



Ms. Tamara Cardona-Marek
Alaska Department of Environmental Conservation
610 University Avenue
Fairbanks, Alaska 99709

Subject:
Fourth Quarter 2008 Groundwater Monitoring Report
Former Texaco Facility 211081 (University Car Care Center)
4103 Geist Road
Fairbanks, Alaska
ADEC File #: 100.26.023 (4103 Geist Road)
ADEC File #: 105.38.002 (UAF Geist Road Wells)
ADEC Event ID #: 901

Dear Ms. Cardona-Marek:

On behalf of Chevron Environmental Management Company (Chevron), ARCADIS U.S., Inc. (ARCADIS) is pleased to submit this fourth quarter 2008 groundwater monitoring report for former Chevron facility No. 211081 (the site) located at 4103 Geist Road in Fairbanks, Alaska. The site location and surrounding area are shown on **Figure 1**. This work was conducted under direction of a "qualified person" (18 [Alaska Administrative Code] AAC 75.990 (100), and 18 AAC 78.995 (118)).

Site History

The site is located at the corner of Geist Road and Fairbanks Street in a mixed commercial/residential area just south of the University of Alaska, Fairbanks (UAF). When the petroleum impacts were first observed in 1988, this site was operated as the University Car Care Center by Mr. Robert Decker. In 1992, the underground storage tanks (USTs) were removed, and the station building was demolished. The facility ceased operation as a Texaco station in 1992. The site is currently an active service station owned and operated Holiday companies. Three USTs, which were installed in August 1996, are in use at the service station. The original USTs were located in approximately the same location as the current USTs.

In accordance with the 1994 Corrective Action Plan (EMCON, 1994), operation of a soil vapor extraction/air sparge (SVE/AS) system was initiated at the site on October 19, 1994. SVE and AS wells are located in the footprint and downgradient of the

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former USTs and dispenser islands. In October 2005, an electrical inspection noted several electrical and safety issues with the SVE/AS system. In telephone conversations and email correspondence on June 6, 2006, the Alaska Department of Environmental Conservation (ADEC) and ARCADIS determined that the SVE/AS system would remain deactivated pending additional site assessment. Evaluation of remedial alternatives is ongoing. The SVE/AS system is not currently operational.

Historically, concentrations of benzene have been detected in groundwater samples collected from two UAF potable wells (GW-1B and GW-2) located downgradient (north) of the site. Chevron monitors the groundwater in wells GW-1B and GW-2 as well as the influent and effluent of the UAF treatment plant on a monthly basis. Benzene has not been detected in the effluent of the treatment plant.

From June 2008 to August 2008, six mobile MPE events were conducted bi-weekly to recover petroleum-impacted groundwater and vapor-phase hydrocarbons from the subsurface. Each event was conducted using a 3,000-gallon vacuum truck provided by Emerald Alaska capable of applying a vacuum of approximately 272 inches of water (inH₂O) to an extraction point. For this pilot test, mobile MPE was conducted on monitoring wells G-5, G-7 and G-8. Approximately 2,900 gallons of impacted groundwater were recovered during each mobile MPE event. Mass removal of total petroleum hydrocarbons (TPH) was calculated using approximate groundwater volume recovery from each well and estimated an average GRO, DRO and RRO concentration of 20,000 µg/L. An estimated 2.5 pounds of dissolved-phase petroleum was removed from the subsurface. A site map is included as **Figure 2**.

Groundwater Monitoring

The fourth quarter 2008 groundwater monitoring events were conducted on December 12, 2008 by ARCADIS and on January 13, 2009 by Oasis Environmental, Inc. (Oasis) of Fairbanks, Alaska. Sampling conducted on October 28, November 19 and December 22, 2008 included sampling of UAF monitoring wells GW-1B and GW-2, as well as sampling of UAF water treatment plant influent and effluent water. Sampling conducted on December 15, 2008 included sampling of the basement faucet at the Syndoulos Evangelical Lutheran Church (SELC), located at 4155 Geist Rd., Fairbanks, Alaska. Fourth quarter 2008 sampling activities were started by ARCADIS on December 12, 2008 but could not be completed because the temperature dropped below levels recommended for field work. Fourth quarter 2008 sampling activities were postponed until temperatures reached safe working levels. Oasis completed fourth quarter 2008 sampling activities on January 13, 2009.

Monitoring wells G-4, G-5, G-7, G-8 and MW-304D were gauged and sampled on January 13, 2009.

Groundwater samples collected during the fourth quarter 2008 monitoring events were submitted for analysis to Lancaster Laboratories, Inc. (Lancaster) of Lancaster, Pennsylvania, an Alaska-certified laboratory. The groundwater samples collected from monitoring wells G-4, G-5, G-7, G-8, MW-304D and SELC were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B. The groundwater samples collected from monitoring wells G-4, G-7, G-8 and MW-304D were analyzed for gasoline range organics (GRO) by Alaska Method AK 101. The groundwater samples collected from monitoring wells G-5, G-7, G-8 and the sample SELC were analyzed for diesel range organics (DRO) by AK 102. In addition, the groundwater samples collected from monitoring wells G-5, G-7 and G-8 were analyzed for residual range organics (RRO) by AK 103 and for ethylene dibromide (EDB) by EPA Method 8011. Proper chain-of-custody documentation was used throughout sample collection and delivery to the laboratory.

A decontaminated oil-water interface probe was used to gauge the water level and depth to light-non-aqueous phase liquid (LNAPL), if present. Monitoring wells G-4, G-5, G-7, G-8 and MW-304D were gauged on January 13, 2009. LNAPL was not detected in the monitoring wells gauged during the fourth quarter 2008 monitoring event.

Grab samples were collected from UAF water production wells GW-1B and GW-2 and from the influent and effluent streams of the domestic water treatment plant at the UAF on October 28, November 19 and December 22, 2008. These samples were submitted to the Analytica International, Inc. (Analytica) receiving office in Fairbanks, and were subsequently shipped to the Analytica laboratory in Thornton, Colorado for analysis. The samples collected from production wells GW-1B and GW-2 were analyzed for BTEX by EPA Method 8021B and for GRO via AK 101. The samples collected from the UAF treatment plant were analyzed for BTEX and dichlorobenzene isomers using EPA Method 602. The groundwater monitoring schedule is shown in **Table 1**. Groundwater monitoring field sheets are presented in **Appendix A**.

Groundwater Flow

During fourth quarter 2008 monitoring events, depth to groundwater measurements ranged from 13.82 feet below top of casing (btoc) in monitoring well G-5 on

December 12, 2008 to 19.62 feet btoc in monitoring well MW-304D on January 13, 2009. Groundwater elevations ranged from 83.10 feet above mean sea level (amsl) in monitoring well G-7 on January 13, 2009 to 84.57 feet amsl in monitoring well G-5 on December 12, 2008. The fourth quarter 2008 groundwater elevations indicate groundwater flow direction onsite is generally to the north. This is consistent with historical groundwater data. Current and historical groundwater elevations are included in **Table 2**. A groundwater elevation map with the approximate groundwater flow direction and approximate water table elevation contours based on the January 2009 gauging is included as **Figure 3**.

Groundwater Monitoring Analytical Results

Groundwater samples collected from monitoring wells G-4, G-5, G-7 and G-8 exceeded the groundwater cleanup level (GCL) for GRO (2,200 micrograms per liter [$\mu\text{g/L}$]), ranging from 5,100 $\mu\text{g/L}$ in the sample collected from monitoring well G-8 to 27,000 $\mu\text{g/L}$ in the sample collected from monitoring well G-5 (duplicate). Monitoring wells G-5, G-7 and G-8 exceeded the GCL for DRO (1,500 $\mu\text{g/L}$), ranging from 2,700 $\mu\text{g/L}$ in the sample collected from monitoring well G-8 to 3,500 $\mu\text{g/L}$ in the sample collected from monitoring well G-5 (parent sample). Groundwater samples collected from monitoring wells G-4, G-5, G-7, G-8 and MW-304D exceeded the GCL for benzene (5 $\mu\text{g/L}$), ranging from <100 $\mu\text{g/L}$ in the sample collected from monitoring well G-5 to 500 $\mu\text{g/L}$ in the sample collected from monitoring well G-8. GRO concentrations in these groundwater samples ranged from 5,100 $\mu\text{g/L}$ in the sample collected from monitoring well G-8 to 27,000 $\mu\text{g/L}$ in the sample collected from monitoring well G-5 (duplicate). DRO concentrations in these groundwater samples ranged from 2,700 $\mu\text{g/L}$ in the sample collected from monitoring well G-8 to 3,500 $\mu\text{g/L}$ in the sample collected from monitoring well G-5. Benzene concentrations ranged from 20 $\mu\text{g/L}$ in the sample collected from monitoring well MW-304D to 500 $\mu\text{g/L}$ in the sample collected from monitoring well G-8. Benzene was not detected in the samples collected from GW-1B and GW-2 above the GCL of 5.0 $\mu\text{g/L}$. In addition, the toluene concentration in the sample collected from monitoring well G-4 exceeded the GCL (1,000 $\mu\text{g/L}$) at a concentration of 3,500 $\mu\text{g/L}$. Groundwater samples collected from monitoring wells G-4, G-5 and G-7 contained ethylbenzene concentrations exceeding the GCL (700 $\mu\text{g/L}$) at concentrations ranging from 1,000 $\mu\text{g/L}$ in the sample collected from monitoring well G-7 to 1,500 $\mu\text{g/L}$ in the sample collected from monitoring well G-5 (duplicate). The groundwater sample collected from G-8 was equivalent to the GCL for RRO (1,100 $\mu\text{g/L}$). Groundwater samples analyzed for EDB did not exceed the applicable GCLs. Groundwater analytical data are summarized in **Tables 2** and **3** and presented on **Figure 3**.

Sampling results from the UAF production wells GW-1B and GW-2 were below ADEC GCLs. Effluent samples from the UAF treatment system were non-detect for the samples collected during the fourth quarter 2008. The influent and effluent analytical data are summarized in **Table 3**.

Potable Well Analytical Results

A potable well at the Syndoulos Evangelical Lutheran Church (SELC) located adjacent to the site at 4155 Geist Road in Fairbanks, Alaska was sampled on December 15, 2008 from a drinking water tap in the basement of the facility. The grab sample collected from the SELC's domestic drinking water well on December 15, 2008 was analyzed for DRO by AK 102 and BTEX by EPA Method 8021B. DRO and BTEX were not detected above the analytical method detection limits. DRO analysis was processed with a silica gel cleanup and had a method detection limit of 50 µg/L.

Laboratory Data Review Summary

As required by ADEC (Technical Memorandum 06-002, dated August 20, 2008), ARCADIS completed one laboratory data review checklist for each of the laboratory reports from Lancaster and Analytica from the fourth quarter groundwater monitoring events. The laboratory reports and the data review checklists are included as **Appendix B**. The following quality assurance (QA) summary describes six parameters, related to the quality and usability of the data presented in this report.

1. Precision - Based on the laboratory control sample (LCS), matrix spike (MS), and laboratory control sample duplicate (LCSD) relative percent differences, the data meet precision objectives, with the exception of MS/MSD recoveries in Analytica reports F0811228 and F0812326. The case narrative of Analytica report F0811228 stated that several targets were recovered outside the acceptance limits in the batch MS/MSD for Purgeable Aromatics and Aromatic VOCs. The spiked samples were not associated with the project and do not appear to affect data quality or usability. The case narrative of Analytica report F0812326 stated that the dichlorobenzenes were recovered slightly low in the MS/MSD for Purgeable Aromatics. According to the laboratory, these targets were recovered normally in the LCS and LCS Duplicate, indicating a potential matrix effect. In addition, the case narrative of Analytica report F0812326 stated that the target was recovered outside the acceptance limits in the MS/MSD for

GRO analysis. According to the laboratory, this target was recovered normally in the LCS and LCS Duplicate, indicating a potential matrix effect. These deviations do not appear to affect data quality or usability.

2. Accuracy - The Lancaster and Analytica data meet accuracy objectives as indicated by the laboratory quality control samples, which were within method/laboratory limits, with the exception of the surrogate of Analytica report F0810374 and the matrix spike percent recovery for GRO of Lancaster report 1128258. The case narrative of Analytica report F0810374 stated that the surrogate was recovered outside the acceptance limits in the Method Blank. According to the laboratory, the surrogate was recovered normally in the associated samples and in the LCS/LCSD. The affect on data quality and usability of these quality control limit exceedances are unknown. Trip blanks were collected during each sampling event; each of the trip blank results were less than the laboratory detection limits.
3. Representativeness - The data appear to be representative of site conditions and are generally consistent with historical groundwater monitoring results and expected impacts to groundwater. However, the temperatures of groundwater samples collected on October 28, December 12, 2008 and January 13 ranged from 1.0 degrees Celsius to 1.4 degrees Celsius, which is below the acceptable range (two degrees to six degrees Celsius). The affect on data quality and usability is unknown.
4. Comparability – These data are reported using the same units and formats as previous monitoring reports to allow for comparison.
5. Completeness - The results appear to be valid and usable, and thus the laboratory results have 100 % completeness.
6. Sensitivity - The sensitivity of the analyses was adequate for the samples as the detection limits were less than the ADEC GCLs, with the exception of the benzene analysis of groundwater samples collected from monitoring well G-5 (parent sample and duplicate) on January 13, 2009. According to Lancaster (laboratory report 1128258), the presence of an interferent prohibited the laboratory from determining the presence or concentration of benzene in these two samples.

Conclusions and Recommendations

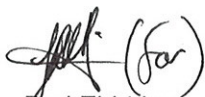
Fourth quarter 2008 results indicate impacted groundwater is located onsite near the dispenser islands and UST pit and offsite near monitoring well G-5. The UAF influent and effluent samples and domestic wells GW-1B and GW-2 did not contain analyte concentrations above the applicable ADEC GCL. DRO and BTEX were not detected above the method detection limits in the water samples collected from the church on December 12, 2008.

During project meetings with ADEC conducted on February 26, 2009, ADEC agreed that groundwater monitoring can be reduced to semi-annually. The first semi-annual 2009 event will be conducted in March 2009; a proposed schedule for monitoring well sampling is attached as **Table 4**. The domestic well at the church identified by the 2006 well search will continue to be sampled for BTEX and DRO quarterly, pending continued site access.

If you have any questions or require additional information, please contact ARCADIS at 206.726.4742.

Sincerely,

ARCADIS



Berl Eldridge
Staff Scientist



Greg Montgomery
Project Scientist

Copies:

Gregory Barton, Chevron EMC, San Ramon, California
Bruce Anthony, Holiday Companies, Bloomington, Minnesota
State of Alaska DOT & PF, Fairbanks, AK

Attachments:

Table 1 Groundwater Monitoring Schedule
Table 2 Groundwater Elevation and Analytical Data
Table 3 UAF Water Treatment System Analytical Data
Table 4 Proposed Semi-annual Monitoring Schedule

Figure 1 Site Location Map
Figure 2 Site Map
Figure 3 Groundwater Elevation Map January 13, 2009
Figure 4 Groundwater Analytical Summary Map

Appendix A Groundwater Sampling Field Data Sheets
Appendix B Laboratory Data Reports & ADEC Data Review Checklists

ARCADIS

Tables

TABLE 1
Groundwater Monitoring Schedule
Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Monthly	Quarterly	Semi-Annual	Annual
GW-1B	X	--	--	--
GW-2	X	--	--	--
G-1R	--	--	X	--
G-2	--	--	--	X
G-4	--	X	--	--
G-5	--	X	--	--
G-7	--	X	--	--
G-8	--	X	--	--
G-9	--	--	X	--
MW-211	--	--	--	X
MW-301D	--	--	X	--
MW-301S	--	--	X	--
MW-302D	--	--	X	--
MW-302S	--	--	X	--
MW-303S	--	--	--	X
MW-304D	--	X	--	--
MW-304S	--	--	--	X
MW-305	--	--	--	X
MW-306	--	--	--	X
MW-307	--	--	--	X
SELC	--	X	--	--

Notes:

Semi-annual sampling to be performed in March and September.

Annual sampling to be performed in March.

SELC - Sydnolous Evangelical Lutheran Church municipal well.

(--) = sampling not scheduled.

TABLE 2
Groundwater Elevation and Analytical Data
Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes			
					ADEC GCL:			2,200	1,500	1,100	5.0	1,000	700	10,000
G-1R	03/28/00	430.69	15.37	415.32	8,050	--	--	325	97.8	980	1,330			
	03/28/00 ^D	430.69	--	--	8,370	--	--	330	108	993	1,380			
	06/27/00	430.69	12.07	418.62	3,690	--	--	113	<5.21	254	333			
	06/27/00 ^D	430.69	--	--	2,780	--	--	101	<5.36	220	293			
	09/26/00	430.69	11.09	419.60	2,010	--	--	46.5	6.52	181	213			
	09/26/00 ^D	430.69	--	--	2,020	--	--	52.6	6.74	193	223			
	12/19/00	430.69	13.59	417.10	766	--	--	34.0	<0.930	63.2	62.6			
	12/19/00 ^D	430.69	--	--	871	--	--	38.4	<0.970	72.8	70.4			
	03/28/01	430.69	14.51	416.18	2,510	--	--	92.2	<5.00	274	271			
	03/28/01 ^D	430.69	--	--	2,330	--	--	91.6	<5.00	270	272			
	06/27/01	430.69	12.96	417.73	3,220	--	--	27.7	4.34	255	418			
	06/27/01 ^D	430.69	--	--	3,990	--	--	81.6	<5.00	266	434			
	09/19/01	430.69	12.03	418.66	278	--	--	13.7	1.08	14.8	20.1			
	09/19/01 ^D	430.69	--	--	188	--	--	9.11	<0.500	9.59	13.0			
	12/12/01	430.69	14.32	416.37	722	--	--	45.8	0.738	77.8	18.6			
	12/12/01 ^D	430.69	--	--	893	--	--	47	0.939	79.7	18.9			
	03/27/02	430.69	14.62	416.07	3,650	--	--	124	8.75	320	336			
	03/27/02 ^D	430.69	--	--	3,550	--	--	126.0	7.99	323	337.0			
	06/25/02	430.69	11.86	418.83	1,540	--	--	143	<2.5	123	103			
	06/25/02 ^D	430.69	--	--	1,650	--	--	158	<2.5	141	112			
	09/28/02	430.69	11.62	419.07	<80.0	--	--	10.4	<0.500	2.88	<1.00			
	09/28/02 ^D	430.69	--	--	91.2	--	--	15.0	<0.500	4.65	<1.00			
	12/17/02	430.69	12.87	417.82	858	--	--	75.6	<0.500	56.2	6.11			
	12/17/02 ^D	430.69	--	--	904	--	--	87.4	<0.500	62.9	7.23			
	04/08/03	430.69	12.61	418.08	650	--	--	66	<0.5	49	2.0			
	4/8/2003 ^D	430.69	--	--	760	--	--	75	<0.5	59	2.1			
	06/24/03	430.69	13.07	417.62	1,200	--	--	120	0.7	90	<1.5			
	06/24/03 ^D	430.69	--	--	1,300	--	--	120	0.7	100	<1.5			
	09/16/03	430.69	9.82	420.87	1,300	--	--	140	0.7	99	2.8			
	09/16/03 ^D	430.69	--	--	1,300	--	--	150	0.7	100	3.1			
	12/22/03	430.69	12.69	418.00	870	--	--	83	0.6	59	<1.5			
	03/24/04	430.69	14.50	416.19	1,600	--	--	94	1.4	140	3.0			
	03/24/04 ^D	430.69	--	--	1,500	--	--	97	1.4	140	6.7			
	06/21/04	430.69	11.98	418.71	1,400	--	--	89	0.9	89	4.2			
	06/21/04 ^D	430.69	--	--	1,600	--	--	95	1.0	110	5.7			
	09/29/04	430.69	13.32	417.37	69	--	--	13	<0.5	1.9	<1.5			
	12/02/04	430.69	14.49	416.20	740	160	120	43	<0.5	48	2.5			
	04/06/05	430.69	14.61	416.08	1,700	400	180	87	0.9	150	9.0			
	04/6/05 ^D	430.69	--	--	1,700	380	200	80	0.9	140	8.3			
	06/27/05	430.69	11.04	419.65	2,300	450	140	110	0.9	160	8.1			
	06/27/05 ^D	430.69	--	--	2,300	420	150	110	0.9	160	8.1			
	09/22/05	430.69	12.20	418.49	140	53	39	15	<0.5	13	<1.5			
	09/22/05 ^D	430.69	--	--	140	54	66	17	<0.5	10	<1.5			
	12/06/05	430.69	13.92	416.77	290	--	--	26	<0.5	20	<1.5			
	03/29/06	430.69	15.29	415.40	880	--	--	43	0.8	56	5.7			
	03/29/06 ^D	430.69	--	--	850	--	--	37	0.9	50	6.1			
	06/08/06	430.69	12.94	417.75	670	--	--	25	<0.5	51	2.2			
	09/26/06	98.87	12.99	85.88	24	--	--	2.7	<0.5	1.4	<1.5			
	09/26/06 ^D	98.87	--	--	26	--	--	2.7	<0.5	1.3	<1.5			
	03/31/07	98.87	15.31	83.56	500	--	--	30.0	<1.0	20	<2.0			
	09/15/07	98.87	12.35	86.52	20	--	--	8.0	<1.0	<1.0	<2.0			
	03/26/08	98.87	14.92	83.95	427 ⁷	--	--	32.9	<0.5	15.9	2.5			
	09/09/08	98.87	11.87	87.00	30	--	--	1.0	<1	<1	<2			

TABLE 2
Groundwater Elevation and Analytical Data
Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC GCL:					2,200	1,500	1,100	5.0	1,000	700	10,000
G-2	03/28/00	430.11	--	--	Well Inaccessible Beneath Snow bank						
	06/27/00	430.11	11.51	418.60	<50	--	--	<0.5	<0.5	<0.5	<1.0
	09/26/00	430.11	10.56	419.55	<50	--	--	<0.2	<0.5	<0.5	<1.0
	03/27/02	430.11	--	--	<50	--	--	1.15	<0.500	<0.500	<1.00
	04/08/03	430.11	--	--	Well Inaccessible Beneath Snow bank						
	03/24/04	430.11	--	--	Well Inaccessible Beneath Snow bank						
	04/06/05	430.11	--	--	Submerged in pond, low spot in parking lot						
	06/27/05	430.11	10.47	419.64	<10	210	490	<0.5	<0.5	<0.5	<1.5
	09/22/05	430.11	11.62	418.49	--	--	--	--	--	--	--
	03/30/06	430.11	14.73	415.38	<10	--	--	<0.5	<0.5	<0.5	<1.5
Well paved over											
G-4	03/28/00	431.62	--	--	Well Frozen						
	06/27/00	431.62	13.10	418.52	6,230	--	--	42.4	814	137	1,590
	09/26/00	431.62	12.05	419.57	427	--	--	0.551	1.32	14.3	123
	12/19/00	431.62	14.56	417.06	2,380	--	--	<3.50	8.89	79.8	768
	03/30/01	431.62	--	--	Well Frozen						
	06/28/01	431.62	14.02	417.60	205	--	--	0.371	0.885	1.39	25.3
	09/19/01	431.62	13.12	418.50	2,270	--	--	10	20.2	146	824
	12/12/01	431.62	15.30	416.32	7,200	--	--	456	338	510	2,050
	03/27/02	431.62	15.59	416.03	27,400	--	--	1,820	3,990	1,690	4,890
	06/25/02	431.62	12.90	418.72	48,500	--	--	7,160	6,250	1,880	6,100
	09/28/02	431.62	12.53	419.09	13,100	--	--	2,520	893	865	2,190
	12/17/02	431.62	13.89	417.73	72,800	--	--	5,210	8,990	2,290	10,400
	04/08/03	431.62	--	--	Well Frozen						
	06/25/03	431.62	Casing	Damaged	220	--	--	4.2	15	6.1	51
	09/16/03	431.62	Casing	Damaged	7,400	--	--	97	650	62	1,700
	12/22/03	431.62	--	--	Well Frozen						
	03/24/04	431.62	--	--	Well Frozen						
	06/21/04	431.62	Casing	Damaged	9,400	--	--	36	1,300	150	1,700
	09/29/04	431.62	14.04	No Survey	290	--	--	<0.5	0.5	1.5	40.0
	12/02/04	431.62	15.23	No Survey	170	480	570	<0.5	<0.5	0.6	4.8
	04/06/05	431.62	15.41	No Survey	<10	270	320	<0.5	<0.5	<0.5	<1.5
	06/27/05	431.62	11.95	No Survey	5,000	750	120	11	430	77	830
	09/22/05	431.62	12.90	No Survey	3,000	1,200	1,100	12	450	55	620
	12/07/05	--	--	--	Well inaccessible - Well cap frozen shut						
	03/30/06	--	--	--	Well inaccessible - Well frozen						
	06/08/06	--	13.93	417.69	52	--	--	<0.5	<0.5	1.9	17
	09/26/06	99.66	13.70	85.96	1,600	--	--	19	1.6	30	380
	12/20/06	--	--	--	Well inaccessible - Well cap frozen shut						
03/31/07	--	--	--	Well not sampled - unable to open well							
09/15/07	99.66	13.12	86.54	5,200	--	--	400	200	400	1,000	
01/30/08 ²	99.66	15.11	84.55	--	--	--	600	3,200	1,100	2,800	
03/26/08	99.66	15.72	83.94	68,100	--	--	1,060	11,400	2,500	9,180	
06/27/08	99.66	--	--	Well not sampled due to ice within well casing							
09/09/08	99.66	12.59	87.07	5,400	--	--	200	200	300	900	
12/12/08	99.66	15.14	84.52	Well not sampled due to sub-freezing temperatures							
01/13/09	99.66	15.32	84.34	22,000	--	--	300	3,500	1,100	4,600	
G-5	03/28/00	430.19	14.86	415.33	35,300	--	--	213	2,000	1,560	7,230
	06/27/00	430.19	11.56	418.63	78,900	--	--	1,060	13,300	2,970	17,800
	09/26/00	430.19	10.53	419.66	81,200	--	--	847	11,400	2,740	21,500
	12/19/00	430.19	13.07	417.12	128,000	--	--	909	15,900	4,720	26,900
	03/30/01	430.19	14.05	416.14	65,900	--	--	273	8,120	3,040	16,100
	06/27/01	430.19	12.43	417.76	102,000	--	--	515	15,700	3,830	22,200
	09/19/01	430.19	11.69	418.50	87,900	--	--	443	13,600	3,660	23,600
	12/12/01	430.19	13.82	416.37	70,100	--	--	254	11,400	3,470	18,300
	03/27/02	430.19	14.10	416.09	56,900	--	--	129	5,110	2,580	13,200
	06/25/02	430.19	11.37	418.82	70,000	--	--	172	7,960	2,680	15,600
	09/28/02	430.19	11.05	419.14	27,500	--	--	46.5	898	437	2,850
	12/17/02	430.19	12.39	417.80	101,000	--	--	145	9,960	3,740	21,000
	04/08/03	430.19	12.12	418.07	98,000	--	--	150	8,200	3,400	21,000

TABLE 2
Groundwater Elevation and Analytical Data
Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes			
					ADEC GCL:			2,200	1,500	1,100	5.0	1,000	700	10,000
G-5 (cont)	06/24/03	430.19	12.57	417.62	100,000	--	--	72	9,700	3,800	25,000			
	09/16/03	430.19	9.30	420.89	19,000	--	--	28	760	360	4,000			
	12/22/03	430.19	12.18	418.01	100,000	--	--	<100	7,000	3,500	22,000			
	03/24/04	430.19	14.01	416.18	94,000	--	--	<100	5,800	2,600	15,000			
	06/21/04	430.19	11.46	418.73	90,000	--	--	190	6,200	2,800	19,000			
	09/29/04	430.19	12.80	417.39	110,000	--	--	140	6,400	3,400	21,000			
	12/02/04	430.19	13.98	416.21	97,000	26,000	3400	120	6,000	3,200	17,000			
	04/06/05	430.19	14.11	416.08	53,000	5,300	530	48	3,000	2,000	8,800			
	06/27/05	430.19	10.52	419.67	76,000	7,000	1100	100	4,200	2,800	16,000			
	09/22/05	430.19	11.67	418.52	65,000	8,100	<1,000	74	3,400	2,500	16,000			
	12/07/05	430.19	13.40	416.79	80,000	8,500	--	71	3,700	3,000	17,000			
	03/30/06	430.19	14.75	415.44	50,000	6,700	<800	50	2,200	1,800	9,900			
	06/08/06	430.19	12.50	417.69	53,000	3,900	--	77	2,600	2,100	14,000			
	09/26/06	98.39	12.45	85.94	83,000	7,300	--	72	3,400	3,300	21,000			
	12/20/06	98.39	13.91	84.48	66,000	4,400	--	56	3,700	2,600	16,000			
	03/31/07	98.39	14.79	83.60	40,000	2,000	<200	90	2,000	1,800	9,100			
	06/10/07	98.39	13.17	85.22	34,000	1,900	<94	<1.0	2,100	1,500	7,600			
	09/15/07	98.39	11.82	86.57	55,000	12,000	--	80	2,100	2,100	15,000			
	01/30/08 ²	98.39	13.78	84.61	--	6,100	--	<40	1,800	1,800	9,300			
	01/30/08 ^{2D}	98.39	13.78	84.61	--	6,400	--	<50	1,500	1,400	7,700			
	03/26/08	98.39	14.40	83.99	31,000	3,260 ⁵	<743	8.44	1,560	1,380	6,870			
	06/30/08	98.39	12.57	85.82	36,000	11,000	<980	<50	900	1,300	8,400			
	06/30/08 ^D	--	--	--	39,000	12,000	<1,000	<50	1,000	1,400	9,100			
07/08/08	98.39	12.58	85.81	44,000	12,000	--	<50	900	1,600	11,000				
08/07/08	98.39	9.94	88.45	26,000	2,800	--	<40	400	1,200	7,800				
8/7/2008 ^D	--	--	--	27,000	3,100	--	<50	500	1,300	8,300				
09/09/08	98.39	11.32	87.07	23,000	2,400	<500	30	300	900	6,300				
12/12/08	98.39	13.82	84.57	Well not sampled due to sub-freezing temperatures										
01/13/09	98.39	13.97	84.42	23,000	3,500	<480	<100 ⁹	400	1,400	6,900				
01/13/09 ^D	--	--	--	27,000	3,400	<480	<100 ⁹	500	1,500	7,300				
G-6	3/28/00 ⁴	430.40	--	--	--	--	--	--	--	--	--			
	06/27/00	430.40	11.71	418.69	<50	--	--	<0.5	<0.5	<0.5	<1.0			
	03/27/02	430.40	--	--	Removed from sampling program in June 2001									
	09/26/06	98.43	--	--	--	--	--	--	--	--	--			
G-7	03/28/00	431.54	16.27	415.27	30,500	--	--	418	<50.0	1,170	5,480			
	06/27/00	431.54	13.00	418.54	12,600	--	--	162	<25.0	1,470	1,560			
	09/26/00	431.54	11.94	419.60	35,800	--	--	76.7	303	540	11,900			
	12/19/00	431.54	14.49	417.05	12,800	--	--	112	26.2	803	1,850			
	03/30/01	431.54	15.49	416.05	41,900	--	--	99.3	150	600	6,770			
	06/27/01	431.54	14.00	417.54	13,300	--	--	115	<25.0	1,190	1,940			
	09/19/01	431.54	12.88	418.66	2,770	--	--	10.8	3.83	183	391			
	12/12/01	431.54	15.22	416.32	4,160	--	--	42.4	<5.0	470	616			
	03/27/02	431.54	15.60	415.94	9,910	--	--	212	<5.00	945	1,980			
	06/25/02	431.54	12.78	418.76	4,600	--	--	20.7	<5.00	806	778			
	09/28/02	431.54	12.46	419.08	1,870	--	--	11.1	<1.00	161	269			
	12/17/02	431.54	13.82	417.72	6,810	--	--	72.2	<5.00	779	955			
	04/08/03	431.54	13.57	417.97	11,000	--	--	160	15	1,000	1,400			
	06/24/03	431.54	14.01	417.53	7,500	--	--	130	<5.0	930	830			
	09/16/03	431.54	10.72	420.82	2,800	--	--	13	1.9	85	460			
	12/22/03	431.54	13.64	417.90	23,000	--	--	74	43	800	3,800			
	03/24/04	431.54	15.42	416.12	28,000	--	--	230	77	1,400	6,100			
	06/21/04	431.54	13.00	418.54	13,000	--	--	90	20	1,300	1,600			
	09/29/04	431.54	14.18	417.36	7,400	--	--	42	6.4	640	970			
	12/02/04	431.54	15.40	416.14	8,700	3,400	940	54	31	810	970			
	04/06/05	431.54	15.55	415.99	16,000	6,500	1700	130	9.7	1,500	1,700			
	06/27/05	431.54	11.96	419.58	17,000	4,100	910	67	6.3	1,700	1,800			
	09/22/05	431.54	13.05	418.49	4,100	6,300	<420	18	8.0	360	930			
	12/07/05	431.54	14.81	416.73	8,400	9,700	--	46	3.7	860	440			
	03/30/06	431.54	16.11	415.43	40,000	59,000	10000	370	140	1,000	6,700			
	06/08/06	431.54	14.02	417.52	11,000	4,100	--	84	7.2	1,300	860			
	09/26/06	99.65	13.74	85.91	5,000	6,100	--	31	3.3	610	600			
12/20/06	99.65	15.24	84.41	5,900	6,500	--	50	<5.0	860	480				
03/31/07	99.65	16.10	83.55	8,400	4,200	840	400	<5.0	800	800				
06/10/07	98.43	14.59	83.84	9,100	2,900	<94	400	20	1,100	900				

TABLE 2
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Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC GCL:					2,200	1,500	1,100	5.0	1,000	700	10,000
	09/26/06	100.97	15.11	85.86	14	--	--	1.7	<0.5	<0.5	<1.5
	03/30/07	100.97	17.48	83.49	10	--	--	3.0	<1.0	<1.0	<2.0
	09/15/07	100.97	14.53	86.44	20	--	--	5.0	<1.0	<1.0	<2.0
	03/26/08	100.97	17.20	83.77	<50	--	--	7.57	<0.5	<0.5	<1.0
	09/09/08	100.97	14.09	86.88	<10	--	--	<1	<1	<1	<2
MW-301S	03/29/00	432.44	17.26	415.18	4,960	--	--	2,120	<0.5	266	<20.0
	3/29/00 ^D	432.44	--	--	4,570	--	--	2,070	<0.5	230	11.4
	06/28/00	432.44	14.06	418.38	4,510	--	--	1,660	<25.0	259	<50.0
	09/27/00	432.44	13.06	419.38	730	--	--	350	<0.5	37.7	<10
	12/20/00	432.44	15.41	417.03	988	--	--	269	<2.50	133	<5
	03/30/01	432.44	16.43	416.01	426	--	--	42.4	<0.5	106	1.39
	06/28/01	432.44	14.95	417.49	267	--	--	55.9	<0.5	40.3	<1.0
	09/19/01	432.44	13.78	418.66	55.8	--	--	20.7	<0.5	1.56	<1.0
	12/12/01	432.44	16.13	416.31	67.1	--	--	0.430	<0.5	15.9	1.15
	03/27/02	432.44	16.50	415.94	201	--	--	11.4	<0.500	56.5	1.09
	06/25/02	432.44	13.78	418.66	340	--	--	94.3	<2.5	28.9	<5.00
	09/28/02	432.44	13.36	419.08	<80.0	--	--	17.9	<0.500	<0.500	<1.00
	12/17/02	432.44	14.76	417.68	<50.0	--	--	1.31	<0.500	4.23	<1.00
	04/07/03	432.44	14.50	417.94	36	--	--	2.7	<0.5	2.3	<1.5
	06/24/03	432.44	15.01	417.43	25	--	--	1.3	<0.5	1.2	<1.5
	09/16/03	432.44	11.69	420.75	82	--	--	21.0	<0.5	1.1	<1.5
	12/22/03	432.44	14.56	417.88	14	--	--	<0.5	<0.5	<0.5	<1.5
	03/23/04	432.44	16.29	416.15	13	--	--	<0.5	<0.5	<0.5	<1.5
	06/21/04	432.44	13.93	418.51	<10	--	--	<0.5	<0.5	<0.5	<1.5
	09/29/04	432.44	15.03	417.41	<10	--	--	<0.5	<0.5	<0.5	<1.5
	12/02/04	432.44	16.31	416.13	<10	58	100	<0.5	<0.5	<0.5	<1.5
	04/06/05	432.44	16.52	415.92	12	51	54	<0.5	<0.5	<0.5	<1.5
	06/27/05	432.44	13.08	419.36	240	230	170	84	<0.5	<0.5	<1.5
	09/22/05	433.44	14.03	418.41	<10	140	360	1.8	<0.5	<0.5	<1.5
	12/06/05	433.44	15.75	416.69	<10	--	--	1.6	<0.5	<0.5	<1.5
	03/29/06	433.44	17.27	415.17	10	--	--	<0.5	<0.5	<0.5	<1.5
	06/07/06	433.44	15.05	417.39	<10	--	--	<0.5	<0.5	<0.5	<1.5
09/26/06	100.60	14.73	85.87	<10	--	--	<0.5	<0.5	<0.5	<1.5	
03/30/07	100.60	17.12	83.48	<10	--	--	<1.0	<1.0	<1.0	<2.0	
09/15/07	100.60	14.18	86.42	<10	--	--	<1.0	<1.0	<1.0	<2.0	
03/26/08	100.60	16.80	83.80	<50	--	--	<0.5	<0.5	<0.5	<1.0	
09/09/08	100.60	13.73	86.87	<10	--	--	<1	<1	<1	<2	
MW-302D	03/29/00	435.32	20.28	415.04	<50	--	--	13.0	<0.5	<0.5	<1.0
	06/28/00	435.32	17.15	418.17	<50	--	--	10.4	<0.5	<0.5	<1.0
	09/27/00	435.32	16.09	419.23	<50	--	--	9.1	<0.5	<0.5	<1.0
	12/20/00	435.32	18.44	416.88	<50	--	--	14.0	<0.5	<0.5	<1.0
	12/20/00 ^D	435.32	--	--	<50	--	--	14.9	<0.5	<0.5	<1.0
	03/20/01	435.32	--	--	52.9	--	--	20.0	<0.5	<0.5	<1.0
	03/30/01 ^D	435.32	19.45	415.87	53.8	--	--	20.1	<0.5	<0.5	<1.0
	06/28/01	435.32	18.05	417.27	<50	--	--	11.3	<0.5	<0.5	<1.0
	09/19/01	435.32	16.76	418.56	64.6	--	--	28.1	<0.5	<0.5	<1.0
	03/27/02	435.32	19.54	415.78	<50	--	--	10.5	<0.500	<0.500	<1.00
	09/28/02	435.32	16.32	419.00	<80.0	--	--	23.3	<0.500	<0.500	<1.00
	04/07/03	435.32	17.52	417.80	33	--	--	12	<0.5	<0.5	<1.5
	09/16/03	435.32	14.73	420.59	26	--	--	10	<0.5	<0.5	<1.5
	03/23/04	435.32	19.24	416.08	47	--	--	22	<0.5	<0.5	<1.5
	09/29/04	435.32	17.97	417.35	140	--	--	44	<0.5	<0.5	<1.5
	04/06/05	435.32	19.58	415.74	29	51	120	11	<0.5	<0.5	<1.5
	06/27/05	435.32	16.20	419.12	17	35	63	6.1	<0.5	<0.5	<1.5
	09/22/05	435.32	17.01	418.31	68	<21	<21	24	<0.5	<0.5	<1.5
	12/06/05	435.32	18.74	416.58	56	--	--	17	<0.5	<0.5	<1.5
	03/29/06	435.32	20.55	414.77	100	--	--	32	<0.5	<0.5	<1.5
	06/07/06	435.32	18.34	416.98	87	--	--	28	<0.5	<0.5	<1.5
	09/26/06	103.50	17.69	85.81	40	--	--	13	<0.5	<0.5	<1.5
	03/30/07	103.50	20.11	83.39	<10	--	--	4	<1.0	<1.0	<2.0
09/15/07	103.50	17.18	86.32	20	--	--	10	<1.0	<1.0	<2.0	
03/25/08	103.50	19.95	83.55	<50	--	--	2.74	<0.5	<0.5	<1.0	
09/09/08	103.50	16.78	86.72	10	--	--	4	<1	<1	<2	

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Fairbanks, Alaska

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	
					ADEC GCL:	2,200	1,500	1,100	5.0	1,000	700	10,000
MW-302S	03/29/00	434.91	19.85	415.06	1,320	--	--	663	<0.5	2.11	22.6	
	06/28/00	434.91	16.74	418.17	1,000	--	--	497	<2.5	<2.5	<5.0	
	09/27/00	434.91	15.70	419.21	969	--	--	518	<5	<5	<10	
	12/20/00	434.91	18.03	416.88	<50	--	--	13.8	<0.5	<0.5	<1.0	
	03/30/01	434.91	19.05	415.86	<50	--	--	1.34	<0.5	<0.5	<1.0	
	06/28/01	434.91	17.62	417.29	242	--	--	171	<0.5	<0.5	<1.0	
	09/19/01	434.91	16.35	418.56	71.5	--	--	26.6	<0.5	0.660	2.43	
	12/12/01	434.91	18.74	416.17	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	03/28/02	434.91	19.15	415.76	<50	--	--	3.09	<0.500	<0.500	<1.00	
	06/25/02	434.91	16.40	418.51	211	--	--	97.8	<0.500	<0.500	<1.00	
	09/28/02	434.91	15.91	419.00	<80.0	--	--	<0.500	<0.500	<0.500	<1.00	
	12/17/02	434.91	17.38	417.53	<50.0	--	--	<0.200	<0.500	<0.500	<1.00	
	04/07/03	434.91	17.12	417.79	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	06/24/03	434.91	17.66	417.25	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	09/16/03	434.91	14.32	420.59	33	--	--	4.7	<0.5	<0.5	<1.5	
	12/22/03	434.91	17.16	417.75	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	03/23/04	434.91	18.84	416.07	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	06/21/04	434.91	16.63	418.28	32	--	--	5.9	<0.5	<0.5	<1.5	
	09/29/04	434.91	17.56	417.35	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	12/02/04	434.91	18.90	416.01	12	79	120	<0.5	<0.5	<0.5	<1.5	
	04/06/05	434.91	19.19	415.72	20	95	57	<0.5	<0.5	<0.5	<1.5	
	06/27/05	434.91	15.81	419.10	28	200	130	<0.5	<0.5	<0.5	<1.5	
	09/22/05	434.91	16.61	418.30	10	30	77	2.1	<0.5	<0.5	<1.5	
	12/06/05	434.91	18.34	416.57	<10	--	--	<0.5	<0.5	<0.5	<1.5	
03/29/06	434.91	20.04	414.87	15	--	--	<0.5	<0.5	<0.5	<1.5		
06/07/06	434.91	17.84	417.07	14	--	--	<0.5	<0.5	<0.5	<1.5		
09/26/06	103.10	17.29	85.81	<10	--	--	<0.5	<0.5	<0.5	<1.5		
03/30/07	103.10	19.70	83.40	20	--	--	<1.0	<1.0	<1.0	<2.0		
09/15/07	103.10	16.78	86.32	<10	--	--	<1.0	<1.0	<1.0	<2.0		
03/25/08	103.10	19.45	83.65	<50	--	--	<0.5	<0.5	<0.5	<1.0		
09/09/08	103.10	16.37	86.73	<10	--	--	<1	<1	<1	<2		
MW-303S	03/28/00	429.99	--	--				Well Dry				
	06/27/00	429.99	11.96	418.03	<50	--	--	1.25	<0.5	<0.5	<1.0	
	09/26/00	429.99	10.90	419.09	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	12/19/00	429.99	13.19	416.80	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	03/30/01	429.99	14.28	415.71	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	06/28/01	429.99	--	--				Well Dry				
	03/27/02	429.99	14.40	415.59	<50	--	--	<0.200	<0.500	<0.500	<1.00	
	04/07/03	429.99	12.27	417.72	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	03/24/04	429.99	13.99	416.00	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	04/06/05	429.99	14.41	415.58	<10	<40	40	<0.5	<0.5	<0.5	<1.5	
	03/30/06	429.99	15.06	414.93	10	--	--	<0.5	<0.5	<0.5	<1.5	
	09/26/06	98.24	--	--	--	--	--	--	--	--	--	
03/31/07	98.24	14.88	83.36	<10	--	--	<1.0	<1.0	<1.0	<2.0		
MW-304D	03/28/00	434.86	20.15	414.71	252	--	--	131	<0.5	<0.5	<1.0	
	06/28/00	434.86	17.19	417.67	303	--	--	130	<2.5	<2.5	<5.0	
	09/27/00	434.86	16.04	418.82	116	--	--	75.3	<0.5	0.603	1.31	
	12/20/00	434.86	18.31	416.55	172	--	--	69.8	<0.5	<0.5	<1.0	
	03/30/01	434.86	19.35	415.51	121	--	--	51.1	<0.5	<0.5	<1.0	
	06/28/01	434.86	18.03	416.83	291	--	--	161	<0.5	<0.5	<1.0	
	09/19/01	434.86	16.56	418.30	203	--	--	93.8	<0.5	<0.5	<1.0	
	12/12/01	434.86	19.00	415.86	121	--	--	48.7	<0.05	<0.5	1.11	
	03/27/02	434.86	19.47	415.39	144	--	--	56.8	<0.500	<0.500	<1.00	
	03/27/02 ^D	434.86	--	--	148	--	--	59.4	<0.500	<0.500	<1.00	
	06/25/02	434.86	16.67	418.19	138	--	--	56.6	<0.500	<0.500	<1.00	
	09/28/02	434.86	16.14	418.72	213	--	--	90.6	<0.500	<0.500	<1.00	
	09/28/02 ^D	434.86	--	--	217	--	--	93.2	<0.500	<0.500	<1.00	
	12/17/02	434.86	17.59	417.27	114	--	--	34.3	<0.500	<0.500	<1.00	
	04/07/03	434.86	17.35	417.51	130	--	--	43	<0.5	<0.5	<1.5	
06/24/03	434.86	18.00	416.86	330	--	--	130	<0.5	<0.5	<1.5		

TABLE 2
Groundwater Elevation and Analytical Data
Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	
		ADEC GCL:			2,200	1,500	1,100	5.0	1,000	700	10,000	
MW-304D (cont)	09/16/03	434.86	14.69	420.17	130	--	--	52	<0.5	<0.5	<1.5	
	09/16/03 ^D	434.86	--	--	130	--	--	53	<0.5	<0.5	<1.5	
	12/22/03	434.86	17.37	417.49	110	--	--	37	<0.5	<0.5	<1.5	
	03/23/04	434.86	19.03	415.83	160	--	--	60	<0.5	<0.5	<1.5	
	03/23/04 ^D	--	--	--	150	--	--	56	<0.5	<0.5	<1.5	
	06/21/04	434.86	17.16	417.70	210	--	--	81	<0.5	<0.5	<1.5	
	09/29/04	434.86	17.71	417.15	490	--	--	150	0.5	<0.5	<1.5	
	09/29/04 ^D	--	--	--	480	--	--	150	0.5	<0.5	<1.5	
	12/02/04	434.86	19.16	415.70	190	70	86	62	<0.5	<0.5	<1.5	
	04/06/05	434.86	19.52	415.34	120	66	140	41	<0.5	<0.5	<1.5	
	06/27/05	434.86	16.20	418.66	290	48	64	96	<0.5	<0.5	<1.5	
	09/21/05	G-4	16.85	#VALUE!	210	28	<19	71	<0.5	<0.5	<1.5	
	12/06/05	434.86	18.65	416.21	87	--	--	23	<0.5	<0.5	<1.5	
	03/29/06	434.86	20.00	414.86	88	--	--	24	<0.5	<0.5	<1.5	
	06/07/06	434.86	17.83	417.03	230	--	--	71	<0.5	<0.5	<1.5	
	09/26/06	103.00	17.48	85.52	92	--	--	26	<0.5	<0.5	<1.5	
	12/19/06	103.00	18.91	84.09	40	--	--	7.1	<1.0	<1.0	<2.0	
	03/28/07	103.00	19.94	83.06	30	--	--	8	<1.0	<1.0	<2.0	
	06/08/07	103.00	18.72	84.28	40	--	--	10	<1.0	<1.0	<2.0	
	09/15/07	103.00	17.10	85.90	40	--	--	10	<1.0	<1.0	<2.0	
	01/30/08 ²	103.00	18.98	84.02	--	--	--	6	<1.0	<1.0	<2.0	
03/25/08	103.00	19.98	83.02	<50	--	--	3.77	<0.5	<0.5	<1.0		
06/30/08	103.00	18.15	84.85	30	--	--	7	<1.0	<1.0	<2.0		
09/09/08	103.00	16.93	86.07	10	--	--	40	<1	<1	<2		
12/12/08	103.00	--	--	Well not sampled due to sub-freezing temperatures								
01/13/09	103.00	19.62	83.38	40	--	--	20	<1	<1	<2		
MW-304S	03/28/00	434.51	19.65	414.86	<50	--	--	<0.5	<0.5	<0.5	<1.0	
	06/28/00	434.51	16.68	417.83	<50	--	--	<0.5	<0.5	<0.5	<1.0	
	09/27/00	434.51	15.54	418.97	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	12/20/00	434.51	10.00	424.51	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	03/30/01	434.51	18.90	415.61	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	06/28/01	434.51	17.57	416.94	<50	--	--	0.210	<0.5	<0.5	<1.0	
	03/27/02	434.51	18.97	415.54	<50	--	--	<0.200	<0.500	<0.500	<1.00	
	04/07/03	434.51	16.86	417.65	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	03/23/04	434.51	18.58	415.93	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	04/06/05	434.51	19.04	415.47	<10	<40	<40	<0.5	<0.5	<0.5	<1.5	
	03/29/06	434.51	19.57	414.94	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	09/26/06	--	--	--	--	--	--	--	--	--	--	
	03/28/07	102.69	19.48	83.21	<10	--	--	<1.0	<1.0	<1.0	<2.0	
MW-305	03/28/00	431.81	15.90	415.91	51.9	--	--	<0.5	0.655	1.05	6.83	
	09/26/00	431.81	11.63	420.18	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	03/30/01	431.81	15.08	416.73	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	03/27/02	431.81	15.18	416.63	<50	--	--	<0.200	<0.500	<0.500	<1.00	
	04/08/03	431.81	13.22	418.59	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	03/24/04	431.81	15.04	416.77	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	04/06/05	431.81	15.21	416.60	<10	<40	56	<0.5	<0.5	<0.5	<1.5	
	03/30/06	431.81	16.78	415.03	<10	--	--	<0.5	<0.5	<0.5	<1.5	
09/26/06	99.50	--	--	--	--	--	--	--	--	--		
03/31/07	99.50	15.82	83.68	<10	--	--	<1.0	<1.0	<1.0	<2.0		
MW-306	07/13/06	Unknown	10.36	--	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	09/26/06	97.93	--	--	--	--	--	--	--	--	--	
	03/31/07	97.93	14.21	83.72	<10	--	--	<1.0	<1.0	<1.0	<2.0	
MW-307	07/13/06	Unknown	13.90	--	<10	--	--	<0.5	<0.5	<0.5	<1.5	
	09/26/06	101.09	--	--	--	--	--	--	--	--	--	
	03/31/07	--	--	--	Well not sampled - unable to locate							
MW-309S	03/28/00	436.91	--	--	Well Dry							
	06/28/00	436.91	18.70	418	<50	--	--	<0.5	<0.5	<0.5	<1.0	
	03/30/01	436.91	20.95	416	<50	--	--	<0.2	<0.5	<0.5	<1.0	
	03/27/02	436.91	--	--	Well Removed From Monitoring Program in June 2001							

TABLE 2
Groundwater Elevation and Analytical Data
Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	
					2,200	1,500	1,100	5.0	1,000	700	10,000	
					ADEC GCL:							
GW-1B ¹	03/29/00	--	--	--	59.9	--	--	26.9	0.675	<0.5	<1.0	
	06/28/00	--	--	--	73.1	--	--	28.7	0.965	<0.5	<1.0	
	06/28/00 ^D	--	--	--	71.6	--	--	27.7	1.18	<0.5	<1.0	
	09/27/00	--	--	--	<50	--	--	17.9	<0.5	<0.5	<1.0	
	12/20/00	--	--	--	<50	--	--	12.8	<0.5	<0.5	<1.0	
	03/29/01	--	--	--	<50	--	--	12.4	<0.5	<0.5	<1.0	
	06/28/01	--	--	--	<50	--	--	16.9	<0.5	<0.5	<1.0	
	09/19/01	--	--	--	<50	--	--	8.18	<0.5	<0.5	<1.0	
	12/12/01	--	--	--	<50	--	--	5.32	<0.5	<0.5	<1.0	
	03/27/02	--	--	--	<50	--	--	7.89	<0.500	<0.500	<1.00	
	06/25/02	--	--	--	<50.0	--	--	7.43	<0.500	<0.500	<1.00	
	09/27/02	--	--	--	<80.0	--	--	5.14	<0.500	<0.500	<1.00	
	12/17/02	--	--	--	<50.0	--	--	3.85	<0.500	<0.500	<1.00	
	04/07/03	--	--	--	21	--	--	6.3	<0.5	<0.5	<1.5	
	4/7/2003 ^D	--	--	--	19	--	--	6.4	<0.5	<0.5	<1.5	
	06/24/03	--	--	--	23	--	--	8.2	<0.5	<0.5	<1.5	
	09/16/03	--	--	--	22	--	--	7.6	<0.5	<0.5	<1.5	
	12/22/03	--	--	--	11	--	--	3.4	<0.5	<0.5	<1.5	
	12/22/03 ^D	--	--	--	11	--	--	3.3	<0.5	<0.5	<1.5	
	12/02/04	--	--	--	19	66	94	4.2	<0.5	<0.5	<1.5	
	12/02/04 ^D	--	--	--	15	62	89	3.8	<0.5	<0.5	<1.5	
	04/06/05	--	--	--	42	87	210	3.3	13	<0.5	<1.5	
	04/06/05 ^D	--	--	--	34	120	350	3.5	9.6	<0.5	<1.5	
	06/27/05	--	--	--	12	42	100	4.3	<0.5	<0.5	<1.5	
	06/27/05 ^D	--	--	--	14	37	87	4.3	0.6	<0.5	<1.5	
	09/21/05	--	--	--	20	<20	<20	4.1	1.3	<0.5	<1.5	
	09/21/05 ^D	--	--	--	17	<21	<21	4.0	0.7	<0.5	<1.5	
	12/06/05	--	--	--	<10	--	--	2	<0.5	<0.5	<1.5	
	12/06/05 ^D	--	--	--	<10	--	--	2	<0.5	<0.5	<1.5	
	03/29/06	--	--	--	48	--	--	15	<0.5	<0.5	<1.5	
	03/29/06 ^D	--	--	--	49	--	--	16	<0.5	<0.5	<1.5	
	06/07/06	--	--	--								
	09/26/06	--	--	--	<10	--	--	1.3	<0.5	<0.5	<1.5	
	09/26/06 ^D	--	--	--	<10	--	--	1.3	<0.5	<0.5	<1.5	
	12/19/06	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0	
	12/19/06 ^D	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0	
	03/28/07	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0	
	03/28/07 ^D	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0	
	04/06/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
	05/14/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
	06/08/07	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0	
	06/08/07 ^D	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0	
	07/13/07	--	--	--	--	--	--	1.4	<1.0	<1.0	<2.0	
	08/21/07	--	--	--	--	--	--	1.8	<1.0	<1.0	<2.0	
	09/14/07	--	--	--	<10	--	--	1.0	<1.0	<1.0	<2.0	
09/14/07 ^D	--	--	--	<10	--	--	1.0	<1.0	<1.0	<2.0		
10/12/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0		
11/20/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0		
12/11/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0		
01/29/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0		
02/14/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0		
03/25/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0		
05/27/08	--	--	--	<100	--	--	1.4	<1.0	<1.0	<2.0		
06/06/08	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0		
06/27/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0		
07/15/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0		
08/05/08	--	--	--	<100	--	--	2.4	<1.0	2.2	<2.0		
09/26/08	--	--	--	<100	--	--	1.5	<1.0	<1.0	<2.0		
10/28/08	--	--	--	<100	--	--	1.3	<1.0	<1.0	<2.0		
11/19/08	--	--	--	<100	--	--	1.8	<1.0	<1.0	<2.0		
12/22/08	--	--	--	<100	--	--	1.6	<1.0	<1.0	<2.0		

Pump not running due to line repair - Sampled GW-2 instead

TABLE 2
Groundwater Elevation and Analytical Data
Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC GCL:					2,200	1,500	1,100	5.0	1,000	700	10,000
GW-2 ¹	03/29/00	--	--	--	<50	--	--	2.03	<0.5	<0.5	<1.0
	06/28/00	--	--	--	<50	--	--	1.11	<0.5	<0.5	<1.0
	09/27/00	--	--	--	<50	--	--	0.863	0.547	<0.5	1.19
	9/27/00 ^D	--	--	--	<50	--	--	0.852	<0.5	<0.5	1.30
	12/20/00	--	--	--	<50	--	--	1.72	<0.5	<0.5	<1.0
	03/29/01	--	--	--	<50	--	--	1.37	<0.5	<0.5	<1.0
	06/28/01	--	--	--	<50	--	--	1.11	<0.5	<0.5	<1.0
	06/28/01 ^D	--	--	--	<50	--	--	1.05	<0.5	<0.5	<1.0
	03/27/02	--	--	--	<50	--	--	1.15	<0.5	<0.5	<1.0
	04/07/03	--	--	--	<10	--	--	1.2	<0.5	<0.5	<1.5
	04/06/05	--	--	--	Not sampled; change in sampling location (now GW-1B well house)						
	06/27/05	--	--	--	34	31	79	12	<0.5	<0.5	<1.5
	06/27/05 ^D	--	--	--	Analyzed for EDB only						
	09/21/05	--	--	--	17	<21	<21	5.2	<0.5	<0.5	<1.5
	03/29/06	--	--	--	48	--	--	15	<0.5	<0.5	<1.5
	06/07/06	--	--	--	65	--	--	21	<0.5	<0.5	<1.5
	06/07/06 ^D	--	--	--	62	--	--	20	<0.5	<0.5	<1.5
	03/28/07	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0
	04/06/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0
	05/14/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0
	06/08/07	--	--	--	<10	--	--	1.0	<1.0	<1.0	<2.0
	07/13/07	--	--	--	--	--	--	<1.0	<1.0	<1.0	<2.0
	08/21/07	--	--	--	--	--	--	<1.0	<1.0	<1.0	<2.0
	09/14/07	--	--	--	<10	--	--	1.0	<1.0	<1.0	<2.0
	10/12/07	--	--	--	<100	--	--	1.0	<1.0	<1.0	<2.0
	11/20/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0
	12/11/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0
	01/29/08	--	--	--	<100	--	--	1.3	<1.0	<1.0	<2.0
02/14/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
03/25/08	--	--	--	<100	--	--	6.7	<1.0	<1.0	<2.0	
05/27/08	--	--	--	<100	--	--	1.0	<1.0	<1.0	<2.0	
06/06/08	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0	
06/27/08	--	--	--	<100	--	--	7.9	<1.0	<1.0	<2.0	
07/24/08	--	--	--	<100	--	--	3.9	<1.5	<1.2	<3.0	
08/05/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
09/26/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
10/28/08	--	--	--	<100	--	--	1.1	<1.0	<1.0	<2.0	
11/19/08	--	--	--	<100	--	--	1.7	<1.0	<1.0	<2.0	
12/22/08	--	--	--	<100	--	--	1.5	<1.0	<1.0	<2.0	
SELC	01/30/08	--	--	--	--	36	--	<1.0	<1.0	<1.0	<2.0
	02/14/08	--	--	--	<100	<100	--	<1.0	<1.0	<1.0	<2.0
	04/08/08	--	--	--	--	<23	--	--	--	--	--
	04/08/08 ^B	--	--	--	--	<23	--	--	--	--	--
	06/06/08	--	--	--	--	<23	--	<1.0	<1.0	<1.0	<2.0
	09/25/08	--	--	--	--	<48	--	<1.0	<1.0	<1.0	<2.0
12/15/08	--	--	--	--	<50	--	<0.5	<0.5	<0.5	<2.0	
Trip Blank	03/28/00	--	--	--	<50	--	--	<0.5	<0.5	<0.5	<1.0
	06/27/00	--	--	--	<50	--	--	<0.5	<0.5	<0.5	<1.0
	06/28/00	--	--	--	<50	--	--	<0.5	<0.5	<0.5	<1.0
	09/27/00	--	--	--	<50	--	--	<0.2	<0.5	<0.5	<1.0
	12/19/00	--	--	--	<50	--	--	<0.2	<0.5	<0.5	<1.0
	12/20/00	--	--	--	<50	--	--	<0.2	<0.5	<0.5	<1.0
	03/29/01	--	--	--	<50	--	--	<0.2	<0.5	<0.5	<1.0
	06/28/01	--	--	--	<50	--	--	<0.2	<0.5	<0.5	<1.0
	09/19/01	--	--	--	--	--	--	--	--	--	--
	12/12/01	--	--	--	<50	--	--	<0.2	0.569	<0.5	1.05
	09/28/02	--	--	--	<80.0	--	--	<0.500	<0.500	<0.500	<1.00
	04/07/03	--	--	--	<1.5	--	--	<10	<0.5	<0.5	<0.5
	06/24/03	--	--	--	<1.5	--	--	<10	<0.5	<0.5	<0.5
	09/16/03	--	--	--	<1.5	--	--	<10	<0.5	<0.5	<0.5
	12/22/03	--	--	--	<1.5	--	--	<10	<0.5	<0.5	<0.5
	03/24/04	--	--	--	<1.5	--	--	<10	<0.5	<0.5	<0.5
	06/21/04	--	--	--	<1.5	--	--	<10	<0.5	<0.5	<0.5
	09/29/04	--	--	--	<1.5	--	--	<10	<0.5	<0.5	<0.5
	12/2/2004	--	--	--	<1.5	--	--	<10	<0.5	<0.5	<0.5
	04/06/05	--	--	--	<1.5	--	--	<10	<0.5	<0.5	<0.5

TABLE 2
Groundwater Elevation and Analytical Data
Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC GCL:					2,200	1,500	1,100	5.0	1,000	700	10,000
Trip Blank (cont)	06/27/05	--	--	--	<10	--	--	<0.5	<0.5	<0.5	<1.5
	09/22/05	--	--	--	<10	--	--	<0.5	<0.5	<0.5	<1.5
	12/07/05	--	--	--	11	--	--	<0.5	<0.5	<0.5	<1.5
	03/30/06	--	--	--	<10	--	--	<0.5	<0.5	<0.5	<1.5
	06/07/06	--	--	--	<10	--	--	<0.5	<0.5	<0.5	<1.5
	07/13/06	--	--	--	<10	--	--	<0.5	<0.5	<0.5	<1.5
	09/26/06	--	--	--	<10	--	--	<0.5	<0.5	<0.5	<1.5
	12/19/06	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0
	03/28/07	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0
	04/06/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0
	05/14/07	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0
	06/08/07	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0
	07/13/07	--	--	--	--	--	--	<1.0	<1.0	<1.0	<2.0
	08/21/07	--	--	--	--	--	--	<1.0	<1.0	<1.0	<2.0
	09/14/07	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0
	01/30/08 ²	--	--	--	--	--	--	<1.0	<1.0	<1.0	<2.0
	05/27/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0
	06/06/08	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0
	06/27/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0
	07/15/08	--	--	--	<100	--	--	<1.0	18	<1.0	<2.0
08/05/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
09/09/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
10/28/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
11/19/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
12/12/08	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0	
12/22/08	--	--	--	<100	--	--	<1.0	<1.0	<1.0	<2.0	
01/13/09	--	--	--	<10	--	--	<1.0	<1.0	<1.0	<2.0	

Notes:

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

Bold indicates data associated with current reporting period.

Highlighted cell indicates concentrations exceeds respective GCL.

The well elevations for wells in sampling program were resurveyed on October 18-19, 2006.

(<) = Indicates result did not exceed method reporting limit; an elevated reporting limit indicates sample was diluted.

^D - Duplicate of preceding sample.

¹ - Municipal supply well sampled from valve in wellhouse.

² - Fourth quarter 2007 sampling conducted on January 30, 2008.

³ - Indicates potential cross-contamination, as concentration is within 5 times that of the trip blank.

⁴ - The hydrocarbons present are a complex mixture of diesel and heavy oil range organics.

⁵ - Results in the diesel organics range are primarily due to overlap from a gasoline range product.

⁶ - Results in the diesel organics range are primarily due to overlap from a heavy oil range product.

⁷ - Due to sample matrix effects, the surrogate recovery was outside the acceptance limits.

⁸ - The DRO analysis was performed with silica gel cleanup.

⁹ - Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for benzene. The presence or concentration of this compound cannot be determined.

BTOC = below top of casing

DRO = diesel range hydrocarbons

DTW = depth to water

GCL = groundwater cleanup level based on ADEC 18 AAC 75.

GRO = gasoline range hydrocarbons

AMSL = mean sea level

RRO = residual range hydrocarbons

TOC = top of casing

SELC = Synodous Evangelical Lutheran Church

-- = sample was not analyzed for this compound

TABLE 3
UAF Water Treatment System
Analytical Data
Former Texaco Facility #211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Sample ID	Date Sampled	Benzene	Toluene	Ethylbenzene	Chlorobenzene	m,p-Xylene	o-Xylene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene
ADEC GCL:		5.0	1,000	700	100	10,000		3,300	75	600
Raw Water	01/22/02	5.60	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	02/19/02	7.51	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	03/19/02	6.75	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<0.50	<0.50
	04/29/02	8.54	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<0.50	<0.50
	05/29/02	16.1	<0.50	<0.50	<1.00	<0.50	<0.50	<0.50	<0.50	<0.50
	06/21/02	10.1	<0.50	<0.50	<1.00	<0.50	<0.50	<0.50	<0.50	<0.50
	07/26/02	11.1	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	08/22/02	6.84	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	09/10/02	<0.50	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	10/23/02	4.17	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	11/19/02	4.17	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	12/16/02	3.91	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	01/28/03	1.42	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	02/25/03	6.8	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	03/20/03	5.21	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	04/22/03	5.47	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	05/20/03	4.75	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	06/25/03	7.29	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	07/23/03	9.1	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	08/25/03	5.65	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	09/23/03	5.44	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	10/15/03	3.69	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	11/18/03	4.32	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
	12/11/03	3.6	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00
01/22/04	2.0	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00	
02/17/04	2.7	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00	
03/12/04	3.0	<0.50	<0.50	<0.50	<1.00	<0.50	<1.00	<1.00	<1.00	
04/20/04	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
05/24/04	3.6	<1.0	<1.0	NR	<2.0	<1.0	NR	NR	NR	
06/22/04 ¹	7.2	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
07/13/04	13.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
08/19/04	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
09/24/04	6.6	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1.3	
10/25/04	5.9	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
11/23/04	4.2	<1.0	<1.0	<1.0	<2.0	<1.0	1.2	1.3	2.5	
Influent	12/14/04	3.5	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	01/19/05	2.2	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	02/15/05	3.3	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	03/08/05	4.6	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	04/19/05	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	05/24/05	5.5	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	06/14/05	2.9	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	07/14/05	7.6	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	08/10/05	3.7	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	09/15/05	5.3	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0

TABLE 3
UAF Water Treatment System
Analytical Data
Former Texaco Facility #211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Sample ID	Date Sampled	Benzene	Toluene	Ethylbenzene	Chlorobenzene	m,p-Xylene	o-Xylene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene
Influent (cont.)	10/17/05	3.7	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	11/08/05	2.5	<1.0	<1.0	<1.0	3.3		<1.0	<1.0	<1.0
	12/16/05	2.1	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	01/11/06	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	02/01/06	1.1	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	03/06/06	1.4	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	04/25/06	1.7	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	05/17/06	3.5	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	1.1
	06/12/06	1.4	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	07/06/06	2.1	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	08/01/06	2.1	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	09/28/06	1.1	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	10/31/06	1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	11/28/06	1.0	<1.0	<1.0	--	<2.0		--	--	--
	12/26/06	<1.0	<1.0	<1.0	--	<2.0		--	--	--
	01/31/07	2.0	<1.0	<1.0	--	<2.0		--	--	--
	03/05/07	<1.0	<1.0	<1.0	--	<2.0		--	--	--
	04/06/07	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	05/14/07	<1.0	<1.0	<1.0	<1.0	<2.0		2.8 ²	<1.0	<1.0
	06/08/07	1.1	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	07/13/07	1.3	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	08/21/07	1.4	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	09/14/07	1.1	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	10/12/07	1.6	1.1	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	11/20/07	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	1.0	<1.0
	12/11/07	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
	01/29/08	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
02/14/08	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0	
03/25/08	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0	
05/27/08	1.3	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0	
06/27/08	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0	
07/15/08	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0	
08/05/08	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0	
09/26/08	1.7	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0	
10/28/08	1.3	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
11/19/08	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
12/22/08	1.6	<1.0	<1.0	<1.0	<1.0	<2.0		<1.0	<1.0	<1.0
Effluent	01/23/02	--	--	--	--	--	--	--	--	--
	02/19/02	--	--	--	--	--	--	--	--	--
	03/19/02	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0
	04/29/02	--	--	--	--	--	--	--	--	--
	05/29/02	--	--	--	--	--	--	--	--	--
	06/21/02	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0
	07/26/02	--	--	--	--	--	--	--	--	--
	08/23/02	--	--	--	--	--	--	--	--	--
	09/10/02	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0
	10/23/02	--	--	--	--	--	--	--	--	--
	11/19/02	--	--	--	--	--	--	--	--	--
	12/16/02	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0
	01/23/03	--	--	--	--	--	--	--	--	--
	02/25/03	--	--	--	--	--	--	--	--	--

TABLE 3
UAF Water Treatment System
Analytical Data
Former Texaco Facility #211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Sample ID	Date Sampled	Benzene	Toluene	Ethylbenzene	Chlorobenzene	m,p-Xylene	o-Xylene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene
Effluent (cont.)	04/23/03	--	--	--	--	--	--	--	--	--
	05/27/03	--	--	--	--	--	--	--	--	--
	06/25/03	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<1.0	<1.0	<1.0
	08/25/03	--	--	--	--	--	--	--	--	--
	09/23/03	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	10/15/03	--	--	--	--	--	--	--	--	--
	01/26/04	--	--	--	--	--	--	--	--	--
	02/17/04	--	--	--	--	--	--	--	--	--
	05/24/04	--	--	--	--	--	--	--	--	--
	06/22/04	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0
	08/19/04	--	--	--	--	--	--	--	--	--
	12/16/05	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	01/11/06	--	--	--	--	--	--	--	--	--
	06/12/06	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	09/28/06	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	12/26/06	<1.0	<1.0	<1.0	--	<2.0	--	--	--	--
	03/05/07	<1.0	<1.0	<1.0	--	--	--	--	--	--
	04/06/07	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	05/14/07	<1.0	<1.0	<1.0	<1.0	<2.0	2.9 ²	<1.0	<1.0	<1.0
	06/08/07	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	07/13/07	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	08/21/07	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	09/14/07	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	10/12/07	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	11/20/07	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	1.0	<1.0	<1.0
	12/11/07	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	01/29/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	02/14/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	03/25/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	05/27/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
06/27/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
07/15/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
08/05/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
09/26/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
10/28/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
11/19/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	
12/22/08	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	

Notes:

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

Highlighted text indicates exceedence of regulatory limit.

Bold indicates from present reporting period.

(<) = Indicates result did not exceed method reporting limit; an elevated reporting limit indicates sample was diluted.

NR = Analytical result for this analyte was not reported.

-- = Not available or not analyzed.

¹ - Sample analyzed after expiration of hold time.

² - 1,3-Dichlorobenzene was detected above the PQL in the method blank.

UAF = University Of Alaska Fairbanks

TABLE 4
Proposed Groundwater Monitoring Schedule
Former Texaco Facility 211081 (Former University Car Care Center)
4103 Geist Road
Fairbanks, Alaska

Well ID	Monthly	Quarterly	Semi-Annual	Annual
GW-1B	X	--	X	--
GW-2	X	--	X	--
G-1R	--	--	X	--
G-2	--	--	--	X
G-4	--	--	X	--
G-5	--	--	X	--
G-7	--	--	X	--
G-8	--	--	X	--
G-9	--	--	X	--
MW-211	--	--	--	X
MW-301D	--	--	X	--
MW-301S	--	--	X	--
MW-302D	--	--	X	--
MW-302S	--	--	X	--
MW-303S	--	--	--	X
MW-304D	--	--	X	--
MW-304S	--	--	--	X
MW-305	--	--	--	X
MW-306	--	--	--	X
MW-307	--	--	--	X
SELC	--	--	X	--

Notes:

Semi-annual sampling to be performed in March and September.

Annual sampling to be performed in March.

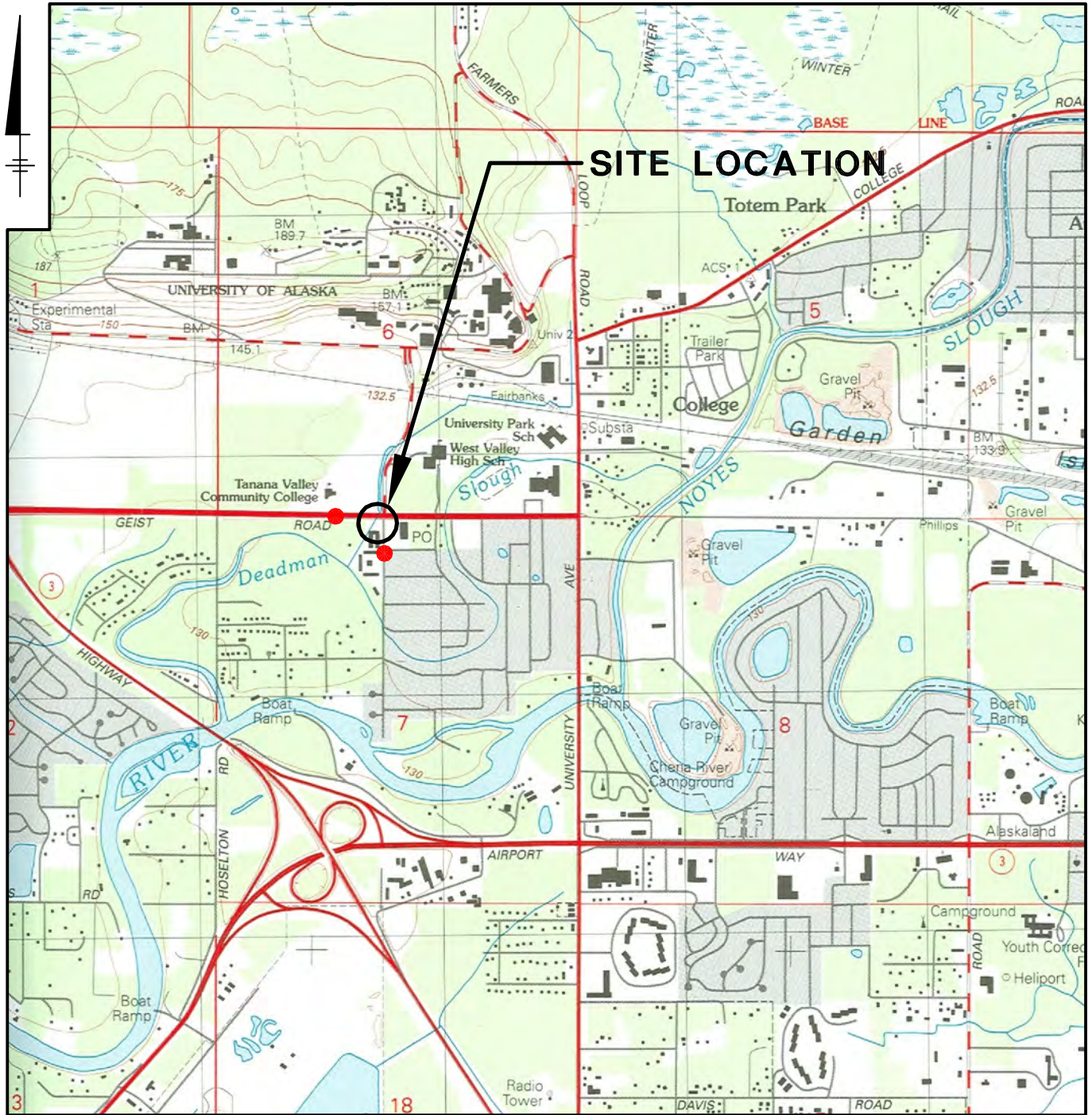
SELC - Syndolous Evangelical Lutheran Church municipal well.

(--) = sampling not scheduled.

ARCADIS

Figures

CITY:(Rept) DIV:(GROUP):(Rept) DB:(Rept) LD:(Rept) PIC:(Rept) PIC:(Rept) PM:(M)Shihler
 GEN:(CAD) :ramp:pact:1b045498000 100001402008 G:\M\B045498\01.dwg
 TM:(Op) L:\R\OP\ONE\OFF\FREF*
 LAYOUT: T. SAVED: 3/5/2009 2:23 PM ACADVER: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH)
 XREFS: PROJECTNAME: ---
 IMAGES: ALASKA.jpg
 Fairbanks-SW.jpg



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE: FAIRBANKS (D-2) SW, AK., 1992, FAIRBANKS NORTH STAR BOROUGH, SECTION: 7, TOWNSHIP: 1S, RANGE: 1W

LEGEND

● POTABLE WELL



APPROXIMATE GRAPHIC SCALE

SITE LOCATION



FORMER CHEVRON FACILITY #211081
 4103 GEIST ROAD, FAIRBANKS, ALASKA
**FOURTH QUARTER 2008 GROUNDWATER
 MONITORING REPORT**

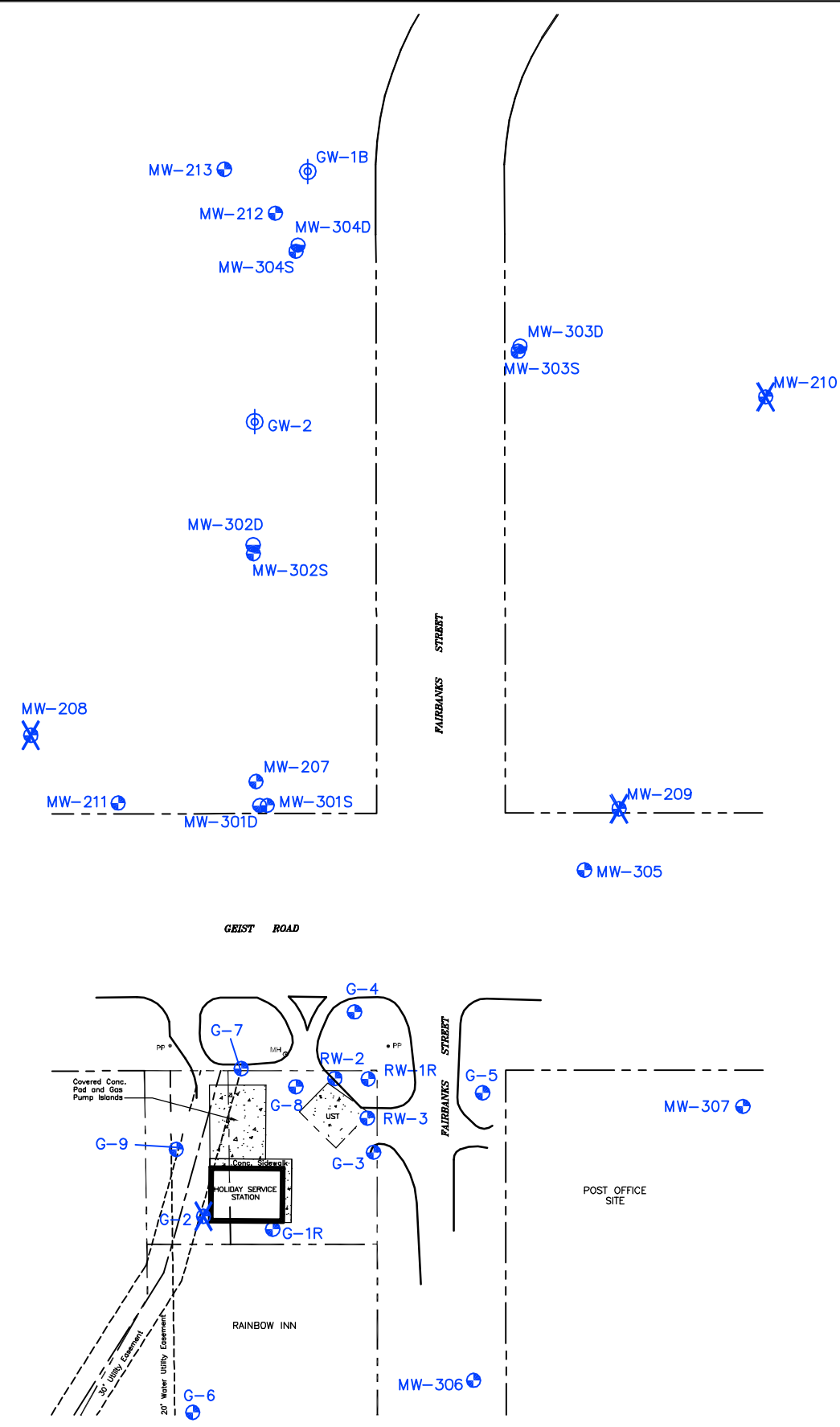
SITE LOCATION MAP



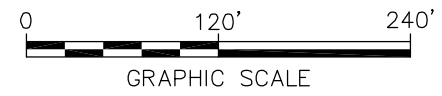
FIGURE

1

CITY:TAMPA DIV:GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PNR:(Read) TM:(Opt) LVR:(Option)=OFF=REF*
 G:\ENVCAD\Tampa-BACT\10045498000\10000014\Q2008 GMM\10045498B01.dwg LAYOUT: 2 SAVED: 3/5/2009 2:24 PM ACADVER: 17.05 (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 3/5/2009 2:24 PM BY: RICHARDS, JM
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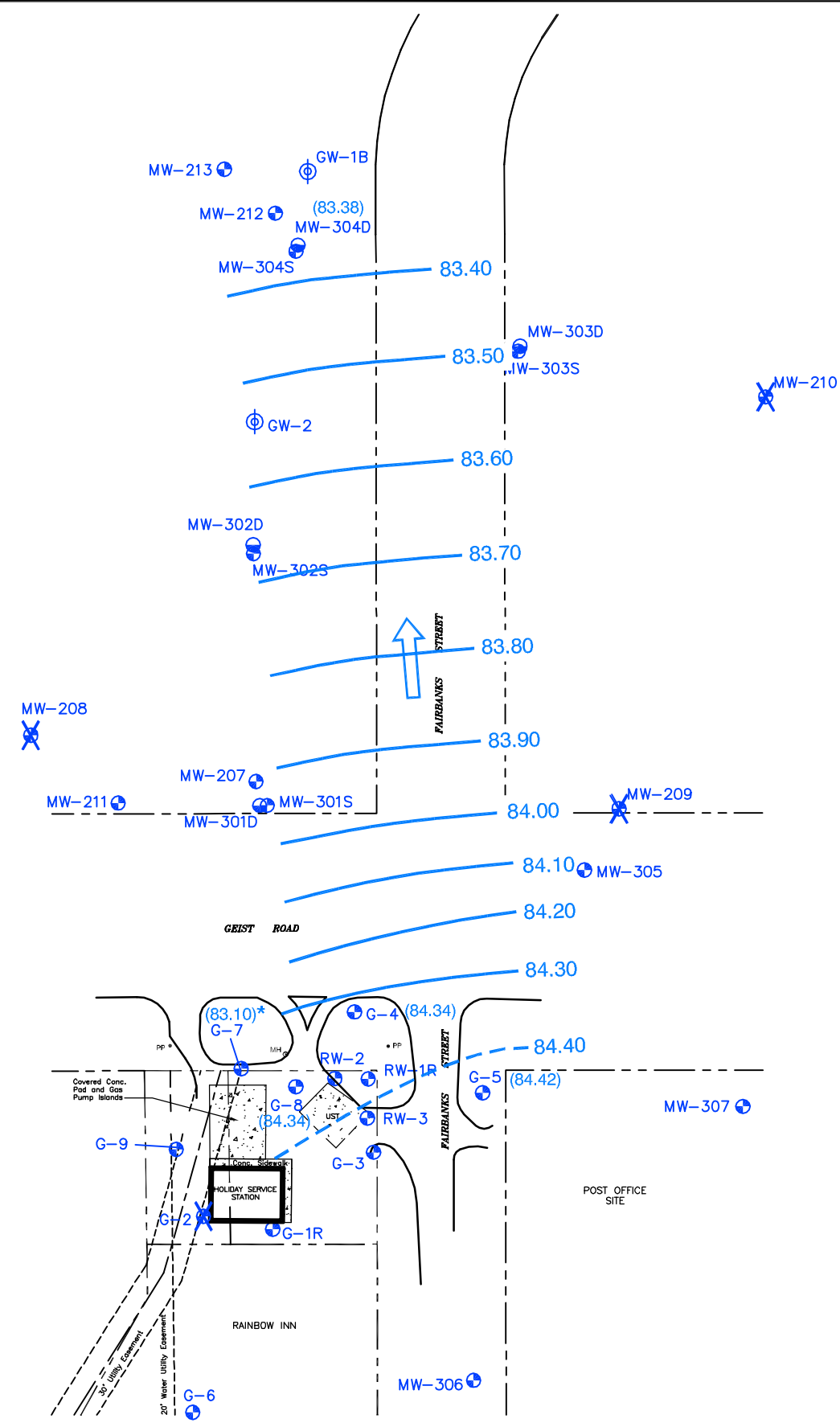
- LEGEND
- MONITORING WELL
 - DEEP MONITORING WELL
 - UAF WATER SUPPLY WELL
 - DESTROYED/ABANDONED MONITORING WELL



SOURCE: Base map provided by KARABELNIKOFF SURVEYING (907) 337-3434, MAP DRAWN FULL SCALE, 11/6/06.

FORMER CHEVRON FACILITY #211081 4103 GEIST ROAD, FAIRBANKS, ALASKA FOURTH QUARTER 2008 GROUNDWATER MONITORING REPORT	
SITE MAP	
	FIGURE 2

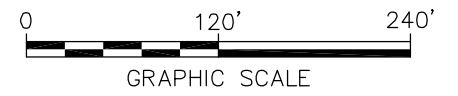
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 XREFS: IMAGES: PROJECTNAME: ---



LEGEND

- MONITORING WELL
- DEEP MONITORING WELL
- UAF WATER SUPPLY WELL
- DESTROYED/ABANDONED MONITORING WELL
- (84.34) WATER-TABLE ELEVATION (FEET AMSL)
- APPARENT DIRECTION OF GROUNDWATER FLOW
- WATER-TABLE ELEVATION CONTOUR (DASHED WHERE INFERRED)
- * DATA NOT USED FOR CONTOURING

AMSL = ABOVE MEAN SEA LEVEL



SOURCE: Base map provided by KARABELNIKOFF SURVEYING (907) 337-3434, MAP DRAWN FULL SCALE, 11/6/06.

FORMER CHEVRON FACILITY #211081
 4103 GEIST ROAD, FAIRBANKS, ALASKA
FOURTH QUARTER 2008 GROUNDWATER MONITORING REPORT

GROUNDWATER ELEVATION MAP
JANUARY 13, 2009

FIGURE **3**

CITY:TAMPA DIV:GROUP:85 DB:JAR LD:(Op) PIC:(Op) PNM:LS:rl:Mer TM:(Op) LYS:(Op):OFF:REF*
 G:\ENVCAD\Tempa-BVACT\1000454980000\10000014\02008 GMM\10045498001.dwg LAYOUT: 4 SAVED: 3/5/2009 2:53 PM ACADVER: 17.05 (LMS TECH) PAGES: 4 PLOTSTYLETABLE: PLT:FULL.CTB PLOTTED: 3/5/2009 2:53 PM BY: RICHARDS, JIM
 XREFS: IMAGES: PROJECTNAME: ---



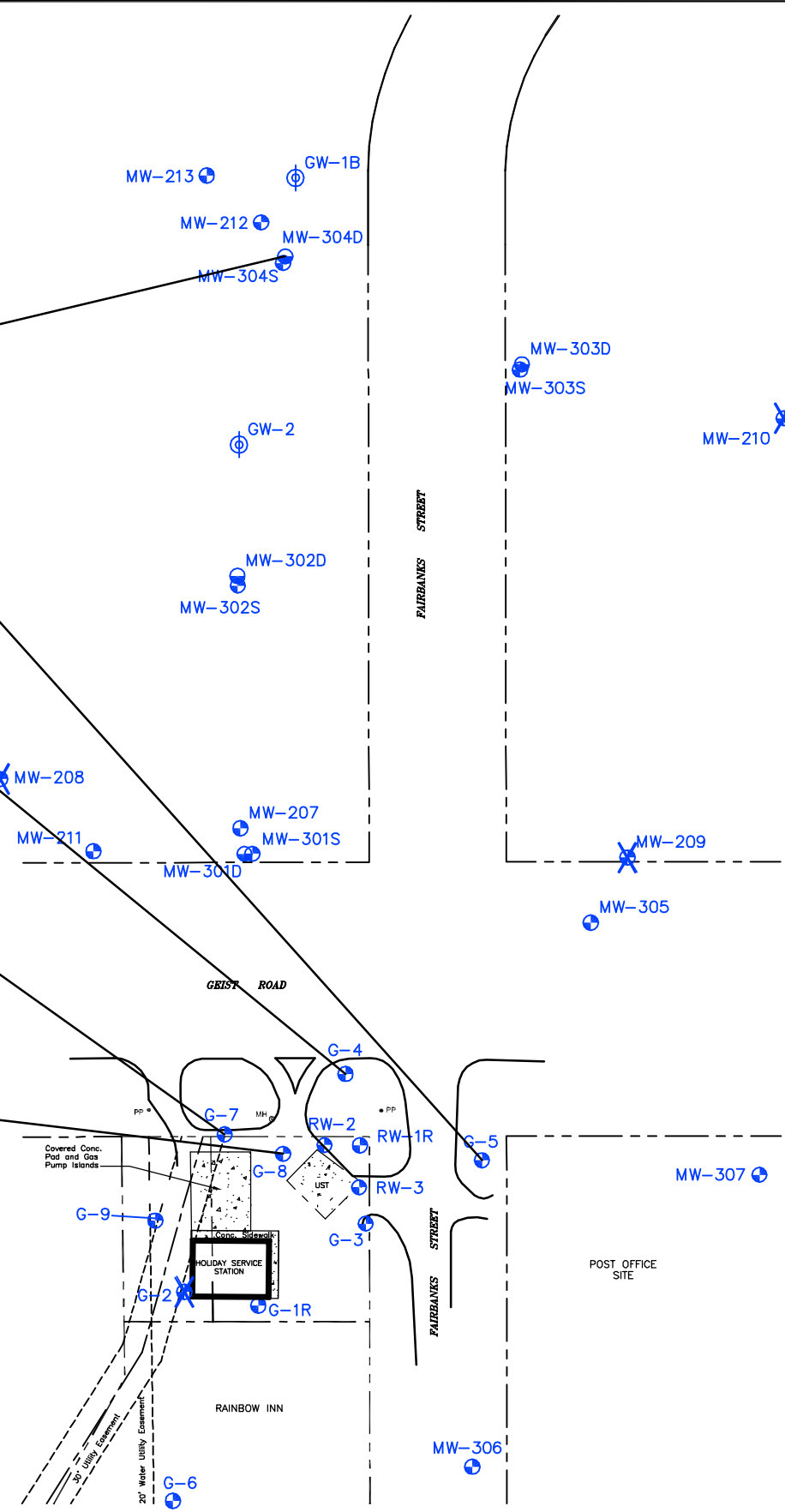
MW-304D		
DATE	1/13/2009	
GRO	40	
DRO	NS	
RRO	NS	
BENZ	20	
TOLU	<1	
ETHY	<1	
TXYL	<2	

G-5		
DATE	12/12/2008	1/13/2009
GRO	NS	23,000/27,000
DRO	NS	3,500/3,400
RRO	NS	<480/<480
BENZ	NS	<100/<100
TOLU	NS	400/500
ETHY	NS	1,400/1,500
TXYL	NS	6,900/7,300

G-4		
DATE	12/12/2008	1/13/2009
GRO	NS	22,000
DRO	NS	NS
RRO	NS	NS
BENZ	NS	300
TOLU	NS	3,500
ETHY	NS	1,100
TXYL	NS	4,600

G-7		
DATE	12/12/2008	1/13/2009
GRO	NS/NS	7,600
DRO	1,500/1,500	3,200
RRO	<500/<470	670
BENZ	NS/NS	400
TOLU	NS/NS	<5
ETHY	NS/NS	1,000
TXYL	NS/NS	1,400

G-8		
DATE	12/12/2008	1/13/2009
GRO	NS	5,100
DRO	NS	2,700
RRO	NS	1,100
BENZ	NS	500
TOLU	NS	40
ETHY	NS	500
TXYL	NS	800



- LEGEND
- MONITORING WELL
 - DEEP MONITORING WELL
 - UAF WATER SUPPLY WELL
 - DESTROYED/ABANDONED MONITORING WELL

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

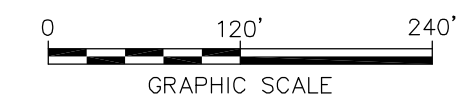
ALL RESULTS REPORTED IN MICROGRAMS PER LITER (µg/L)

BOLD VALUES EXCEED RESPECTIVE ADEC 18 AAC 75 GROUNDWATER CLEANUP LEVEL

<0.5/<0.5 = DUPLICATE SAMPLE WAS TAKEN

NS = NOT SAMPLED

ADEC GCL	
GRO	2,200
DRO	1,500
RRO	1,100
BENZ	5.0
TOLU	1,000
ETHY	700
TXYL	10,000



SOURCE: Base map provided by KARABELNIKOFF SURVEYING (907) 337-3434, MAP DRAWN FULL SCALE, 11/6/06.

FORMER CHEVRON FACILITY #211081
 4103 GEIST ROAD, FAIRBANKS, ALASKA
FOURTH QUARTER 2008 GROUNDWATER MONITORING REPORT

GROUNDWATER ANALYTICAL SUMMARY MAP



ARCADIS

Appendix A

Groundwater Sampling Field Data
Sheets

Project No. B0045498 Well ID ~~1155~~ G-7 ^{MLS}
 Date 12/12/08 Page 1 of 1
 Project Name/Location Geist, Fairbanks, AK Weather Cold, cloudy
 Measuring Pt. TOC Screen — Casing 4 1/2" Well Material — PVC
 Description TOC Setting (ft-bmp) — Diameter (in.) 4 1/2" — SS
 Static Water Level (ft-btoc) 15.19 Total Depth (ft-btoc) 17.81 Water Column/ Gallons in Well 2.62 / ~~0.43~~ 1.6 ^{ms}
 TOC Elevation — Pump Intake (ft-btoc) — Purge Method: Bailer Sample Method Bailer
 Pump On/Off — Volumes Purged — Centrifugal —
 Submersible — Other —
 Sample Time: Label 1250 Replicate/ Code No. ~~DUF~~ BD-1 ^{MLS}
 Start — End — Sampled by MLS

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
<u>1153</u>	<u>0</u>	<u>—</u>	<u>—</u>	<u>0.1</u>	<u>7.60</u>	<u>0.812</u>	<u>—</u>	<u>4.06</u>	<u>1.76</u>	<u>89.2</u>	<u>Lt. Br.</u>	<u>slight Petn</u>
1200 <u>1155</u>	7	—	—	0.5	7.49	—	—	—	—	—	Br.	"
<u>1200</u>	<u>7</u>	<u>—</u>	<u>—</u>	<u>1.6</u>	<u>6.96</u>	<u>0.945</u>	<u>—</u>	<u>5.23</u>	<u>2.33</u>	<u>-9.6</u>	<u>Br.</u>	<u>"</u>
<u>Sample Time 1250</u>												
<u>* Stopped collecting parameters per Greg Montgomery</u>												

Constituents Sampled	Container	Number	Preservative
<u>BETX</u>	<u>VOA</u>	<u>3</u>	<u>HCl</u>
<u>GRO</u>	<u>VOA</u>	<u>2</u>	<u>—</u>
<u>DRO</u>	<u>Amber</u>	<u>2</u>	<u>HCl</u>
<u>RR6</u>	<u>Amber</u>	<u>2</u>	<u>—</u>
<u>MTBE</u>	<u>VOA</u>	<u>3</u>	<u>—</u>
<u>EDB</u>	<u>VOA</u>	<u>2</u>	<u>Na Thiosulfate</u>

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location: <u>By pumps</u>	Well Locked at Arrival: <u>Yes</u> ^{ms} <u>No</u>
Condition of Well: <u>Good</u>	Well Locked at Departure: <u>Yes</u> <u>No</u>
Well Completion: <u>Flush Mount</u> / <u>Stick Up</u>	Key Number To Well: <u>N/A</u>

ms
unknown

GROUNDWATER SAMPLE DATA SHEET

Project Number: AW 21081 Sample Location (ie. MW-1): MW-304D
 Project Name: Glacier Bay AW Geist Sample ID (ie. MW-1-W-yyymmdd): MW-304D-W-090113
 Client: PRIZM AW Arcadis Date Sample Collected: 1/13/09
 Sampler: Weller, Coyette Time sampled: 1100

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 60.05
 Other: _____ b) Water Depth (ft): 19.62
 c) Water Column (ft): 40.43
 d) Calc. Purge Vol. (gal): 6.5

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.27

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

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

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

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	mg/L Dissolved O ₂	Other
1039	6.5	6.97	0.706	1.12	clear	very low	-32.3	4.52	
1046	13.0	6.94	0.707	1.32	clear	very low	-48.6	3.33	
1052	19.5	6.91	0.705	1.36	clear	very low	-54.3	2.64	

Total Volume Purged (Gallons): 19.5 Free Product (y/n): N
 Odor: none Sheen (y/n): N

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)
mini-typhoon submersible, tubing @ ~ 53'

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

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

Remarks (well recovery, unusual conditions/observations):
field decon typhoon pump - decon in utility sink later

Duplicate Sample ID: _____ Analyses Requested: GR0/BTEX
 Split Sample ID: AW

Signed: Andrew J. Weller Date: 1/13/09

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: AW 510-006-1 phase 2 211081 Sample Location (ie. MW-1): G-4
 Project Name: Gleichen Bay AU Geist Sample ID (ie. MW-1-W-yyymmdd): G-4-W-090113
 Client: PRISM AU Arcadis Date Sample Collected: 1/13/09
 Sampler: Weller, Boyette AW Time sampled: 1200

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 18.58
 b) Water Depth (ft): 15.32
 Other: _____ c) Water Column (ft): 3.26
 d) Calc. Purge Vol. (gal): 0.5

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.66
6	1.47

Sand Pack Diameter	Multiply c) by:
8	3.71
10	1
12	1.26

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume = 0.16 X 6 = 0.98 gallons water

Note: assuming sand pack has 20% porosity
 Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	mg/L Dissolved O ₂	Other
1150	0.5	6.46	0.884	2.46	lt yellow	moderate	-1.2	4.81	
1154	1.0	6.47	0.902	2.34	lt yellow	moderate	-2.9	4.75	
1157	1.5	6.46	0.905	2.31	lt yellow	moderate	-11.3	4.17	

Total Volume Purged (Gallons): 1.5 Free Product (y/n): N
 Odor: slight hydrocarbon Sheen (y/n): N

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

teflon bailer

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

teflon bailer

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

good shape, monument female threads are stripped and need to be retapped

Remarks (well recovery, unusual conditions/observations):

Duplicate Sample ID: _____
 Split Sample ID: AW

Analyses Requested: GRO/BTEX

Signed: Andrew S. Weller Date: 1/13/09

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 512-006-1 phase 1, 211081 ^{AW} Sample Location (ie. MW-1): G-7
 Project Name: Glacier Bay ^{AW} Geist Sample ID (ie. MW-1-W-yymmdd): G-7-U-090113
 Client: PRIZM ^{AW} Arcadis Date Sample Collected: 1/13/09
 Sampler: Weller, Boyette ^{AW} Time sampled: 1300

Well Information

Groundwater: ✓ Casing Diameter (in): 4 a) Well Depth (ft): 17.79
 Other: _____ b) Water Depth (ft): 15.33
 c) Water Column (ft): 2.46
 d) Calc. Purge Vol. (gal): 1.6

Calculating Purge Volume

Well Casing Diameter	Multiply (c) by:
2	0.18
4	0.65
8	1.47

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

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume = 0.18 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = (0.18 X 6) + (0.71 X 8) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	mg/L Dissolved O ₂	Other
1237	1.6	6.88	1.010	2.44	tan	moderate	-25.0	3.89	
1245	3.2	6.82	1.045	2.40	tan	moderate	-27.8	3.80	
1252	4.8	6.83	1.059	2.46	tan	moderate	-39.5	3.60	

Total Volume Purged (Gallons): 4.8 Free Product (y/n): N
 Odor: none Sheen (y/n): N

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

teflon bailer

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

teflon bailer

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

good shape (Robco cover)

Remarks (well recovery, unusual conditions/observations):

low water column, good recharge

Duplicate Sample ID:

Split Sample ID:

AW

Analyses Requested:

GRO/BTEX
DRO/RR0/EDB

Signed: Andrew G. Weller

Date: 1/13/09

Signed/reviewer:

Date:

GROUNDWATER SAMPLE DATA SHEET

Project Number: 512-0001 phase 1 ^{AW} 211081 Sample Location (ie. MW-1): G-8
 Project Name: Glacier Bay ^{AW} Geist Sample ID (ie. MW-1-W-yyymmdd): G-8-W-090113
 Client: PRISM ^{AW} Arcadis Date Sample Collected: 1/13/09
 Sampler: Weller, Boyette ^{AW} Time sampled: 1400

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 19.76
 Other: _____ b) Water Depth (ft): 14.78
 c) Water Column (ft): 4.98
 d) Calc. Purge Vol. (gal): 0.8

Calculating Purge Volume

Well Casing Diameter	Multiply (c) by:
2	0.16
4	0.66
6	1.47

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

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

Note: assuming sand pack has 29% porosity
 Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume = (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	mg/L Dissolved O ₂	Other
1346	0.8	6.89	1.505	2.91	lt orange	low	-30.8	6.44	
1349	1.6	6.82	1.498	2.87	lt orange	low	-28.8	4.77	
1353	2.5	6.79	1.487	2.85	lt orange	low	-37.8	4.37	

Total Volume Purged (Gallons): 2.5 Free Product (y/n): N
 Odor: none Sheen (y/n): N

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

teflon bailer

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

teflon bailer

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

good shape

Remarks (well recovery, unusual conditions/observations):

Duplicate Sample ID: _____
 Split Sample ID: _____ ^{AW}

Analyses Requested: GRO/BTEX
DRD/RRD/EDB

Signed: Andrew Z Weller Date: 1/13/09

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: 542-006-1 phase 1- 211081 ^{AW} Sample Location (ie. MW-1): G-5
 Project Name: Glacier Bay AW Geist Sample ID (ie. MW-1-W-yymmdd): G-5-W-090113
 Client: PRISM AW Arcadis Date Sample Collected: 1/13/09
 Sampler: Weller, Boyette AW Time sampled: 1500

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 19.03
 b) Water Depth (ft): 13.97
 Other: _____ c) Water Column (ft): 5.06
 d) Calc. Purge Vol. (gal): 0.8

Calculating Purge Volume

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

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

Example 1 - purging only well casing volume
 2-inch casing and 8-foot water column
 One Purge Volume = 0.16 X 8 = 0.96 gallons water

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

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	mg/L Dissolved O ₂	Other
1445	0.8	7.43	0.514	2.18	clear	low	-35.2	6.37	
1448	1.6	7.14	0.512	2.05	clear	low	-31.0	4.73	
1452	2.4	7.01	0.516	1.98	clear	low	-27.5	3.39	
1456	3.2	6.99	0.507	1.90	clear	low	-22.3	4.04	

Total Volume Purged (Gallons): 3.2 Free Product (y/n): N
 Odor: slight hydrocarbon Sheen (y/n): Y (de minimus, discontinuous)

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

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

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)
good shape, one of the female monument tabs needs to be retapped

Remarks (well recovery, unusual conditions/observations):

Duplicate Sample ID: BD-1-W-090113 @ 0600 Analyses Requested: GR0/BTEX
 Split Sample ID: for GR0/BTEX / DR0/RRO / EDB DR0/RRO / EDB

Signed: Andrew Z Wilk Date: 1/13/09

Signed/reviewer: _____ Date: _____

ARCADIS

Appendix B

Laboratory Reports and ADEC Data
Review Checklists



SP-Analytica, Inc. - Fairbanks
475 Hall St.
Fairbanks, AK 99701
Phone: 907-456-3116
Fax: 907-456-3125

11/17/2008

Arcadis BB&L
2300 Eastlake Ave. East
Suite 100
Seattle, WA 98102
Attn: Rebecca Andresen

Work Order #: F0810374
Date: 11/17/2008
Work ID: UAF Monthly Monitoring Well
Date Received: 10/28/2008
Proj #: B0045498.0001

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
F0810374-01	Influent-W-081028	F0810374-02	Effluent-W-081028
F0810374-03	GW-1B-W-081028	F0810374-04	GW-2-W-081028
F0810374-05	TB-W-081028	F0810374-06	TB-W-081028

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kari Hagen".

Kari Hagen
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

Analytica Environmental Laboratories, Inc.

Work Order: F0810374

Samples were prepared and analyzed according to EPA or equivalent methods outlined in the following references:

Test Methods for Evaluating Solid Waste, USEPA SW-846, Third Edition, Revision 4, December 1996.

Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA 600/4-82-057, July 1982.

Method AK101 For the Determination of Gasoline Range Organics, Revision 3.0, 01/31/96.

SAMPLE RECEIPT:

Six (6) samples were received on 10/28/2008 11:00:00 AM, at a temperature of 1.0°C at Analytica International - Fairbanks on 10/28/2008. The samples were received in good condition and in order per chain of custody.

The samples were transferred for analysis to Analytica Environmental Laboratories (AEL), 12189 Pennsylvania St., Thornton, Colorado 80241, where they were received at a temperature of 2.2°C, in good condition and in order per chain of custody on 10/30/2008.

Comments: Small air bubbles were noted in nine sample VOA vials.

REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN

A summary of our review is shown below.

All analytical results contained in this report have been reviewed under Analytica's internal quality assurance and quality control program. Any deviations in quality control parameters for specific analyses are noted in the following text. All method specifications were met for the following tests, unless otherwise noted:

Test Method: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes - Aqueous

Test Method: Aromatic VOCs by GC/PID via method 8021B - BTEX - Aqueous

Test Method: ADEC AK101 - GRO - Aqueous

SURROGATE RECOVERIES:

The surrogate was recovered outside the acceptance limits in the Method Blank shown below. This surrogate was recovered normally in the associated samples and in the LCS/LCSD.

Sample	LabID	Surrogate	Recovery	LCL	UCL
MB	T081107004-MB	p-Bromofluorobenzene	51.	60	120 Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **Influent-W-081028**

Matrix: Aqueous

Collection Date: 10/28/2008 9:05:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0810374-01A	Analysis Date: 11/6/2008 8:11:00PM
Prep Date: 11/6/2008	Instrument: GC_B
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes	File Name: 08110613.D
Prep Method ID:	Dilution Factor: 1
Prep Batch Number: T081107005	
Report Basis: As Received	Analyst Initials: RA
Sample prep wt./vol: 5.00 ml	Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>run #:</u>				
1,2-Dichlorobenzene	95-50-1	ND		ug/L	1.0	0.22	1				
1,3-Dichlorobenzene	541-73-1	ND		ug/L	1.0	0.17					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	1.0	0.21					
Benzene	71-43-2	1.3		ug/L	1.0	0.074					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19					
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	23		ug/L	0.50	0.12	27	86.8	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **Effluent-W-081028**

Matrix: Aqueous Collection Date: 10/28/2008 9:15:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0810374-02A	Analysis Date: 11/6/2008 8:46:00PM
Prep Date: 11/6/2008	Instrument: GC_B
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes	File Name: 08110614.D
Prep Method ID:	Dilution Factor: 1
Prep Batch Number: T081107005	
Report Basis: As Received	Analyst Initials: RA
Sample prep wt./vol: 5.00 ml	Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
1,2-Dichlorobenzene	95-50-1	ND		ug/L	1.0	0.22					1
1,3-Dichlorobenzene	541-73-1	ND		ug/L	1.0	0.17					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	1.0	0.21					
Benzene	71-43-2	ND		ug/L	1.0	0.074					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19					
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	24		ug/L	0.50	0.12	27	88.1	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **GW-1B-W-081028**

Matrix: Aqueous

Collection Date: 10/28/2008 9:35:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0810374-03A Analysis Date: 11/6/2008 9:21:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08110615.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081107004
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Gasoline Range Organics	n/a	ND		ug/L	100	21				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	21		ug/L	1.5	0.50	27	76.3	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0810374-03A Analysis Date: 11/6/2008 9:21:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08110615.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081107005
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Benzene	71-43-2	1.3		ug/L	1.0	0.074				1	
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	23		ug/L	0.50	0.12	27	85.9	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **GW-2-W-081028**

Matrix: Aqueous

Collection Date: 10/28/2008 9:45:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0810374-04A Analysis Date: 11/6/2008 11:05:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08110618.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081107004
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Gasoline Range Organics	n/a	ND		ug/L	100	21				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	21		ug/L	1.5	0.50	27	77.1	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0810374-04A Analysis Date: 11/6/2008 11:05:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08110618.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081107005
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Benzene	71-43-2	1.1		ug/L	1.0	0.074				1	
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	24		ug/L	0.50	0.12	27	87.8	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **TB-W-081028**

Matrix: Aqueous

Collection Date: 10/28/2008 9:05:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0810374-05A Analysis Date: 11/6/2008 6:26:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08110610.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081107004
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Gasoline Range Organics	n/a	ND		ug/L	100	21				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	22		ug/L	1.5	0.50	27	81.9	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0810374-05A Analysis Date: 11/6/2008 6:26:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08110610.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081107005
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Benzene	71-43-2	ND		ug/L	1.0	0.074				1	
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	27		ug/L	0.50	0.12	27	98.2	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name:

TB-W-081028

Matrix: Aqueous

Collection Date: 10/28/2008 9:05:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0810374-06A

Analysis Date: 11/6/2008 7:02:00PM

Prep Date: 11/6/2008

Instrument: GC_B

Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes

File Name: 08110611.D

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: T081107005

Report Basis: As Received

Analyst Initials: RA

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
1,2-Dichlorobenzene	95-50-1	ND		ug/L	1.0	0.22				1	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	1.0	0.17					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	1.0	0.21					
Benzene	71-43-2	ND		ug/L	1.0	0.074					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19					
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	26		ug/L	0.50	0.12	27	97.8	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Aqueous

Collection Date: 11/6/2008 12:00:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T081107005-MB Analysis Date: 11/6/2008 5:51:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes File Name: 08110609.D
Prep Method ID: Dilution Factor: 1
Prep Batch Number: T081107005
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
1,2-Dichlorobenzene	95-50-1	ND		ug/L	3.0	0.54				1	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	3.0	0.73					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	3.0	0.89					
Benzene	71-43-2	ND		ug/L	1.0	0.33					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.30					
Ethylbenzene	100-41-4	ND		ug/L	1.5	0.46					
Toluene	108-88-3	ND		ug/L	1.2	0.35					
Xylenes, Total	1330-20-7	ND		ug/L	3.0	0.82					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	23		ug/L	0.50	0.12	27	86.2	80	120	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T081107004-MB Analysis Date: 11/6/2008 5:51:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08110609.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081107004
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Gasoline Range Organics	n/a	ND		ug/L	100	21				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	14		ug/L	1.5	0.50	27	51.7	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T081107005-MB Analysis Date: 11/6/2008 5:51:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08110609.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081107005
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
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Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Aqueous

Collection Date: 11/6/2008 12:00:00AM

Lab Sample Number: T081107005-MB Analysis Date: 11/6/2008 5:51:00PM
Prep Date: 11/6/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08110609.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081107005
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Benzene	71-43-2	ND		ug/L	1.0	0.33				1	
Ethylbenzene	100-41-4	ND		ug/L	1.5	0.46					
Toluene	108-88-3	ND		ug/L	1.2	0.35					
Xylenes, Total	1330-20-7	ND		ug/L	3.0	0.82					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	23		ug/L	0.50	0.12	27	86.2	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado
 Workorder (SDG): F0810374
 Project: UAF Monthly Monitoring Well
 Project Number: **QUALITY CONTROL REPORT**
 Prep Batch: **T081107005**

LCS/LCSD REPORT

Analysis: Aromatic VOCs by GC/PID via method 8021B - BTEX MB: T081107005-MB
 Prep Date: 11/6/2008
 MB Anal. Date: 11/6/2008 5:51:00PM Units: ug/L
 LCS Anal. Date: 11/6/2008 3:30:00PM LCSD Anal. Date: 11/6/2008 4:05:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	10.7	11.0	10.0	10.0	107.0	110.0	2.8	80 - 120	20	
Toluene	ND	10.5	10.9	10.0	10.0	105.0	109.0	3.7	80 - 120	20	
Ethylbenzene	ND	10.5	10.8	10.0	10.0	105.0	108.0	2.8	80 - 120	20	
Xylenes, Total	ND	31.5	32.5	30.0	30.0	105.0	108.3	3.1	80 - 120	20	

Prep Batch: **T081107004**

LCS/LCSD REPORT

Analysis: ADEC AK101 - GRO MB: T081107004-MB
 Prep Date: 11/6/2008
 MB Anal. Date: 11/6/2008 5:51:00PM Units: ug/L
 LCS Anal. Date: 11/6/2008 4:41:00PM LCSD Anal. Date: 11/6/2008 5:16:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Gasoline Range Organics	ND	459	443	500	500	91.8	88.6	3.5	60 - 120	20	

MS/MSD REPORT

Analysis: ADEC AK101 - GRO Parent: F0810374-03A
 Prep Date: 11/6/2008
 Samp. Anal. Date: 11/6/2008 9:21:00PM Units: ug/L
 MS Anal. Date: 11/6/2008 9:55:00PM MSD Anal. Date: 11/6/2008 10:30:00PM Matrix: Aqueous

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Gasoline Range Organics	ND	418	397	500	500	83.6	79.4	5.2	74 - 130	20	

Prep Batch: **T081107005**

LCS/LCSD REPORT

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Project Number:

QUALITY CONTROL REPORT

Prep Batch: T081107005

LCS/LCSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes MB: T081107005-MB

Prep Date: 11/6/2008

MB Anal. Date: 11/6/2008 5:51:00PM

Units: ug/L

LCS Anal. Date: 11/6/2008 3:30:00PM LCSD Anal. Date: 11/6/2008 4:05:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLv	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	10.7	11.0	10.0	10.0	107.0	110.0	2.8	80 - 120	20	
Toluene	ND	10.5	10.9	10.0	10.0	105.0	109.0	3.7	80 - 120	20	
Ethylbenzene	ND	10.5	10.8	10.0	10.0	105.0	108.0	2.8	80 - 120	20	
Xylenes, Total	ND	31.5	32.5	30.0	30.0	105.0	108.3	3.1	80 - 120	20	
1,2-Dichlorobenzene	ND	9.85	10.3	10.0	10.0	98.5	103.0	4.5	80 - 120	20	
1,4-Dichlorobenzene	ND	10.5	10.7	10.0	10.0	105.0	107.0	1.9	80 - 120	20	
1,3-Dichlorobenzene	ND	10.3	10.7	10.0	10.0	103.0	107.0	3.8	80 - 120	20	
Chlorobenzene	ND	10.3	10.6	10.0	10.0	103.0	106.0	2.9	80 - 120	20	

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

SURROGATE RECOVERY SUMMARY REPORT

Test Method: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzene

Lab Sample #: F0810374-06A Dilution: 1
Analysis Date: 11/6/2008 7:02:00PM Client Sample: **TB-W-081028**
Batch Number: T081107005 Data File: 08110611.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	80	120		Complete

Lab Sample #: F0810374-01A Dilution: 1
Analysis Date: 11/6/2008 8:11:00PM Client Sample: **Influent-W-081028**
Batch Number: T081107005 Data File: 08110613.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	87	80	120		Complete

Lab Sample #: F0810374-02A Dilution: 1
Analysis Date: 11/6/2008 8:46:00PM Client Sample: **Effluent-W-081028**
Batch Number: T081107005 Data File: 08110614.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	88	80	120		Complete

Lab Sample #: T081107005-MB Dilution: 1
Analysis Date: 11/6/2008 5:51:00PM Client Sample: **MB**
Batch Number: T081107005 Data File: 08110609.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	86	80	120		Complete

Lab Sample #: T081107005-LCS Dilution: 1
Analysis Date: 11/6/2008 3:30:00PM Client Sample: **LCS**
Batch Number: T081107005 Data File: 08110605.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	100	80	120		Complete

Lab Sample #: T081107005-LCSD Dilution: 1
Analysis Date: 11/6/2008 4:05:00PM Client Sample: **LCSD**
Batch Number: T081107005 Data File: 08110606.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	99	80	120		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374
 Project: UAF Monthly Monitoring Well
 Client: Arcadis BB&L
 Client Project Number: B0045498.0001
 Test Method: ADEC AK101 - GRO

Lab Sample #:	F0810374-05A	Dilution:	1		
Analysis Date:	11/6/2008 6:26:00PM	Client Sample:	TB-W-081028		
Batch Number:	T081107004	Data File:	08110610.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	82	50	150		Complete
Lab Sample #:	F0810374-03A	Dilution:	1		
Analysis Date:	11/6/2008 9:21:00PM	Client Sample:	GW-1B-W-081028		
Batch Number:	T081107004	Data File:	08110615.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	76	50	150		Complete
Lab Sample #:	F0810374-04A	Dilution:	1		
Analysis Date:	11/6/2008 11:05:00PM	Client Sample:	GW-2-W-081028		
Batch Number:	T081107004	Data File:	08110618.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	77	50	150		Complete
Lab Sample #:	T081107004-MB	Dilution:	1		
Analysis Date:	11/6/2008 5:51:00PM	Client Sample:	MB		
Batch Number:	T081107004	Data File:	08110609.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	52	60	120	LOW	Complete
Lab Sample #:	T081107004-LCS	Dilution:	1		
Analysis Date:	11/6/2008 4:41:00PM	Client Sample:	LCS		
Batch Number:	T081107004	Data File:	08110607.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	103	60	120		Complete
Lab Sample #:	T081107004-LCSD	Dilution:	1		
Analysis Date:	11/6/2008 5:16:00PM	Client Sample:	LCSD		
Batch Number:	T081107004	Data File:	08110608.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	105	60	120		Complete
Lab Sample #:	F0810374-03A-MS	Dilution:	1		
Analysis Date:	11/6/2008 9:55:00PM	Client Sample:	MS		
Batch Number:	T081107004	Data File:	08110616.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	94	50	150		Complete
Lab Sample #:	F0810374-03A-MSD	Dilution:	1		
Analysis Date:	11/6/2008 10:30:00PM	Client Sample:	MSD		
Batch Number:	T081107004	Data File:	08110617.D		
AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	95	50	150		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374
 Project: UAF Monthly Monitoring Well
 Client: Arcadis BB&L
 Client Project Number: B0045498.0001

Test Method: Aromatic VOCs by GC/PID via method 8021B - BTEX

Lab Sample #: F0810374-05A Dilution: 1
 Analysis Date: 11/6/2008 6:26:00PM Client Sample: **TB-W-081028**
 Batch Number: T081107005 Data File: 08110610.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	80	120		Complete

Lab Sample #: F0810374-03A Dilution: 1
 Analysis Date: 11/6/2008 9:21:00PM Client Sample: **GW-1B-W-081028**
 Batch Number: T081107005 Data File: 08110615.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	86	80	120		Complete

Lab Sample #: F0810374-04A Dilution: 1
 Analysis Date: 11/6/2008 11:05:00PM Client Sample: **GW-2-W-081028**
 Batch Number: T081107005 Data File: 08110618.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	88	80	120		Complete

Lab Sample #: T081107005-MB Dilution: 1
 Analysis Date: 11/6/2008 5:51:00PM Client Sample: **MB**
 Batch Number: T081107005 Data File: 08110609.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	86	80	120		Complete

Lab Sample #: T081107005-LCS Dilution: 1
 Analysis Date: 11/6/2008 3:30:00PM Client Sample: **LCS**
 Batch Number: T081107005 Data File: 08110605.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	100	80	120		Complete

Lab Sample #: T081107005-LCSD Dilution: 1
 Analysis Date: 11/6/2008 4:05:00PM Client Sample: **LCSD**
 Batch Number: T081107005 Data File: 08110606.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	99	80	120		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 94,013 Lab Project Number: F0810374

Prep Date: 11/6/2008

Lab Method Blank Id: T081107004-MB
Prep Batch ID: T081107004
Method: ADEC AK101 - GRO

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
T081107004-LCS	LCS	08110607.D	11/6/2008 4:41:00PM
T081107004-LCSD	LCSD	08110608.D	11/6/2008 5:16:00PM
F0810374-05A	TB-W-081028	08110610.D	11/6/2008 6:26:00PM
F0810374-03A	GW-1B-W-081028	08110615.D	11/6/2008 9:21:00PM
F0810374-03A-MS	MS	08110616.D	11/6/2008 9:55:00PM
F0810374-03A-MSD	MSD	08110617.D	11/6/2008 10:30:00PM
F0810374-04A	GW-2-W-081028	08110618.D	11/6/2008 11:05:00PM

Prep Date: 11/6/2008

Lab Method Blank Id: T081107005-MB
Prep Batch ID: T081107005
Method: Aromatic VOCs by GC/PID via method 8021B - BTEX

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
T081107005-LCS	LCS	08110605.D	11/6/2008 3:30:00PM
T081107005-LCS	LCS	08110605.D	11/6/2008 3:30:00PM
T081107005-LCSD	LCSD	08110606.D	11/6/2008 4:05:00PM
T081107005-LCSD	LCSD	08110606.D	11/6/2008 4:05:00PM
F0810374-05A	TB-W-081028	08110610.D	11/6/2008 6:26:00PM
F0810374-06A	TB-W-081028	08110611.D	11/6/2008 7:02:00PM
F0810374-01A	Influent-W-081028	08110613.D	11/6/2008 8:11:00PM
F0810374-02A	Effluent(-W-081028	08110614.D	11/6/2008 8:46:00PM
F0810374-03A	GW-1B-W-081028	08110615.D	11/6/2008 9:21:00PM
F0810374-04A	GW-2-W-081028	08110618.D	11/6/2008 11:05:00PM

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

DATA FLAGS AND DEFINITIONS

The PQL is the Method Quantitation Limit as defined by USACE.

Reporting Limit: Limit below which results are shown as "ND". This may be the PQL, MDL, or a value between. See the report conventions below.

Result Field:

ND = Not Detected at or above the Reporting Limit

NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Lower Control Limit

HIGH = Recovery, RPD, or other parameter is above Upper Control Limit

E = Reported concentration is above the instrument calibration upper range

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank

J = Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Inorganic Analysis Flags:

J = Analyte was detected above the Reporting Limit but below the Quant Limit (PQL)

W = Post digestion spike did not meet criteria

S = Reported value determined by the Method of Standard Additions (MSA)

Several ways of defining the limit of detection and quantitation are prevalent in the laboratory industry and may appear in Analytica reports. These include the following:

MRL = "minimum reporting level", from the EPA Safe Drinking Water program (SDW)

PQL = "practical quantitation limit", from SW-846

EQL = "estimated quantitation limit", from SW-846

LOQ = "limit of quantitation", from a number of authoritative sources

In Analytica's work, all of these terms have the same meaning, equivalent to the EPA definition of the MRL. This reporting level is supported by a satisfactory calibration data point which is at that level or lower, and also is supported by a method detection limit (MDL) determined by the procedure in 40CFR. The MDL is lower than the MRL and represents an estimate of the level where positive detections have a 99% probability of being real, but where quantitation accuracy is unknown.

The MRL as defined by Analytica is the lowest demonstrated point of known quantitation accuracy.

The MRL should not be confused with the MCL, which is the EPA-defined "maximum contaminant level" allowed for certain regulated targets under specific regulations, such as the National Primary Drinking Water Regulations. Normally, the MRL is set at a level which is much lower than the MCL in order to ensure that levels are well below those limits. Not all target analytes have MCL levels established.

Other Flags may be applied. See Case Narrative for Description

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

REPORTING CONVENTIONS FOR THIS REPORT

F0810374

<u>TestPkgName</u>	<u>Basis</u>	<u># Sig Figs</u>	<u>Reporting Limit</u>
602 (Aqueous) - BTEX & Chlorobenzenes	As Received	2	Report to PQL
8021/5030B (Aqueous) - BTEX	As Received	2	Report to PQL
AK101/5030B (Aqueous) - GRO	As Received	2	Report to PQL



Analytica Chain of Custody Form

12189 Pennsylvania St. 4307 Arctic Boulevard 475 Hall St. 6438 Shaune Drive
 Thornton, CO 80241 Anchorage, AK 99503 Fairbanks, AK 99701 Juneau, AK 99801
 (303) 459-8998 (907) 258-2155 (907) 456-3116 (907) 780-6668
 (303) 459-3254 fax (907) 256-6534 fax (907) 456-5125 fax (907) 780-6670 fax

Chain of Custody No: **67100**

Client Name & Address: Arcadis
 2300 Eastlake Ave E, Suite 200
 Seattle, WA 98102

Project Name: 211081-0ML
 WAF Water Treatment

Public Water System (PWS) ID#: _____
Requested Due Date for Results: _____
Requested Analysis/Method: _____

Report to: Greg Montgomery
Phone No: 206-726-0474
Fax No: 206-325-8218

Turnaround Time for Results (TAT): _____
Standard: Standard Expedited (< 10 days, prior authorization required)
(please specify due date below; add'l charges may apply)

Quote ID: _____
Account #: _____
Invoice to Name & Address: _____
Cash: **Credit Card:**

E-mail: Gregory.Montgomery@arcadis-us.com
Special Instructions/Comments: Include chlorobenzen in 602 Analysis

P.O. or Contract No: _____

Kit Prep/Shipping Charge: \$ _____
Totalizer: 83,595,500 gallons

Client Sample Identification / Location	Date Sampled	Time Sampled	Matrix (S-DW-WW-Other)	No. of Containers	Requested Analysis/Method				Field Preserved	Field Filtered	MS/MSD ?
					602 BTEX	8021 BTEX/ AK101 GRO					
INFLEUNT-W-081028	10/28/08	0905	DW	4	X						
EFFLUENT-W-081028	"	0915	DW	4	X						
GW-1B-W-081028	"	0935	DW	4	X						
GW-2-W-081028	"	0945	DW	4	X						
TB-W-081028	"	-	-	4	X						

Relinquished by: Andrew Z Miller **Date:** 10/28/08 **Time:** 1100
Received by: RB Kristman **Date:** 10/29/08 **Time:** 1100

Relinquished by: _____ **Date:** _____ **Time:** _____
Received by: _____ **Date:** _____ **Time:** _____

Relinquished by: _____ **Date:** _____ **Time:** _____
Received by: _____ **Date:** _____ **Time:** _____

Name of Sampler (printed): Andrew Miller (907) 590-7979



SP-Analytica, Inc. - Fairbanks
475 Hall St.
Fairbanks, AK 99701
Phone: 907-456-3116
Fax: 907-456-3125

12/8/2008

Arcadis BB&L
2300 Eastlake Ave. East
Suite 100
Seattle, WA 98102
Attn: Rebecca Andresen

Work Order #: F0811228
Date: 12/8/2008
Work ID: UAF Monthly Monitoring Well
Date Received: 11/19/2008
Proj #: B0045498.0001

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
F0811228-01	Influent-W-081119	F0811228-02	Effluent-W-081119
F0811228-03	GW-1B-W-081119	F0811228-04	GW-2-W-081119
F0811228-05	TB-W-081119	F0811228-06	TB-W-081119

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kari Hagen".

Kari Hagen
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

Analytica Environmental Laboratories, Inc.

Work Order: F0811228

Samples were prepared and analyzed according to EPA or equivalent methods outlined in the following references:

Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR, Part 136, 3-26-2007 Edition.

Test Methods for Evaluating Solid Waste, USEPA SW-846, Third Edition, Revision 4, December 1996.

Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA 600/4-82-057, July 1982.

Method AK101 For the Determination of Gasoline Range Organics, Revision 3.0, 01/31/96.

SAMPLE RECEIPT:

Six (6) samples were received on 11/19/2008 2:00:00 PM, at a temperature of 4.0°C, at Analytica International - Fairbanks. The samples were received in good condition and in order per chain of custody.

The samples were transferred for analysis to Analytica Environmental Laboratories (AEL), 12189 Pennsylvania St., Thornton, Colorado 80241, where they were received at a temperature of 2.0°C, in good condition and in order per chain of custody on 11/21/2008.

Comments: Two sample VOA vials & one Trip Blank had air bubbles.

REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN

A summary of our review is shown below.

All analytical results contained in this report have been reviewed under Analytica's internal quality assurance and quality control program. Any deviations in quality control parameters for specific analyses are noted in the following text. A complete quality assurance report, including laboratory control, matrix spike, and sample duplicate recoveries is kept on file in our office and is available upon request.

All method specifications were met for the following tests, unless otherwise noted:

Test Method: ADEC AK101 - GRO - Aqueous

Test Method: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes - Aqueous

MS/MSD and DUP OUTLIERS:

Several targets were recovered outside the acceptance limits in the batch MS/MSD. However, the spiked sample is not associated with this project.

Test Method: Aromatic VOCs by GC/PID via method 8021B - BTEX - Aqueous

MS/MSD and DUP OUTLIERS:

Several targets were recovered outside the acceptance limits in the batch MS/MSD. However, the spiked sample is not associated with this project.

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **Influent-W-081119**

Matrix: Aqueous

Collection Date: 11/19/2008 3:30:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0811228-01A

Analysis Date: 11/22/2008 3:34:00AM

Prep Date: 11/21/2008

Instrument: GC_B

Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes

File Name: 08112126.D

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: T081124008

Report Basis: As Received

Analyst Initials: RA

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
1,2-Dichlorobenzene	95-50-1	ND		ug/L	1.0	0.22				1	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	1.0	0.17					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	1.0	0.21					
Benzene	71-43-2	ND		ug/L	1.0	0.074					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19					
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	25		ug/L	0.50	0.12	27	94.0	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **Effluent-W-081119**

Matrix: Aqueous

Collection Date: 11/19/2008 3:35:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0811228-02A

Analysis Date: 11/22/2008 4:09:00AM

Prep Date: 11/21/2008

Instrument: GC_B

Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes

File Name: 08112127.D

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: T081124008

Report Basis: As Received

Analyst Initials: RA

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
1,2-Dichlorobenzene	95-50-1	ND		ug/L	1.0	0.22				1	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	1.0	0.17					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	1.0	0.21					
Benzene	71-43-2	ND		ug/L	1.0	0.074					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19					
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	26		ug/L	0.50	0.12	27	95.3	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001
Report Section: **Client Sample Report**
Client Sample Name: **GW-1B-W-081119**

Matrix: Aqueous Collection Date: 11/19/2008 3:15:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0811228-03A Analysis Date: 11/21/2008 8:04:00PM
 Prep Date: 11/21/2008 Instrument: GC_B
 Analytical Method ID: ADEC AK101 - GRO File Name: 08112113.D
 Prep Method ID: 5030B Dilution Factor: 1
 Prep Batch Number: T081124007
 Report Basis: As Received Analyst Initials: RA
 Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>		<u>run #:</u>			
Gasoline Range Organics	n/a	ND		ug/L	100	21		1			
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	21		ug/L	1.5	0.50	27	78.9	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0811228-03A Analysis Date: 11/21/2008 8:04:00PM
 Prep Date: 11/21/2008 Instrument: GC_B
 Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08112113.D
 Prep Method ID: 5030B Dilution Factor: 1
 Prep Batch Number: T081124008
 Report Basis: As Received Analyst Initials: RA
 Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>		<u>run #:</u>			
Benzene	71-43-2	1.8		ug/L	1.0	0.074		1			
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	29		ug/L	0.50	0.12	27	107	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **GW-2-W-081119**

Matrix: Aqueous

Collection Date: 11/19/2008 3:20:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0811228-04A Analysis Date: 11/21/2008 9:48:00PM
Prep Date: 11/21/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08112116.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081124007
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>POL</u>	<u>MDL</u>				<u>run #:</u>	
Gasoline Range Organics	n/a	ND		ug/L	100	21				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>POL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	21		ug/L	1.5	0.50	27	79.6	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0811228-04A Analysis Date: 11/21/2008 9:48:00PM
Prep Date: 11/21/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08112116.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081124008
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>POL</u>	<u>MDL</u>				<u>run #:</u>	
Benzene	71-43-2	1.7		ug/L	1.0	0.074				1	
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>POL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	28		ug/L	0.50	0.12	27	104	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **TB-W-081119**

Matrix: Aqueous Collection Date: 11/19/2008 3:15:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0811228-05A Analysis Date: 11/21/2008 6:19:00PM
Prep Date: 11/21/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08112110.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081124007
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL				run #:	
Gasoline Range Organics	n/a	ND		ug/L	100	21				1	
Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	21		ug/L	1.5	0.50	27	76.6	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0811228-05A Analysis Date: 11/21/2008 6:19:00PM
Prep Date: 11/21/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08112110.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081124008
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL					run #:
Benzene	71-43-2	ND		ug/L	1.0	0.074					1
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	27		ug/L	0.50	0.12	27	100	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name:

TB-W-081119

Matrix: Aqueous

Collection Date: 11/19/2008 3:15:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0811228-06A

Analysis Date: 11/21/2008 6:54:00PM

Prep Date: 11/21/2008

Instrument: GC_B

Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes

File Name: 08112111.D

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: T081124008

Report Basis: As Received

Analyst Initials: RA

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
1,2-Dichlorobenzene	95-50-1	ND		ug/L	1.0	0.22				1	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	1.0	0.17					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	1.0	0.21					
Benzene	71-43-2	ND		ug/L	1.0	0.074					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19					
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	28		ug/L	0.50	0.12	27	103	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Aqueous

Collection Date: 11/21/2008 12:00:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T081124008-MB Analysis Date: 11/21/2008 5:44:00PM
Prep Date: 11/21/2008 Instrument: GC_B
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes File Name: 08112109.D
Prep Method ID: Dilution Factor: 1
Prep Batch Number: T081124008
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
1,2-Dichlorobenzene	95-50-1	ND		ug/L	3.0	0.54				1	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	3.0	0.73					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	3.0	0.89					
Benzene	71-43-2	ND		ug/L	1.0	0.33					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.30					
Ethylbenzene	100-41-4	ND		ug/L	1.5	0.46					
Toluene	108-88-3	ND		ug/L	1.2	0.35					
Xylenes, Total	1330-20-7	ND		ug/L	3.0	0.82					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	25		ug/L	0.50	0.12	27	94.1	80	120	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T081124007-MB Analysis Date: 11/21/2008 5:44:00PM
Prep Date: 11/21/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08112109.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081124007
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Gasoline Range Organics	n/a	ND		ug/L	100	21				1	
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	24		ug/L	1.5	0.50	27	87.2	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T081124008-MB Analysis Date: 11/21/2008 5:44:00PM
Prep Date: 11/21/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08112109.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T081124008
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>
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Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Aqueous

Collection Date: 11/21/2008 12:00:00AM

Lab Sample Number: T081124008-MB

Analysis Date: 11/21/2008 5:44:00PM

Prep Date: 11/21/2008

Instrument: GC_B

Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX

File Name: 08112109.D

Prep Method ID: 5030B

Dilution Factor: 1

Prep Batch Number: T081124008

Report Basis: As Received

Analyst Initials: RA

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Benzene	71-43-2	ND		ug/L	1.0	0.33				1	
Ethylbenzene	100-41-4	ND		ug/L	1.5	0.46					
Toluene	108-88-3	ND		ug/L	1.2	0.35					
Xylenes, Total	1330-20-7	ND		ug/L	3.0	0.82					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	25		ug/L	0.50	0.12	27	94.1	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado
Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Project Number: **QUALITY CONTROL REPORT**
Prep Batch: **T081124008**

LCS/LCSD REPORT

Analysis: Aromatic VOCs by GC/PID via method 8021B - BTEX MB: T081124008-MB
Prep Date: 11/21/2008
MB Anal. Date: 11/21/2008 5:44:00PM Units: ug/L
LCS Anal. Date: 11/21/2008 3:24:00PM LCSD Anal. Date: 11/21/2008 3:59:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	11.5	11.6	10.0	10.0	115.0	116.0	0.9	80 - 120	20	
Toluene	ND	11.4	11.7	10.0	10.0	114.0	117.0	2.6	80 - 120	20	
Ethylbenzene	ND	11.4	11.6	10.0	10.0	114.0	116.0	1.7	80 - 120	20	
Xylenes, Total	ND	33.6	34.3	30.0	30.0	112.0	114.3	2.1	80 - 120	20	

Prep Batch: **T081124007**

LCS/LCSD REPORT

Analysis: ADEC AK101 - GRO MB: T081124007-MB
Prep Date: 11/21/2008
MB Anal. Date: 11/21/2008 5:44:00PM Units: ug/L
LCS Anal. Date: 11/21/2008 4:34:00PM LCSD Anal. Date: 11/21/2008 5:09:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Gasoline Range Organics	ND	973	1,020	1,000	1,000	97.3	102.0	4.7	60 - 120	20	

MS/MSD REPORT

Analysis: ADEC AK101 - GRO Parent: F0811228-03A
Prep Date: 11/21/2008
Samp. Anal. Date: 11/21/2008 8:04:00PM Units: ug/L
MS Anal. Date: 11/21/2008 8:38:00PM MSD Anal. Date: 11/21/2008 9:13:00PM Matrix: Aqueous

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Gasoline Range Organics	ND	520	567	500	500	104.0	113.4	8.6	74 - 130	20	

Prep Batch: **T081124008**

LCS/LCSD REPORT

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado
Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Project Number:
Prep Batch: T081124008

QUALITY CONTROL REPORT

LCS/LCSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes MB: T081124008-MB
Prep Date: 11/21/2008
MB Anal. Date: 11/21/2008 5:44:00PM Units: ug/L
LCS Anal. Date: 11/21/2008 3:24:00PM LCSD Anal. Date: 11/21/2008 3:59:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLv	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	11.5	11.6	10.0	10.0	115.0	116.0	0.9	80 - 120	20	
Toluene	ND	11.4	11.7	10.0	10.0	114.0	117.0	2.6	80 - 120	20	
Ethylbenzene	ND	11.4	11.6	10.0	10.0	114.0	116.0	1.7	80 - 120	20	
Xylenes, Total	ND	33.6	34.3	30.0	30.0	112.0	114.3	2.1	80 - 120	20	
1,2-Dichlorobenzene	ND	9.93	10.2	10.0	10.0	99.3	102.0	2.7	80 - 120	20	
1,4-Dichlorobenzene	ND	9.99	10.6	10.0	10.0	99.9	106.0	5.9	80 - 120	20	
1,3-Dichlorobenzene	ND	10.1	10.7	10.0	10.0	101.0	107.0	5.8	80 - 120	20	
Chlorobenzene	ND	10.7	11.0	10.0	10.0	107.0	110.0	2.8	80 - 120	20	

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

SURROGATE RECOVERY SUMMARY REPORT

Test Method: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzene

Lab Sample #: F0811228-06A Dilution: 1
Analysis Date: 11/21/2008 6:54:00PM Client Sample: **TB-W-081119**
Batch Number: T081124008 Data File: 08112111.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	103	80	120		Complete

Lab Sample #: F0811228-01A Dilution: 1
Analysis Date: 11/22/2008 3:34:00AM Client Sample: **Influent-W-081119**
Batch Number: T081124008 Data File: 08112126.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	94	80	120		Complete

Lab Sample #: F0811228-02A Dilution: 1
Analysis Date: 11/22/2008 4:09:00AM Client Sample: **Effluent-W-081119**
Batch Number: T081124008 Data File: 08112127.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	95	80	120		Complete

Lab Sample #: T081124008-MB Dilution: 1
Analysis Date: 11/21/2008 5:44:00PM Client Sample: **MB**
Batch Number: T081124008 Data File: 08112109.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	94	80	120		Complete

Lab Sample #: T081124008-LCS Dilution: 1
Analysis Date: 11/21/2008 3:24:00PM Client Sample: **LCS**
Batch Number: T081124008 Data File: 08112105.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	96	80	120		Complete

Lab Sample #: T081124008-LCSD Dilution: 1
Analysis Date: 11/21/2008 3:59:00PM Client Sample: **LCSD**
Batch Number: T081124008 Data File: 08112106.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	102	80	120		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001
Test Method: ADEC AK101 - GRO

Lab Sample #: F0811228-05A Dilution: 1
 Analysis Date: 11/21/2008 6:19:00PM Client Sample: **TB-W-081119**
 Batch Number: T081124007 Data File: 08112110.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	77	50	150		Complete

Lab Sample #: F0811228-03A Dilution: 1
 Analysis Date: 11/21/2008 8:04:00PM Client Sample: **GW-1B-W-081119**
 Batch Number: T081124007 Data File: 08112113.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	79	50	150		Complete

Lab Sample #: F0811228-04A Dilution: 1
 Analysis Date: 11/21/2008 9:48:00PM Client Sample: **GW-2-W-081119**
 Batch Number: T081124007 Data File: 08112116.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	80	50	150		Complete

Lab Sample #: T081124007-MB Dilution: 1
 Analysis Date: 11/21/2008 5:44:00PM Client Sample: **MB**
 Batch Number: T081124007 Data File: 08112109.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	87	60	120		Complete

Lab Sample #: T081124007-LCS Dilution: 1
 Analysis Date: 11/21/2008 4:34:00PM Client Sample: **LCS**
 Batch Number: T081124007 Data File: 08112107.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	101	60	120		Complete

Lab Sample #: T081124007-LCSD Dilution: 1
 Analysis Date: 11/21/2008 5:09:00PM Client Sample: **LCSD**
 Batch Number: T081124007 Data File: 08112108.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	104	60	120		Complete

Lab Sample #: F0811228-03A-MS Dilution: 1
 Analysis Date: 11/21/2008 8:38:00PM Client Sample: **MS**
 Batch Number: T081124007 Data File: 08112114.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	96	50	150		Complete

Lab Sample #: F0811228-03A-MSD Dilution: 1
 Analysis Date: 11/21/2008 9:13:00PM Client Sample: **MSD**
 Batch Number: T081124007 Data File: 08112115.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	97	50	150		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Test Method: Aromatic VOCs by GC/PID via method 8021B - BTEX

Lab Sample #: F0811228-05A Dilution: 1
 Analysis Date: 11/21/2008 6:19:00PM Client Sample: **TB-W-081119**
 Batch Number: T081124008 Data File: 08112110.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	100	80	120		Complete

Lab Sample #: F0811228-03A Dilution: 1
 Analysis Date: 11/21/2008 8:04:00PM Client Sample: **GW-1B-W-081119**
 Batch Number: T081124008 Data File: 08112113.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	107	80	120		Complete

Lab Sample #: F0811228-04A Dilution: 1
 Analysis Date: 11/21/2008 9:48:00PM Client Sample: **GW-2-W-081119**
 Batch Number: T081124008 Data File: 08112116.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	104	80	120		Complete

Lab Sample #: T081124008-MB Dilution: 1
 Analysis Date: 11/21/2008 5:44:00PM Client Sample: **MB**
 Batch Number: T081124008 Data File: 08112109.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	94	80	120		Complete

Lab Sample #: T081124008-LCS Dilution: 1
 Analysis Date: 11/21/2008 3:24:00PM Client Sample: **LCS**
 Batch Number: T081124008 Data File: 08112105.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	96	80	120		Complete

Lab Sample #: T081124008-LCSD Dilution: 1
 Analysis Date: 11/21/2008 3:59:00PM Client Sample: **LCSD**
 Batch Number: T081124008 Data File: 08112106.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	102	80	120		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 94,806 Lab Project Number: F0811228

Prep Date: 11/21/2008

Lab Method Blank Id: T081124007-MB
Prep Batch ID: T081124007
Method: ADEC AK101 - GRO

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
T081124007-LCS	LCS	08112107.D	11/21/2008 4:34:00PM
T081124007-LCSD	LCSD	08112108.D	11/21/2008 5:09:00PM
F0811228-05A	TB-W-081119	08112110.D	11/21/2008 6:19:00PM
F0811228-03A-MS	MS	08112114.D	11/21/2008 8:38:00PM
F0811228-03A-MSD	MSD	08112115.D	11/21/2008 9:13:00PM
F0811228-04A	GW-2-W-081119	08112116.D	11/21/2008 9:48:00PM
F0811228-03A	GW-1B-W-081119	08112113.D	11/21/2008 8:04:00PM

Prep Date: 11/21/2008

Lab Method Blank Id: T081124008-MB
Prep Batch ID: T081124008
Method: Aromatic VOCs by GC/PID via method 8021B - BTEX

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
F0811228-03A	GW-1B-W-081119	08112113.D	11/21/2008 8:04:00PM
F0811228-04A	GW-2-W-081119	08112116.D	11/21/2008 9:48:00PM
F0811228-01A	Influent-W-081119	08112126.D	11/22/2008 3:34:00AM
F0811228-02A	Effluent-W-081119	08112127.D	11/22/2008 4:09:00AM
F0811228-05A	TB-W-081119	08112110.D	11/21/2008 6:19:00PM
F0811228-06A	TB-W-081119	08112111.D	11/21/2008 6:54:00PM
T081124008-LCS	LCS	08112105.D	11/21/2008 3:24:00PM
T081124008-LCS	LCS	08112105.D	11/21/2008 3:24:00PM
T081124008-LCSD	LCSD	08112106.D	11/21/2008 3:59:00PM
T081124008-LCSD	LCSD	08112106.D	11/21/2008 3:59:00PM

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

DATA FLAGS AND DEFINITIONS

The PQL is the Method Quantitation Limit as defined by USACE.

Reporting Limit: Limit below which results are shown as "ND". This may be the PQL, MDL, or a value between. See the report conventions below.

Result Field:

ND = Not Detected at or above the Reporting Limit
NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Lower Control Limit
HIGH = Recovery, RPD, or other parameter is above Upper Control Limit
E = Reported concentration is above the instrument calibration upper range

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank
J = Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Inorganic Analysis Flags:

J = Analyte was detected above the Reporting Limit but below the Quant Limit (PQL)
W = Post digestion spike did not meet criteria
S = Reported value determined by the Method of Standard Additions (MSA)

Several ways of defining the limit of detection and quantitation are prevalent in the laboratory industry and may appear in Analytica reports. These include the following:

MRL = "minimum reporting level", from the EPA Safe Drinking Water program (SDW)
PQL = "practical quantitation limit", from SW-846
EQL = "estimated quantitation limit", from SW-846
LOQ = "limit of quantitation", from a number of authoritative sources

In Analytica's work, all of these terms have the same meaning, equivalent to the EPA definition of the MRL. This reporting level is supported by a satisfactory calibration data point which is at that level or lower, and also is supported by a method detection limit (MDL) determined by the procedure in 40CFR. The MDL is lower than the MRL and represents an estimate of the level where positive detections have a 99% probability of being real, but where quantitation accuracy is unknown.

The MRL as defined by Analytica is the lowest demonstrated point of known quantitation accuracy.

The MRL should not be confused with the MCL, which is the EPA-defined "maximum contaminant level" allowed for certain regulated targets under specific regulations, such as the National Primary Drinking Water Regulations. Normally, the MRL is set at a level which is much lower than the MCL in order to ensure that levels are well below those limits. Not all target analytes have MCL levels established.

Other Flags may be applied. See Case Narrative for Description

Detailed Analytical Report

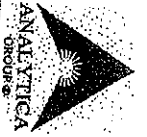
Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

REPORTING CONVENTIONS FOR THIS REPORT

F0811228

<u>TestPkgName</u>	<u>Basis</u>	<u># Sig Figs</u>	<u>Reporting Limit</u>
602 (Aqueous) - BTEX & Chlorobenzenes	As Received	2	Report to PQL
8021/5030B (Aqueous) - BTEX	As Received	2	Report to PQL
AK101/5030B (Aqueous) - GRO	As Received	2	Report to PQL



Analytica Chain of Custody Form

12189 Pennsylvania St
 Thornton, CO 80241
 (303) 469-8888
 (303) 469-5254 fax

4807 Arctic Boulevard
 Anchorage, AK 99508
 (907) 258-2185
 (907) 258-8884 fax

475 Hall St.
 Fairbanks, AK 99701
 (907) 458-3116
 (907) 466-3128 Fax

5438 Spaurin Drive
 Juneau, AK 99801
 (907) 780-8888
 (907) 780-8870 fax

Chain of Custody No: _____

Client Name & Address:
 Arcadis
 2300 Eastlake Ave E, Suite 200
 Seattle, WA 98102

Report to: Greg Montgomery
 Phone No: 206-726-4742
 Fax No: 206-325-8218
 E-mail: Greg.Montgomery@arcadis-us.com

Special Instructions/Comments:
 Include chlorobenzene in 602 analysis

Totalizer: 92,868,400 gallons

Kit Prep/Shipping Charges: \$ _____

Public Water System (PWS) ID#:
 211081-0M2

UAF Water Treatment

Turnaround Time for Results (TAT)
 Standard Expedited (1-10 days; plus additional time required)
(Please specify any data failure add'l charges may apply)

Requested Due Date for Results: _____

P.O. or Contract No: _____

Requested Analysis Method

Client Sample Identification / Location	Date Sampled	Time Sampled	Matrix (S-DW-WW-Other)	No. of Containers	Requested Analysis Method	Field Preserved	Field Filtered	MS/MSD ?
INFLUENT-W-081119	11/19/08	1530	DW	4	3021 AK101 BTEX / GED			
EFFLUENT-W-081119	11/19/08	1535	DW	4		X		
GW-1B-W-081119	"	1515	DW	4		X		
GW-2-W-081119	"	1520	DW	4		X		
TB-W-081119	"	"	"	4		X		
TRIBE BLANK								
Relinquished by: _____ Date: _____ Time: _____								
Relinquished by: _____ Date: 11/19/08 Time: 1600 Received by: _____ Date: 11-19-08 Time: 14:00								
Name of Sampler: (printed) Andrew Meller, OASIS 590-7979								

Condition of Custody Seal? THO ANC JNU
 Initialed By: _____
 Thermo ID#: _____
 Temp/Loc: _____
 Shipped Via: _____
 FBKS
 40C
 B
 Ground



SP-Analytica, Inc. - Fairbanks
475 Hall St.
Fairbanks, AK 99701
Phone: 907-456-3116
Fax: 907-456-3125

1/14/2009

Arcadis BB&L
2300 Eastlake Ave. East
Suite 100
Seattle, WA 98102
Attn: Rebecca Andresen

Work Order #: F0812326
Date: 1/14/2009
Work ID: UAF Monthly Monitoring Well
Date Received: 12/22/2008
Proj #: B0045498.0001

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
F0812326-01	Influent-W-081222	F0812326-02	Effluent-W-081222
F0812326-03	GW-1B-W-081222	F0812326-04	GW-2-W-081222
F0812326-05	TB-W-081222	F0812326-06	TB-W-081222

Enclosed are the analytical results for the submitted sample(s). Please review the CASE NARRATIVE for a discussion of any data and/or quality control issues. Listings of data qualifiers, analytical codes, key dates, and QC relationships are provided at the end of the report.

Sincerely,

A handwritten signature in blue ink that reads "Claire Toon".

Claire Toon
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

Analytica Environmental Laboratories, Inc.

Work Order: F0812326

Samples were prepared and analyzed according to EPA or equivalent methods outlined in the following references:

Test Methods for Evaluating Solid Waste, USEPA SW-846, Third Edition, Revision 4, December 1996.

Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA 600/4-82-057, July 1982.

Method AK101 For the Determination of Gasoline Range Organics, Revision 3.0, 01/31/96.

SAMPLE RECEIPT:

Six (6) samples were received on 12/22/2008 1:35:00 PM, at a temperature of 3.0°C, at Analytica International - Fairbanks. The samples were received in good condition and in order per chain of custody.

The samples were transferred for analysis to Analytica Environmental Laboratories (AEL), 12189 Pennsylvania St., Thornton, Colorado 80241, where they were received at a temperature of 2.0°C, in good condition and in order per chain of custody on 12/24/2008.

Comments: Three sample VOA vials and one Trip Blank had air bubbles.

REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN

A summary of our review is shown below.

All analytical results contained in this report have been reviewed under Analytica's internal quality assurance and quality control program. Any deviations in quality control parameters for specific analyses are noted in the following text. All method specifications were met for the following tests, unless otherwise noted:

Test Method: 602 - Purgeable Aromatics by GC/FID - BTEX & Chlorobenzenes - Aqueous

MS/MSD and DUP OUTLIERS:

The dichlorobenzenes were recovered slightly low in the MS/MSD, as shown below. These targets were recovered normally in the LCS and LCS Duplicate, indicating a potential matrix effect.

Type	Client Sample	LabSample	Analyte	Recovery	LCL	UCL	Parent	Spike
MS	Effluent-W-08122	F0812326-02A	1,2-Dichlorobenzene	79.1	80	120	0.00	10.0
MS	Effluent-W-08122	F0812326-02A	1,4-Dichlorobenzene	74.1	80	120	0.00	10.0
MS	Effluent-W-08122	F0812326-02A	1,3-Dichlorobenzene	68.4	80	120	0.00	10.0
MSD	Effluent-W-08122	F0812326-02A	1,3-Dichlorobenzene	78.3	80	120	0.00	10.0

Test Method: ADEC AK101 - GRO - Aqueous

MS/MSD and DUP OUTLIERS:

The target was recovered outside the acceptance limits in the MS/MSD, as shown below. This target was recovered normally in the LCS and LCS Duplicate, indicating a potential matrix effect.

Type	Client Sample	LabSample	Analyte	Recovery	LCL	UCL	Parent	Spike
MS	GW-1B-W-081222	F0812326-03A	Gasoline Range Organ	67.3	74	130	14.9	500

Case Narrative

Analytica Environmental Laboratories, Inc.

Work Order: F0812326

(continued)

MSD GW-1B-W-081222 F0812326-03A Gasoline Range Organ 64.2 74 130 14.9 500

Test Method: Aromatic VOCs by GC/PID via method 8021B - BTEX - Aqueous

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **Influent-W-081222**

Matrix: Aqueous

Collection Date: 12/22/2008 10:50:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0812326-01A

Analysis Date: 12/30/2008 11:35:00PM

Prep Date: 12/30/2008

Instrument: GC_B

Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes

File Name: 08123017.D

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: T090105012

Report Basis: As Received

Analyst Initials: RA

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
1,2-Dichlorobenzene	95-50-1	ND		ug/L	1.0	0.22				1	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	1.0	0.17					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	1.0	0.21					
Benzene	71-43-2	1.6		ug/L	1.0	0.074					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19					
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	29		ug/L	0.50	0.12	27	107	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: Effluent-W-081222

Matrix: Aqueous

Collection Date: 12/22/2008 10:55:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0812326-02A

Analysis Date: 12/31/2008 12:09:00AM

Prep Date: 12/30/2008

Instrument: GC_B

Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes

File Name: 08123018.D

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: T090105012

Report Basis: As Received

Analyst Initials: RA

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
1,2-Dichlorobenzene	95-50-1	ND		ug/L	1.0	0.22				1	
1,3-Dichlorobenzene	541-73-1	ND		ug/L	1.0	0.17					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	1.0	0.21					
Benzene	71-43-2	ND		ug/L	1.0	0.074					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19					
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	25		ug/L	0.50	0.12	27	91.4	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: GW-1B-W-081222

Matrix: Aqueous

Collection Date: 12/22/2008 12:00:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0812326-03A Analysis Date: 12/30/2008 8:46:00PM
Prep Date: 12/30/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08123012.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T090105011
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Table with 11 columns: Analyte, CASNo, Result, Flags, Units, POL, MDL, run #. Row 1: Gasoline Range Organics, n/a, ND, ug/L, 100, 21, 1. Row 2: Surrogate, CASNo, Result, Flags, Units, POL, MDL, Spike, % Recov, LCL, UCL, run #. Row 3: p-Bromofluorobenzene, 460-00-4, 20, ug/L, 1.5, 0.50, 27, 74.3, 50, 150, 1.

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0812326-03A Analysis Date: 12/30/2008 8:46:00PM
Prep Date: 12/30/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08123012.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T090105012
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Table with 11 columns: Analyte, CASNo, Result, Flags, Units, POL, MDL, run #. Row 1: Benzene, 71-43-2, 1.6, ug/L, 1.0, 0.074, 1. Row 2: Ethylbenzene, 100-41-4, ND, ug/L, 1.0, 0.088. Row 3: Toluene, 108-88-3, ND, ug/L, 1.0, 0.078. Row 4: Xylenes, Total, 1330-20-7, ND, ug/L, 2.0, 0.20. Row 5: Surrogate, CASNo, Result, Flags, Units, POL, MDL, Spike, % Recov, LCL, UCL, run #. Row 6: p-Bromofluorobenzene, 460-00-4, 28, ug/L, 0.50, 0.12, 27, 104, 80, 120, 1.

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: GW-2-W-081222

Matrix: Aqueous

Collection Date: 12/22/2008 12:10:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0812326-04A Analysis Date: 12/30/2008 11:01:00PM
Prep Date: 12/30/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08123016.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T090105011
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Table with columns: Analyte, CASNo, Result, Flags, Units, POL, MDL, run #. Row 1: Gasoline Range Organics, n/a, ND, ug/L, 100, 21, 1. Row 2: Surrogate p-Bromofluorobenzene, 460-00-4, 20, ug/L, 1.5, 0.50, 27, 72.9, 50, 150, 1.

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0812326-04A Analysis Date: 12/30/2008 11:01:00PM
Prep Date: 12/30/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08123016.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T090105012
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Table with columns: Analyte, CASNo, Result, Flags, Units, POL, MDL, run #. Row 1: Benzene, 71-43-2, 1.5, ug/L, 1.0, 0.074, 1. Row 2: Ethylbenzene, 100-41-4, ND, ug/L, 1.0, 0.088. Row 3: Toluene, 108-88-3, ND, ug/L, 1.0, 0.078. Row 4: Xylenes, Total, 1330-20-7, ND, ug/L, 2.0, 0.20. Row 5: Surrogate p-Bromofluorobenzene, 460-00-4, 26, ug/L, 0.50, 0.12, 27, 98.0, 80, 120, 1.

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: TB-W-081222

Matrix: Aqueous

Collection Date: 12/22/2008 10:50:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0812326-05A Analysis Date: 12/30/2008 7:39:00PM
Prep Date: 12/30/2008 Instrument: GC_B
Analytical Method ID: ADEC AK101 - GRO File Name: 08123010.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T090105011
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Table with columns: Analyte, CASNo, Result, Flags, Units, POL, MDL, run#. Row 1: Gasoline Range Organics, n/a, ND, ug/L, 100, 21, 1.

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0812326-05A Analysis Date: 12/30/2008 7:39:00PM
Prep Date: 12/30/2008 Instrument: GC_B
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX File Name: 08123010.D
Prep Method ID: 5030B Dilution Factor: 1
Prep Batch Number: T090105012
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Table with columns: Analyte, CASNo, Result, Flags, Units, POL, MDL, Spike, % Recov, LCL, UCL, run#. Rows include Benzene, Ethylbenzene, Toluene, Xylenes, Total, and p-Bromofluorobenzene.

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Client Sample Report

Client Sample Name: **TB-W-081222**

Matrix: Aqueous

Collection Date: 12/22/2008 10:50:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: F0812326-06A

Analysis Date: 12/30/2008 8:13:00PM

Prep Date: 12/30/2008

Instrument: GC_B

Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes

File Name: 08123011.D

Prep Method ID:

Dilution Factor: 1

Prep Batch Number: T090105012

Report Basis: As Received

Analyst Initials: RA

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>					<u>run #:</u>
1,2-Dichlorobenzene	95-50-1	ND		ug/L	1.0	0.22					1
1,3-Dichlorobenzene	541-73-1	ND		ug/L	1.0	0.17					
1,4-Dichlorobenzene	106-46-7	ND		ug/L	1.0	0.21					
Benzene	71-43-2	ND		ug/L	1.0	0.074					
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19					
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088					
Toluene	108-88-3	ND		ug/L	1.0	0.078					
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	26		ug/L	0.50	0.12	27	95.7	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Aqueous

Collection Date: 12/30/2008 12:00:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	T090105012-MB	Analysis Date:	12/30/2008 7:06:00PM
Prep Date:	12/30/2008	Instrument:	GC_B
Analytical Method ID:	602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes	File Name:	08123009.D
Prep Method ID:		Dilution Factor:	1
Prep Batch Number:	T090105012	Analyst Initials:	RA
Report Basis:	As Received	Prep Extract Vol:	5.00 ml
Sample prep wt./vol:	5.00 ml		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
1,2-Dichlorobenzene	95-50-1	ND		ug/L	3.0	0.54	1
1,3-Dichlorobenzene	541-73-1	ND		ug/L	3.0	0.73	
1,4-Dichlorobenzene	106-46-7	ND		ug/L	3.0	0.89	
Benzene	71-43-2	ND		ug/L	1.0	0.33	
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.30	
Ethylbenzene	100-41-4	ND		ug/L	1.5	0.46	
Toluene	108-88-3	ND		ug/L	1.2	0.35	
Xylenes, Total	1330-20-7	ND		ug/L	3.0	0.82	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	26		ug/L	0.50	0.12	27	96.6	80	120	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	T090105011-MB	Analysis Date:	12/30/2008 7:06:00PM
Prep Date:	12/30/2008	Instrument:	GC_B
Analytical Method ID:	ADEC AK101 - GRO	File Name:	08123009.D
Prep Method ID:	5030B	Dilution Factor:	1
Prep Batch Number:	T090105011	Analyst Initials:	RA
Report Basis:	As Received	Prep Extract Vol:	5.00 ml
Sample prep wt./vol:	5.00 ml		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Gasoline Range Organics	n/a	ND		ug/L	100	21	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	23		ug/L	1.5	0.50	27	83.5	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number:	T090105012-MB	Analysis Date:	12/30/2008 7:06:00PM
Prep Date:	12/30/2008	Instrument:	GC_B
Analytical Method ID:	Aromatic VOCs by GC/PID via method 8021B - BTEX	File Name:	08123009.D
Prep Method ID:	5030B	Dilution Factor:	1
Prep Batch Number:	T090105012	Analyst Initials:	RA
Report Basis:	As Received	Prep Extract Vol:	5.00 ml
Sample prep wt./vol:	5.00 ml		

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
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Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Report Section: Method Blank Report

Client Sample Name:

MB

Matrix: Aqueous

Collection Date: 12/30/2008 12:00:00AM

Lab Sample Number: T090105012-MB

Analysis Date: 12/30/2008 7:06:00PM

Prep Date: 12/30/2008

Instrument: GC_B

Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX

File Name: 08123009.D

Prep Method ID: 5030B

Dilution Factor: 1

Prep Batch Number: T090105012

Report Basis: As Received

Analyst Initials: RA

Sample prep wt./vol: 5.00 ml

Prep Extract Vol: 5.00 ml

<u>Analyte</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>				<u>run #:</u>	
Benzene	71-43-2	ND		ug/L	1.0	0.33				1	
Ethylbenzene	100-41-4	ND		ug/L	1.5	0.46					
Toluene	108-88-3	ND		ug/L	1.2	0.35					
Xylenes, Total	1330-20-7	ND		ug/L	3.0	0.82					
<u>Surrogate</u>	<u>CASNo</u>	<u>Result</u>	<u>Flags</u>	<u>Units</u>	<u>PQL</u>	<u>MDL</u>	<u>Spike</u>	<u>% Recov</u>	<u>LCL</u>	<u>UCL</u>	<u>run #:</u>
p-Bromofluorobenzene	460-00-4	26		ug/L	0.50	0.12	27	96.6	80	120	1

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado
Workorder (SDG): F0812326
Project: UAF Monthly Monitoring Well
Project Number:
Prep Batch: T090105012

QUALITY CONTROL REPORT

LCS/LCSD REPORT

Analysis: Aromatic VOCs by GC/PID via method 8021B - BTEX MB: T090105012-MB
Prep Date: 12/30/2008
MB Anal. Date: 12/30/2008 7:06:00PM Units: ug/L
LCS Anal. Date: 12/30/2008 4:50:00PM LCSD Anal. Date: 12/30/2008 5:24:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	11.3	11.3	10.0	10.0	113.0	113.0	0.0	80 - 120	20	
Toluene	ND	10.7	10.7	10.0	10.0	107.0	107.0	0.0	80 - 120	20	
Ethylbenzene	ND	10.6	10.6	10.0	10.0	106.0	106.0	0.0	80 - 120	20	
Xylenes, Total	ND	31.4	31.3	30.0	30.0	104.7	104.3	0.3	80 - 120	20	

Prep Batch: T090105011

LCS/LCSD REPORT

Analysis: ADEC AK101 - GRO MB: T090105011-MB
Prep Date: 12/30/2008
MB Anal. Date: 12/30/2008 7:06:00PM Units: ug/L
LCS Anal. Date: 12/30/2008 5:58:00PM LCSD Anal. Date: 12/30/2008 6:32:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Gasoline Range Organics	ND	495	500	500	500	99.0	100.0	1.0	60 - 120	20	

MS/MSD REPORT

Analysis: ADEC AK101 - GRO Parent: F0812326-03A
Prep Date: 12/30/2008
Samp. Anal. Date: 12/30/2008 8:46:00PM Units: ug/L
MS Anal. Date: 12/30/2008 9:20:00PM MSD Anal. Date: 12/30/2008 9:54:00PM Matrix: Aqueous

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Gasoline Range Organics	ND	336	321	500	500	67.2	64.2	4.6	74 - 130	20	lowMS lowMSD

Prep Batch: T090105012

LCS/LCSD REPORT

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Project Number:

QUALITY CONTROL REPORT

Prep Batch: T090105012

LCS/LCSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes MB: T090105012-MB

Prep Date: 12/30/2008

MB Anal. Date: 12/30/2008 7:06:00PM

Units: ug/L

LCS Anal. Date: 12/30/2008 4:50:00PM LCSD Anal. Date: 12/30/2008 5:24:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	11.3	11.3	10.0	10.0	113.0	113.0	0.0	80 - 120	20	
Toluene	ND	10.7	10.7	10.0	10.0	107.0	107.0	0.0	80 - 120	20	
Ethylbenzene	ND	10.6	10.6	10.0	10.0	106.0	106.0	0.0	80 - 120	20	
Xylenes, Total	ND	31.4	31.3	30.0	30.0	104.7	104.3	0.3	80 - 120	20	
1,2-Dichlorobenzene	ND	10.1	9.82	10.0	10.0	101.0	98.2	2.8	80 - 120	20	
1,4-Dichlorobenzene	ND	10.4	10.4	10.0	10.0	104.0	104.0	0.0	80 - 120	20	
1,3-Dichlorobenzene	ND	9.77	9.77	10.0	10.0	97.7	97.7	0.0	80 - 120	20	
Chlorobenzene	ND	10.2	10.1	10.0	10.0	102.0	101.0	1.0	80 - 120	20	

MS/MSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes Parent: F0812326-02A

Prep Date: 12/30/2008

Samp. Anal. Date: 12/31/2008 12:09:00AM

Units: ug/L

MS Anal. Date: 12/31/2008 3:31:00AM MSD Anal. Date: 12/31/2008 4:05:00AM Matrix: Aqueous

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	9.14	11.0	10.0	10.0	91.4	110.0	18.5	80 - 120	20	
Toluene	ND	8.66	10.3	10.0	10.0	86.6	103.0	17.3	80 - 120	20	
Ethylbenzene	ND	8.23	9.90	10.0	10.0	82.3	99.0	18.4	80 - 120	20	
Xylenes, Total	ND	24.2	28.9	30.0	30.0	80.7	96.3	17.7	80 - 120	20	
1,2-Dichlorobenzene	ND	7.91	8.00	10.0	10.0	79.1	80.0	1.1	80 - 120	20	lowMS
1,4-Dichlorobenzene	ND	7.41	8.13	10.0	10.0	74.1	81.3	9.3	80 - 120	20	lowMS
1,3-Dichlorobenzene	ND	6.84	7.83	10.0	10.0	68.4	78.3	13.5	80 - 120	20	lowMS lowMSD
Chlorobenzene	ND	8.34	9.59	10.0	10.0	83.4	95.9	13.9	80 - 120	20	

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

FOOTNOTES TO QC REPORT

Note 1: Results are shown to three significant figures to avoid rounding errors in calculations.

Note 2: If the sample concentration is greater than 4 times the spike level, a recovery is not meaningful, and the result should be used as a replicate. In such cases the spike is not as high as expected random measurement variability of the sample result itself.

Note 3: For sample duplicates, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample and duplicate results are not five times the PQL or greater, then the RPD is not expected to fall within the window shown and the comparison should be made on the basis of the absolute difference. Analytica uses the criterion that the absolute difference should be less than the PQL for water or less than 2XPQL for other matrices.

Note 4: For serial dilutions, if the result is less than the PQL, the duplicate RPD is not applicable. If the sample result is not 50 times the MDL or greater, then the fact that the RPD does not meet the 10% criterion has little significance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326
 Project: UAF Monthly Monitoring Well
 Client: Arcadis BB&L
 Client Project Number: B0045498.0001

SURROGATE RECOVERY SUMMARY REPORT

Test Method: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzene

Lab Sample #:	F0812326-06A	Dilution:	1		
Analysis Date:	12/30/2008 8:13:00PM	Client Sample:	<u>TB-W-081222</u>		
Batch Number:	T090105012	Data File:	08123011.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	96	80	120		Complete
Lab Sample #:	F0812326-01A	Dilution:	1		
Analysis Date:	12/30/2008 11:35:00PM	Client Sample:	<u>Influent-W-081222</u>		
Batch Number:	T090105012	Data File:	08123017.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	107	80	120		Complete
Lab Sample #:	F0812326-02A	Dilution:	1		
Analysis Date:	12/31/2008 12:09:00AM	Client Sample:	<u>Effluent-W-081222</u>		
Batch Number:	T090105012	Data File:	08123018.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	91	80	120		Complete
Lab Sample #:	T090105012-MB	Dilution:	1		
Analysis Date:	12/30/2008 7:06:00PM	Client Sample:	<u>MB</u>		
Batch Number:	T090105012	Data File:	08123009.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	97	80	120		Complete
Lab Sample #:	T090105012-LCS	Dilution:	1		
Analysis Date:	12/30/2008 4:50:00PM	Client Sample:	<u>LCS</u>		
Batch Number:	T090105012	Data File:	08123005.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	80	120		Complete
Lab Sample #:	T090105012-LCSD	Dilution:	1		
Analysis Date:	12/30/2008 5:24:00PM	Client Sample:	<u>LCSD</u>		
Batch Number:	T090105012	Data File:	08123006.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	80	120		Complete
Lab Sample #:	F0812326-02A-MS	Dilution:	1		
Analysis Date:	12/31/2008 3:31:00AM	Client Sample:	<u>MS</u>		
Batch Number:	T090105012	Data File:	08123024.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	109	80	120		Complete
Lab Sample #:	F0812326-02A-MSD	Dilution:	1		
Analysis Date:	12/31/2008 4:05:00AM	Client Sample:	<u>MSD</u>		
Batch Number:	T090105012	Data File:	08123025.D		
<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	97	80	120		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Test Method: ADEC AK101 - GRO

Lab Sample #: F0812326-05A Dilution: 1
 Analysis Date: 12/30/2008 7:39:00PM Client Sample: **TB-W-081222**
 Batch Number: T090105011 Data File: 08123010.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	74	50	150		Complete

Lab Sample #: F0812326-03A Dilution: 1
 Analysis Date: 12/30/2008 8:46:00PM Client Sample: **GW-1B-W-081222**
 Batch Number: T090105011 Data File: 08123012.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	74	50	150		Complete

Lab Sample #: F0812326-04A Dilution: 1
 Analysis Date: 12/30/2008 11:01:00PM Client Sample: **GW-2-W-081222**
 Batch Number: T090105011 Data File: 08123016.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	73	50	150		Complete

Lab Sample #: T090105011-MB Dilution: 1
 Analysis Date: 12/30/2008 7:06:00PM Client Sample: **MB**
 Batch Number: T090105011 Data File: 08123009.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	84	60	120		Complete

Lab Sample #: T090105011-LCS Dilution: 1
 Analysis Date: 12/30/2008 5:58:00PM Client Sample: **LCS**
 Batch Number: T090105011 Data File: 08123007.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	84	60	120		Complete

Lab Sample #: T090105011-LCSD Dilution: 1
 Analysis Date: 12/30/2008 6:32:00PM Client Sample: **LCSD**
 Batch Number: T090105011 Data File: 08123008.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	84	60	120		Complete

Lab Sample #: F0812326-03A-MS Dilution: 1
 Analysis Date: 12/30/2008 9:20:00PM Client Sample: **MS**
 Batch Number: T090105011 Data File: 08123013.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	69	50	150		Complete

Lab Sample #: F0812326-03A-MSD Dilution: 1
 Analysis Date: 12/30/2008 9:54:00PM Client Sample: **MSD**
 Batch Number: T090105011 Data File: 08123014.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	76	50	150		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

Test Method: Aromatic VOCs by GC/PID via method 8021B - BTEX

Lab Sample #: F0812326-05A Dilution: 1
 Analysis Date: 12/30/2008 7:39:00PM Client Sample: **TB-W-081222**
 Batch Number: T090105012 Data File: 08123010.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	80	120		Complete

Lab Sample #: F0812326-03A Dilution: 1
 Analysis Date: 12/30/2008 8:46:00PM Client Sample: **GW-1B-W-081222**
 Batch Number: T090105012 Data File: 08123012.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	104	80	120		Complete

Lab Sample #: F0812326-04A Dilution: 1
 Analysis Date: 12/30/2008 11:01:00PM Client Sample: **GW-2-W-081222**
 Batch Number: T090105012 Data File: 08123016.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	80	120		Complete

Lab Sample #: T090105012-MB Dilution: 1
 Analysis Date: 12/30/2008 7:06:00PM Client Sample: **MB**
 Batch Number: T090105012 Data File: 08123009.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	97	80	120		Complete

Lab Sample #: T090105012-LCS Dilution: 1
 Analysis Date: 12/30/2008 4:50:00PM Client Sample: **LCS**
 Batch Number: T090105012 Data File: 08123005.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	80	120		Complete

Lab Sample #: T090105012-LCSD Dilution: 1
 Analysis Date: 12/30/2008 5:24:00PM Client Sample: **LCSD**
 Batch Number: T090105012 Data File: 08123006.D

<u>AnalyteName</u>	<u>SSRecov</u>	<u>LCL</u>	<u>UCL</u>	<u>SSFlag</u>	<u>Result Status</u>
p-Bromofluorobenzene	98	80	120		Complete

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: 95,907 Lab Project Number: F0812326

Prep Date: 12/30/2008

Lab Method Blank Id: T090105011-MB
Prep Batch ID: T090105011
Method: ADEC AK101 - GRO

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
T090105011-LCS	LCS	08123007.D	12/30/2008 5:58:00PM
T090105011-LCSD	LCSD	08123008.D	12/30/2008 6:32:00PM
F0812326-05A	TB-W-081222	08123010.D	12/30/2008 7:39:00PM
F0812326-03A	GW-1B-W-081222	08123012.D	12/30/2008 8:46:00PM
F0812326-03A-MS	MS	08123013.D	12/30/2008 9:20:00PM
F0812326-03A-MSD	MSD	08123014.D	12/30/2008 9:54:00PM
F0812326-04A	GW-2-W-081222	08123016.D	12/30/2008 11:01:00PM

Prep Date: 12/30/2008

Lab Method Blank Id: T090105012-MB
Prep Batch ID: T090105012
Method: Aromatic VOCs by GC/PID via method 8021B - BTEX

This Method blank and sample preparation batch are associated with the following samples, spikes, and duplicates:

<u>SampleNum</u>	<u>ClientSampleName</u>	<u>DataFile</u>	<u>AnalysisDate</u>
T090105012-LCS	LCS	08123005.D	12/30/2008 4:50:00PM
T090105012-LCS	LCS	08123005.D	12/30/2008 4:50:00PM
T090105012-LCSD	LCSD	08123006.D	12/30/2008 5:24:00PM
T090105012-LCSD	LCSD	08123006.D	12/30/2008 5:24:00PM
F0812326-05A	TB-W-081222	08123010.D	12/30/2008 7:39:00PM
F0812326-06A	TB-W-081222	08123011.D	12/30/2008 8:13:00PM
F0812326-03A	GW-1B-W-081222	08123012.D	12/30/2008 8:46:00PM
F0812326-04A	GW-2-W-081222	08123016.D	12/30/2008 11:01:00PM
F0812326-01A	Influent-W-081222	08123017.D	12/30/2008 11:35:00PM
F0812326-02A	Effluent-W-081222	08123018.D	12/31/2008 12:09:00AM
F0812326-02A-MS	MS	08123024.D	12/31/2008 3:31:00AM
F0812326-02A-MSD	MSD	08123025.D	12/31/2008 4:05:00AM

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326
Project: UAF Monthly Monitoring Well
Client: Arcadis BB&L
Client Project Number: B0045498.0001

DATA FLAGS AND DEFINITIONS

The PQL is the Method Quantitation Limit as defined by USACE.

Reporting Limit: Limit below which results are shown as "ND". This may be the PQL, MDL, or a value between. See the report conventions below.

Result Field:

ND = Not Detected at or above the Reporting Limit
NA = Analyte not applicable (see Case Narrative for discussion)

Qualifier Fields:

LOW = Recovery is below Lower Control Limit
HIGH = Recovery, RPD, or other parameter is above Upper Control Limit
E = Reported concentration is above the instrument calibration upper range

Organic Analysis Flags:

B = Analyte was detected in the laboratory method blank
J = Analyte was detected above MDL or Reporting Limit but below the Quant Limit (PQL)

Inorganic Analysis Flags:

J = Analyte was detected above the Reporting Limit but below the Quant Limit (PQL)
W = Post digestion spike did not meet criteria
S = Reported value determined by the Method of Standard Additions (MSA)

Several ways of defining the limit of detection and quantitation are prevalent in the laboratory industry and may appear in Analytica reports. These include the following:

MRL = "minimum reporting level", from the EPA Safe Drinking Water program (SDW)
PQL = "practical quantitation limit", from SW-846
EQL = "estimated quantitation limit", from SW-846
LOQ = "limit of quantitation", from a number of authoritative sources

In Analytica's work, all of these terms have the same meaning, equivalent to the EPA definition of the MRL. This reporting level is supported by a satisfactory calibration data point which is at that level or lower, and also is supported by a method detection limit (MDL) determined by the procedure in 40CFR. The MDL is lower than the MRL and represents an estimate of the level where positive detections have a 99% probability of being real, but where quantitation accuracy is unknown.

The MRL as defined by Analytica is the lowest demonstrated point of known quantitation accuracy.

The MRL should not be confused with the MCL, which is the EPA-defined "maximum contaminant level" allowed for certain regulated targets under specific regulations, such as the National Primary Drinking Water Regulations. Normally, the MRL is set at a level which is much lower than the MCL in order to ensure that levels are well below those limits. Not all target analytes have MCL levels established.

Other Flags may be applied. See Case Narrative for Description

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: UAF Monthly Monitoring Well

Client: Arcadis BB&L

Client Project Number: B0045498.0001

REPORTING CONVENTIONS FOR THIS REPORT

F0812326

<u>TestPkgName</u>	<u>Basis</u>	<u># Sig Figs</u>	<u>Reporting Limit</u>
602 (Aqueous) - BTEX & Chlorobenzenes	As Received	2	Report to PQL
8021/5030B (Aqueous) - BTEX	As Received	2	Report to PQL
AK101/5030B (Aqueous) - GRO	As Received	2	Report to PQL



12189 Pennsylvania St
Thornton, CO 83241
(303) 469-8868
(303) 469-524 fax

4307 Arctic Boulevard
Anchorage, AK 99503
(907) 258-2155
(907) 258-6634 fax

475 Hall St
Fairbanks, AK 99701
(907) 456-3116
(907) 456-3125 Fax

5438 Shauna Drive
Juneau, AK 99801
(907) 780-6568
(907) 780-6670 fax

Analytica Chain of Custody Form

Chain of Custody No: **67609**

Client Name & Address: **Arcadis Suite 200**
2300 Eastlake Ave E. Seattle, WA 98102

Public Water System (PWS) ID#: **211081-OML**

Quote ID: **F0812326**

Report to: **Greg Montgomery**

Project Name: **UAF Water Treatment**

Invoice to Name & Address: **Same**

Phone No: **206-726-4942**

Requested Due Date for Results: **Standard**

Account #: **Case#**

Fax No: **206-325-8218**

Requested Analysis/Method

E-mail: **Greg.Montgomery@arcadis-us.com**

Special Instructions/Comments: **Include chlorobenzene in 602 Analysis**

P.O. or Contract No:

Kit Prep/Shipping Charges: \$

Totalizer 6,578,800 gallons

Requested Analysis/Method

Client Sample Identification / Location	Date Sampled	Time Sampled	Matrix (S-DW-WW-Other)	No. of Containers	602 BTEX	8021 BTEX / AK 101 620	Field Preserved	Field Filtered	MS/MSD ?
INFLUENT-W-081222	12/22/08	1050	DM	4	X				
EFLUENT-W-081222	12/22/08	1055	W	4	X				
GW-1B-W-081222	12/22/08	1200	W	4		X			
GW-2-W-081222	12/22/08	1210	W	4		X			
TB-W-081222				4	X				

Relinquished by:	Date	Time	Received by:	Date	Time
<i>Alan Siddle</i>	12/22/08	1330	<i>F.S.</i>	12-22-08	13:35

Relinquished by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____

Condition of Custody Seal: **THO** **ANC** **JNU** **EBKS**

Initiated By: _____

Temp/loc: **30C**

Thermo ID#: **B**

Shipped Via: **Hand**

ANALYTICAL RESULTS

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

925-842-8582

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425**SAMPLE GROUP**

The sample group for this submittal is 1125156. Samples arrived at the laboratory on Wednesday, December 17, 2008. The PO# for this group is 0015029778 and the release number is BARTON.

Client Description

SEL-C-W-081215 Grab Water Sample

Lancaster Labs Number

5560410

METHODOLOGY

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

ELECTRONIC COPY TO	Arcadis US, Inc.	Attn: Rebecca Andresen
ELECTRONIC COPY TO	Arcadis BBL	Attn: Vanessa Varbel
ELECTRONIC COPY TO	ARCADIS	Attn: Michael Strickler
ELECTRONIC COPY TO	ARCADIS	Attn: Andrew Ohrt
ELECTRONIC COPY TO	Arcadis	Attn: Greg Montgomery
1 COPY TO	Data Package Group	

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

Respectfully Submitted,



Jenifer E. Hess
Manager



Analysis Report

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

Lancaster Laboratories Sample No. **WW5560410**

Group No. **1125156**

SELC-W-081215 Grab Water Sample

Facility# 211081

4103 Geist Rd. - Fairbanks, AK

Collected: 12/15/2008 15:55 by AW

Account Number: 11964

Submitted: 12/17/2008 10:25

Chevron

Reported: 12/31/2008 at 13:08

6001 Bollinger Canyon Rd L4310

Discard: 01/31/2009

San Ramon CA 94583

GRFSE SDG#: ASK66-01*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02244	TPH-DRO AK C10-C25 w/Si Gel	n.a.	N.D.	0.050	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.0005	mg/l	1
01592	Toluene	108-88-3	N.D.	0.0005	mg/l	1
01593	Ethylbenzene	100-41-4	N.D.	0.0005	mg/l	1
01723	Total xylenes	1330-20-7	N.D.	0.002	mg/l	1

State of Alaska Lab Certification No. UST-061

Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02244	TPH-DRO AK C10-C25 w/Si Gel	AK 102/AK 103	04/08/02	1 12/22/2008 17:46	Heather E Williams	1
01588	BTEX	SW-846	8021B	1 12/23/2008 22:24	Jennifer B Werner	1
01146	GC VOA Water Prep	SW-846	5030B	1 12/23/2008 22:24	Carrie E Youtzy	1
02135	Extraction - DRO Water Special	AK 102/AK 103	04/08/02	1 12/19/2008 02:30	Roman Kuropatkin	1

Quality Control Summary

Client Name: Chevron
Reported: 12/31/08 at 01:08 PM

Group Number: 1125156

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

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 083530019A TPH-DRO AK C10-C25 w/Si Gel	N.D.	0.050	mg/l	93	95	75-125	3	20
Batch number: 08357A13A	Sample number(s): 5560410							
Benzene	N.D.	0.0005	mg/l	105	105	86-119	0	30
Toluene	0.04	0.0005	mg/l	105	105	82-119	0	30
Ethylbenzene	N.D.	0.0005	mg/l					
Total xylenes	N.D.	0.002	mg/l					

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-DRO AK water C10-C25
Batch number: 083530019A
Orthoterphenyl

5560410	97
Blank	93
LCS	100
LCSD	101

Limits: 50-150

Analysis Name: BTEX
Batch number: 08357A13A
Trifluorotoluene-P

5560410	116
Blank	115
LCS	115
LCSD	115

Limits: 69-129

*- Outside of specification

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

Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only

Acct. # 119104 Group# 1125156 Sample # 5560410 **COC # 191322**

Please print. Instructions on reverse side correspond with circled numbers. *cooler temp 3.7°C*

1 Client: Arcadis Seattle Acct. #: NWRTB-0211081-1-GML

Project Name/#: Geist Rd / 211081 PWSID #: 206-726-4742

Project Manager: Greg Montgomery P.O.#: 902-390-7979

Sampler: Andrew Weller Quote #: AK

Name of state where samples were collected: AK

5 Analyses Requested

4 Matrix

Potable Check if Applicable

Water NPDES

Soil Other

4 Total # of Containers

HCl	HCl								
DRO (AK 102)	BTEX (80218)								

For Lab Use Only

FSC: _____

SCR#: _____

6 Preservation Codes

H=HCl T=Thiosulfate

N=HNO₃ B=NaOH

S=H₂SO₄ O=Other

Need silica gel cleanup for DRO

Temperature of samples upon receipt (if requested)

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	HCl	HCl							Remarks
<u>SELK-W-081215</u>	<u>12/15/08</u>	<u>1555</u>	<u>X</u>			<u>X</u>		<u>5</u>	<u>X</u>	<u>X</u>							

7 Turnaround Time Requested (TAT) (please circle) Normal Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed: _____

Rush results requested by (please circle): Phone Fax E-mail

Phone #: _____ Fax #: _____

E-mail address: _____

Relinquished by: <u>Andrew Weller</u>	Date: <u>12/16/08</u>	Time: <u>1030</u>	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____
Relinquished by: _____	Date: _____	Time: _____	Received by: _____	Date: _____	Time: _____

8 Data Package Options (please circle if required)

Type I (validation/NJ Reg) TX TRRP-13 Yes No

Type II (Tier II) MA MCP CT RCP Yes No

Type III (Reduced NJ) Site-specific QC (MS/MSD/Dup)? Yes No

Type IV (CLP SOW) Internal COC Required? Yes / No

Type VI (Raw Data Only)

Lancaster Laboratories Explanation of Symbols and Abbreviations

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

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
C	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml
<	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
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X,Y,Z	Defined in case narrative

Inorganic Qualifiers

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

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

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

ANALYTICAL RESULTS

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

925-842-8582

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425**SAMPLE GROUP**

The sample group for this submittal is 1125157. Samples arrived at the laboratory on Wednesday, December 17, 2008. The PO# for this group is 0015029778 and the release number is BARTON.

Client DescriptionG-7 Grab Water Sample
Trip_Blank Water Sample
BD-1 Grab Water Sample**Lancaster Labs Number**5560411
5560412
5560413**METHODOLOGY**

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

ELECTRONIC COPY TO	Arcadis US, Inc.	Attn: Rebecca Andresen
ELECTRONIC COPY TO	Arcadis BBL	Attn: Vanessa Varbel
ELECTRONIC COPY TO	ARCADIS	Attn: Michael Strickler
ELECTRONIC COPY TO	ARCADIS	Attn: Andrew Ohrt
ELECTRONIC COPY TO	Arcadis	Attn: Greg Montgomery
1 COPY TO	Data Package Group	

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

Respectfully Submitted,



Jenifer E. Hess
Manager



Analysis Report

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

Lancaster Laboratories Sample No. WW5560411

Group No. 1125157

G-7 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 12/12/2008 12:50 by MLS

Account Number: 11964

Submitted: 12/17/2008 10:25

Chevron

Reported: 12/24/2008 at 13:26

6001 Bollinger Canyon Rd L4310

Discard: 01/24/2009

San Ramon CA 94583

GRF07 SDG#: ASK67-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	1.5	0.50	mg/l	10
02946	C25-C36 RRO	n.a.	N.D.	0.50	mg/l	10

Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	12/22/2008 21:02	Heather E Williams	10
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	12/20/2008 12:00	Jessica Agosto	1



Analysis Report

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

Lancaster Laboratories Sample No. **WW5560412**

Group No. **1125157**

Trip Blank Water Sample

Facility# **211081**

4103 Geist Road - Fairbanks, AK

Collected:12/12/2008

Account Number: 11964

Submitted: 12/17/2008 10:25

Chevron

Reported: 12/24/2008 at 13:26

6001 Bollinger Canyon Rd L4310

Discard: 01/24/2009

San Ramon CA 94583

GRFTB SDG#: ASK67-02TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
01440	TPH-GRO AK water C6-C10						
01442	TPH-GRO AK water C6-C10	n.a.	N.D.	0.01		mg/l	1
01551	BTEX/MTBE						
01591	Benzene	71-43-2	N.D.	0.001		mg/l	1
01592	Toluene	108-88-3	N.D.	0.001		mg/l	1
01593	Ethylbenzene	100-41-4	N.D.	0.001		mg/l	1
01723	Total xylenes	1330-20-7	N.D.	0.002		mg/l	1
01835	Methyl tert-Butyl ether	1634-04-4	N.D.	0.003		mg/l	1

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
01440	TPH-GRO AK water C6-C10	AK 101	1	12/18/2008 22:33	Carrie E Youtzy	1
01551	BTEX/MTBE	SW-846 8021B	1	12/18/2008 22:33	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	12/18/2008 22:33	Carrie E Youtzy	1

Lancaster Laboratories Sample No. **WW5560413**

Group No. **1125157**

BD-1 Grab Water Sample

Facility# **211081**

4103 Geist Road - Fairbanks, AK

Collected: 12/12/2008 by **MLS**

Account Number: **11964**

Submitted: 12/17/2008 10:25

Chevron

Reported: 12/24/2008 at 13:26

6001 Bollinger Canyon Rd L4310

Discard: 01/24/2009

San Ramon CA 94583

GRFFD SDG#: ASK67-03FD*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
02923	TPH-DRO/RRO (AK) water						
02943	C10-<C25 DRO	n.a.	1.5	0.47		mg/l	10
02946	C25-C36 RRO	n.a.	N.D.	0.47		mg/l	10
Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.							

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor	
				Date	Time			
02923	TPH-DRO/RRO (AK) water	AK 102/103 modified	4/08/02	1	12/22/2008	21:30	Heather E Williams	10
02135	Extraction - DRO Water Special	AK 102/AK 103	04/08/02	1	12/20/2008	12:00	Jessica Agosto	1

Quality Control Summary

 Client Name: Chevron
 Reported: 12/24/08 at 01:26 PM

Group Number: 1125157

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

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 08353A53A	Sample number(s): 5560412							
TPH-GRO AK water C6-C10	N.D.	0.01	mg/l	96	96	60-120	0	20
Benzene	N.D.	0.001	mg/l	112	103	86-119	8	30
Toluene	N.D.	0.001	mg/l	106	98	82-119	8	30
Ethylbenzene	N.D.	0.001	mg/l	105	97	81-119	8	30
Total xylenes	N.D.	0.002	mg/l	107	99	82-120	8	30
Methyl tert-Butyl ether	N.D.	0.003	mg/l	106	103	82-124	3	30
Batch number: 083540016A	Sample number(s): 5560411, 5560413							
C10-<C25 DRO	N.D.	0.050	mg/l	94	96	75-125	2	20
C25-C36 RRO	N.D.	0.050	mg/l	92	92	60-120	0	20

Sample Matrix Quality Control

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 08353A53A	Sample number(s): 5560412 UNSPK: P559478, P559479								
TPH-GRO AK water C6-C10	107		60-120						
Benzene	105		78-131						
Toluene	105		78-129						
Ethylbenzene	104		75-133						
Total xylenes	109		84-131						
Methyl tert-Butyl ether	112		70-134						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

 Analysis Name: TPH-GRO AK water C6-C10
 Batch number: 08353A53A

	Trifluorotoluene-F	Trifluorotoluene-P
5560412	77	86
Blank	77	87
LCS	99	87
LCSD	99	88
MS	95	87

*- Outside of specification

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

Quality Control Summary

Client Name: Chevron
Reported: 12/24/08 at 01:26 PM

Group Number: 1125157

Surrogate Quality Control

Limits: 60-120 69-129

Analysis Name: TPH-DRO/RRO (AK) water

Batch number: 083540016A

Orthoterphenyl

n-Triacontane-d62

5560411	80	73
5560413	82	76
Blank	85	87
LCS	84	77
LCSD	85	79

Limits: 50-150 50-150

*- Outside of specification

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

Chevron Generic Analysis Request/Chain of Custody



Acct. #: 11964

For Lancaster Laboratories use only

Sample #: 5560411-13

SCR#: _____

011367

C# 1125157

Facility #: <u>211081</u> Site Address: <u>4103 Geist Road, Fairbanks, AK</u> Chevron PM: <u>Greg Barten</u> Lead Consultant: <u>ARCADIS</u> Consultant/Office: <u>Seattle WA</u> Consultant Prj. Mgr.: <u>Greg Montgomery</u> Consultant Phone #: <u>206-726-4742</u> Fax #: <u>206-325-8288</u> Sampler: <u>MLS ? JRG</u> Service Order #: <u>NWRTB-DZ11081</u> <input type="checkbox"/> Non SAR: _____			Matrix Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water <input type="checkbox"/> Oil <input type="checkbox"/> Air <input type="checkbox"/>		Analyses Requested <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="10">Preservation Codes</th> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td colspan="10"> BTEX <input type="checkbox"/> MTBE <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan Oxygenates GRO AK101 DRP <input type="checkbox"/> Extended Rng. AK102 Silica Gel Cleanup Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method _____ VP/IEPH NWT/PH/HCID <input type="checkbox"/> quantification RRD AK103 </td> </tr> </table>										Preservation Codes										<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BTEX <input type="checkbox"/> MTBE <input checked="" type="checkbox"/> 8260 <input type="checkbox"/> Naphth <input type="checkbox"/> 8260 full scan Oxygenates GRO AK101 DRP <input type="checkbox"/> Extended Rng. AK102 Silica Gel Cleanup Lead Total <input type="checkbox"/> Diss. <input type="checkbox"/> Method _____ VP/IEPH NWT/PH/HCID <input type="checkbox"/> quantification RRD AK103										Preservative Codes H = HCl T = Thiosulfate N = HNO ₃ B = NaOH S = H ₂ SO ₄ O = Other <input type="checkbox"/> J value reporting needed <input type="checkbox"/> Must meet lowest detection limits possible for 8260 compounds 8021 MTBE Confirmation <input type="checkbox"/> Confirm MTBE + Naphthalene <input type="checkbox"/> Confirm highest hit by 8260 <input type="checkbox"/> Confirm all hits by 8260 <input type="checkbox"/> Run ___ oxy's on highest hit <input type="checkbox"/> Run ___ oxy's on all hits	
Preservation Codes																																														
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Sample Identification		Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil	Air	Total Number of Containers	BTEX	MTBE	8260	Naphth	Oxygenates	GRO	AK101	DRP	Extended Rng.	AK102	Silica Gel Cleanup	Lead Total	Diss.	Method	VP/IEPH	NWT/PH/HCID	quantification	RRD	AK103	Comments / Remarks																
G-7		12/12/08	1250	X			X			2100	X					X		X								X																				
Trip Blank		12/12/08	---				X																																							
BD-1		12/12/08	---	X			X											X								X																				
Turnaround Time Requested (TAT) (please circle) STD. TAT <input checked="" type="radio"/> 72 hour 48 hour 24 hour 4 day 5 day						Relinquished by: <u>Michael Strickler</u> Date: <u>12/10/08</u> Time: <u>1700</u>			Received by: _____ Date: _____ Time: _____																																					
Data Package Options (please circle if required) QC Summary Type I - Full Type VI (Raw Data) Disk / <u>EPD</u> WIP (RWQCB) Standard Format Disk _____ Other.						Relinquished by: _____ Date: _____ Time: _____			Received by: _____ Date: _____ Time: _____																																					
Relinquished by Commercial Carrier: UPS FedEx Other _____						Received by: <u>[Signature]</u> Date: <u>12/17/08</u> Time: <u>625</u>			Temperature Upon Receipt: <u>1.2</u> C° Custody/Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																																					

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umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
C	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml
<	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
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ANALYTICAL RESULTS

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

925-842-8582

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425**SAMPLE GROUP**

The sample group for this submittal is 1128258. Samples arrived at the laboratory on Thursday, January 15, 2009. The PO# for this group is 0015029778 and the release number is BARTON.

Client Description**Lancaster Labs Number**

MW-304D-W-090113 Grab Water Sample	5577626
G-4-W-090113 Grab Water Sample	5577627
G-7-W-090113 Grab Water Sample	5577628
G-8-W-090113 Grab Water Sample	5577629
G-5-W-090113 Grab Water Sample	5577630
BD-1-W-090113 Grab Water Sample	5577631
PW-1-W-090113 Grab Water Sample	5577632
Trip_Blank Water Sample	5577633

METHODOLOGY

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

1 COPY TO Data Package Group
ELECTRONIC Arcadis
COPY TO
ELECTRONIC Arcadis
COPY TO

Attn: Greg Montgomery

Attn: Russ Greisler

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

Respectfully Submitted,



Martha L. Seidel
Senior Chemist



Analysis Report

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

Lancaster Laboratories Sample No. **WW5577626**

Group No. **1128258**

MW-304D-W-090113 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 11:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GE304 SDG#: ASK75-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received	Units	Dilution Factor
				Method		
				Detection Limit		
01440	TPH-GRO AK water C6-C10					
01442	TPH-GRO AK water C6-C10	n.a.	0.04	0.01	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	0.02	0.001	mg/l	1
01592	Toluene	108-88-3	N.D.	0.001	mg/l	1
01593	Ethylbenzene	100-41-4	N.D.	0.001	mg/l	1
01723	Total xylenes	1330-20-7	N.D.	0.002	mg/l	1

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
01440	TPH-GRO AK water C6-C10	AK 101	1	01/23/2009 14:39	Carrie E Youtzy	1
01588	BTEX	SW-846 8021B	1	01/23/2009 14:39	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/23/2009 14:39	Carrie E Youtzy	1



Analysis Report

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Lancaster Laboratories Sample No. **WW5577627**

Group No. **1128258**

G-4-W-090113 Grab Water Sample

Facility# **211081**

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 12:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GEIG4 SDG#: ASK75-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
01440	TPH-GRO AK water C6-C10						
01442	TPH-GRO AK water C6-C10	n.a.	22	0.5		mg/l	50
01588	BTEX						
01591	Benzene	71-43-2	0.3	0.005		mg/l	5
01592	Toluene	108-88-3	3.5	0.05		mg/l	50
01593	Ethylbenzene	100-41-4	1.1	0.005		mg/l	5
01723	Total xylenes	1330-20-7	4.6	0.01		mg/l	5

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
01440	TPH-GRO AK water C6-C10	AK 101	1	01/23/2009 22:31	Carrie E Youtzy	50
01588	BTEX	SW-846 8021B	1	01/23/2009 15:03	Carrie E Youtzy	5
01588	BTEX	SW-846 8021B	1	01/23/2009 22:31	Carrie E Youtzy	50
01146	GC VOA Water Prep	SW-846 5030B	1	01/23/2009 15:03	Carrie E Youtzy	5
01146	GC VOA Water Prep	SW-846 5030B	2	01/23/2009 22:31	Carrie E Youtzy	50

Lancaster Laboratories Sample No. WW5577628
Group No. 1128258
G-7-W-090113 Grab Water Sample
Facility# 211081
4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 13:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GEIG7 SDG#: ASK75-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	3.2	0.24	mg/l	5
02946	C25-C36 RRO	n.a.	0.67	0.24	mg/l	5
Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.						
07879	EDB in Wastewater					
01087	Ethylene dibromide	106-93-4	N.D.	0.0000098	mg/l	1
01440	TPH-GRO AK water C6-C10					
01442	TPH-GRO AK water C6-C10	n.a.	7.6	0.05	mg/l	5
01588	BTEX					
01591	Benzene	71-43-2	0.4	0.005	mg/l	5
01592	Toluene	108-88-3	N.D.	0.005	mg/l	5
01593	Ethylbenzene	100-41-4	1	0.005	mg/l	5
01723	Total xylenes	1330-20-7	1.4	0.01	mg/l	5

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	01/20/2009 09:49	Diane V Do	5
07879	EDB in Wastewater	SW-846 8011	1	02/05/2009 08:31	Jamie L Brillhart	1
01440	TPH-GRO AK water C6-C10	AK 101	1	01