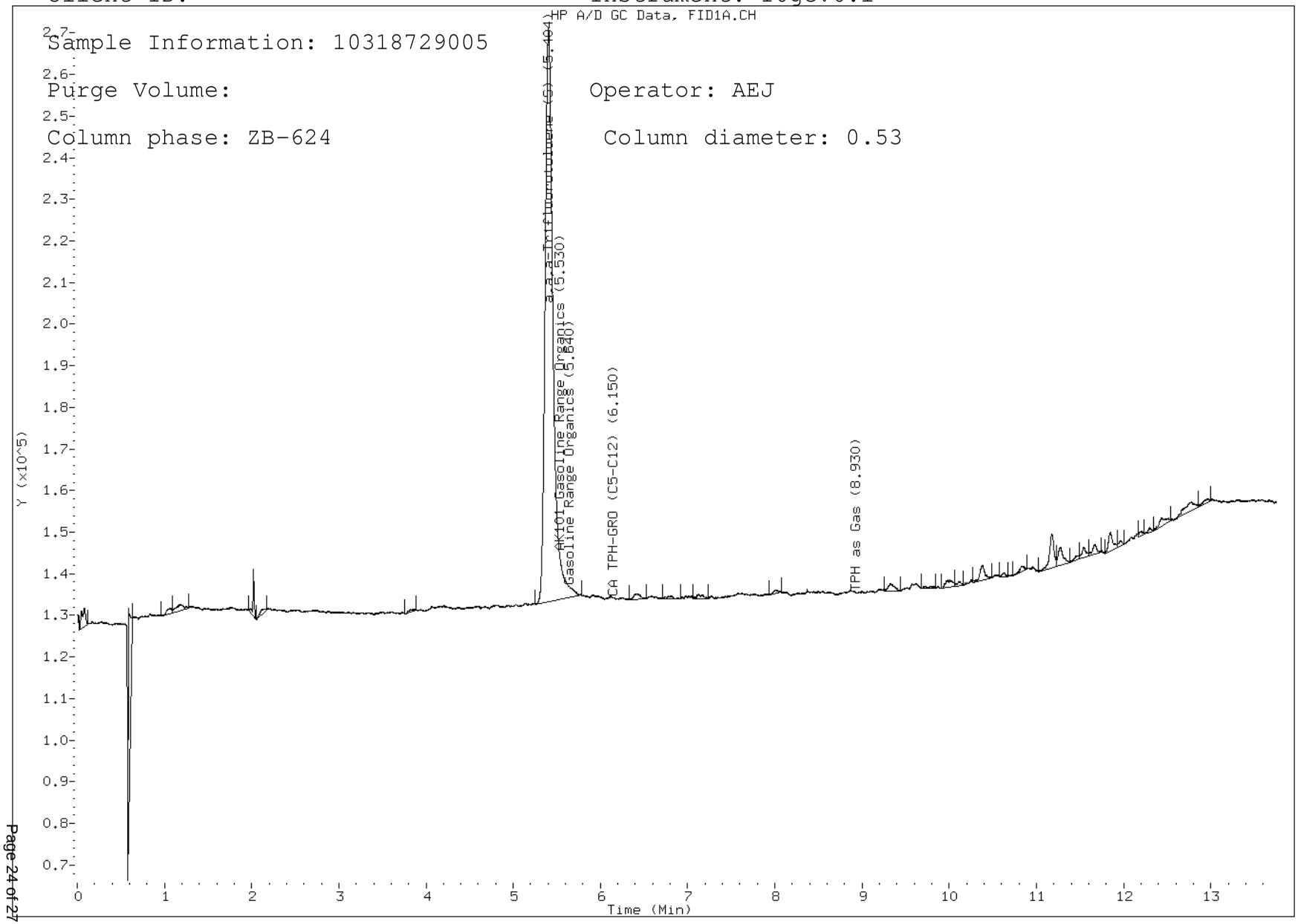
Sample ID: 10318729005

Client ID: Instrument: 10gcv6.i

Sample Information: 10318729005

Purge Volume: Operator: AEJ

Column phase: ZB-624 Column diameter: 0.53



Data File: \\192.168.10.12\chem\10gcsC.i\082515.b/08250026.D

Report Date: 08/26/2015

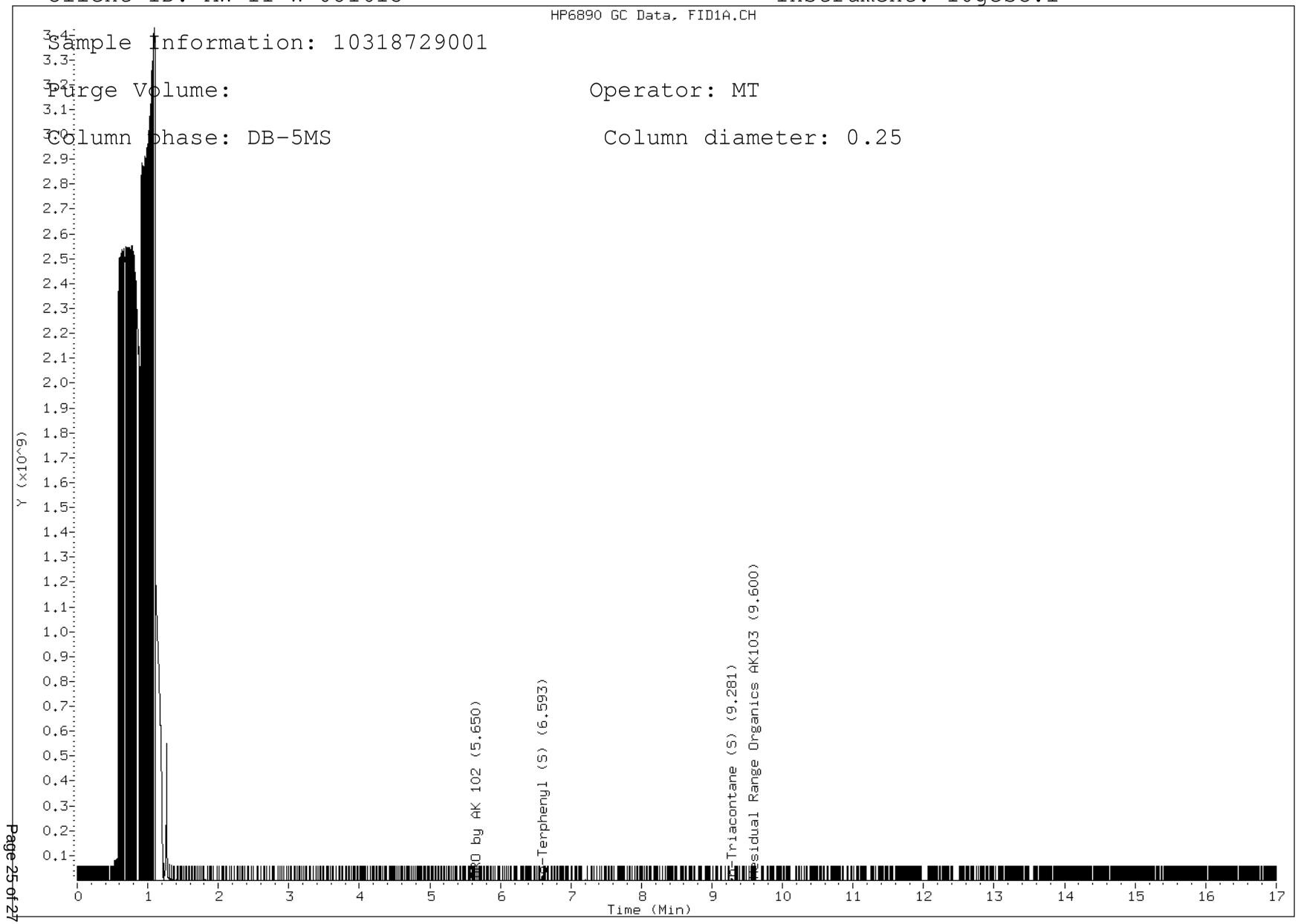
Sample ID: 10318729001

Client ID: MW-11-W-081615 Instrument: 10gcsC.i

Sample Information: 10318729001

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcsC.i\082515.b/08250029.D

Report Date: 08/26/2015

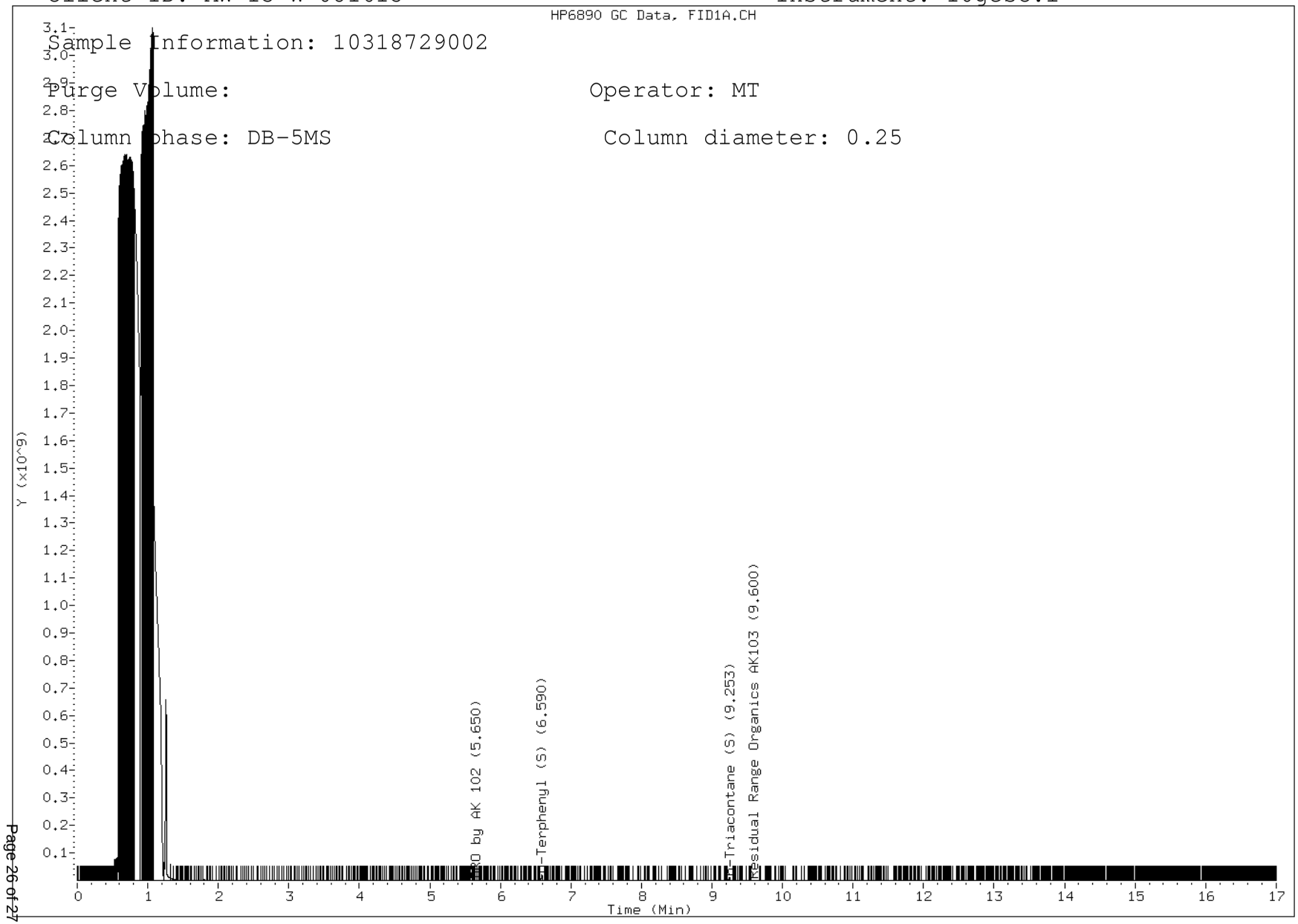
Sample ID: 10318729002

Client ID: MW-13-W-081615 Instrument: 10gcsC.i

Sample Information: 10318729002

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcsC.i\082515.b/08250030.D

Report Date: 08/26/2015

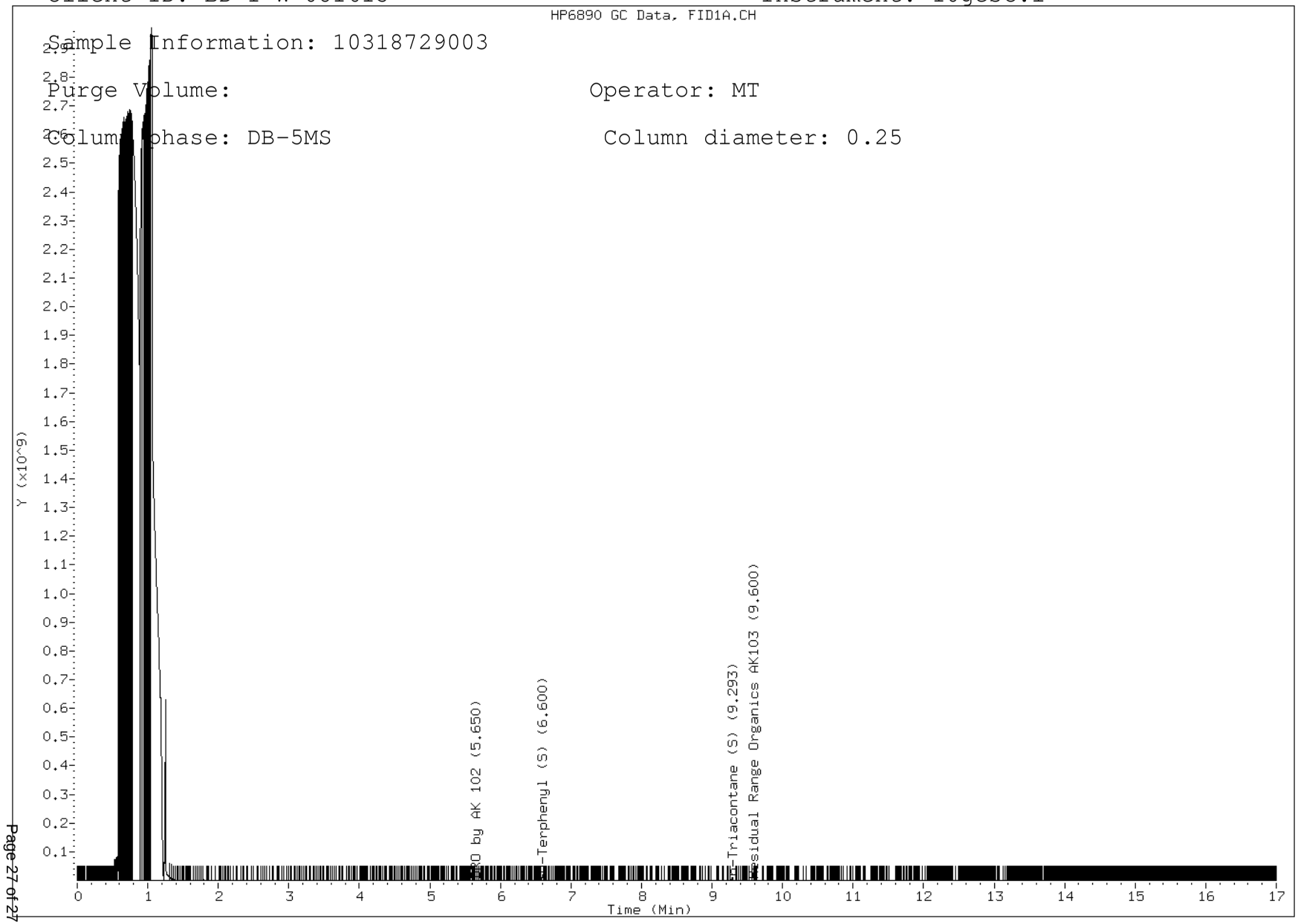
Sample ID: 10318729003

Client ID: BD-1-W-081615 Instrument: 10gcsC.i

Sample Information: 10318729003

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



ARCADIS

Appendix C

ADEC Data Review Checklists

Laboratory Data Review Checklist

Completed by: Jennifer Chandler

Title: Project Chemist Date: September 8, 2015

CS Report Name: Annual 2015 Groundwater Monitoring Report Report Date: August 31, 2015

Consultant Firm: ARCADIS

Laboratory Name: Pace Laboratories Laboratory Report Number: 10318729

ADEC File Number: 100.26.097 ADEC RecKey Number: 1992310013301

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:

      No. (No analysis was sub-contracted.)

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:

      Yes.

   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:

Yes.

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

No.

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

Data quality not 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:

Yes.

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

Data quality/usability was not 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?

NA.

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

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

Yes.

e. Data quality or usability affected?
Comments:

Data quality/usability not affected.

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:

Yes.

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

Yes.

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

Data quality/usability not 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:

Yes.

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

NA (No metals samples submitted for analysis.)

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

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
□Yes □ No □NA (Please explain.) Comments:

No. Sample MW-13-081615 were outside the acceptable limits for the MS/MSD %R for GRO (AK101) analysis at 12% and 10%. This sample also failed for the MS/MSD %R for DRO (AK102) analysis at 70% and 73%.

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:

Sample MW-13-081615 was affected.

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

Yes. The laboratory placed flag on GRO Spiked Parent for MW-13-081615; however, the DRO Spiked Parent was not flagged.

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

The %R deviations resulted in the estimation of the associated data (low bias). The reported GRO/DRO data for sample location MW-13-081615 should be considered usable with the noted qualification above.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
□Yes □ No □NA (Please explain.) Comments:

Yes.

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)
□Yes □ No □NA (Please explain.) Comments:

Yes.

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

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

NA (No samples affected.)

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

Comments:

Data quality/usability not affected.

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

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

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

Yes.

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

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

Yes.

iii. All results less than PQL?

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

Yes.

iv. If above PQL, what samples are affected?

Comments:

None.

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

Comments:

Data quality/usability not affected.

e. Field Duplicate

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

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

Yes.

ii. Submitted blind to lab?

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

Yes.

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

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

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

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

Yes.

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

Comments:

Data quality/usability was not affected.

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

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

NA (These specific blanks were not sampled and submitted for analysis.)

i. All results less than PQL?

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

NA.

ii. If above PQL, what samples are affected?

Comments:

NA.

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

Comments:

Data quality/usability was not affected.

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

NA.

a. Defined and appropriate?
□Yes □ No □NA (Please explain.) Comments: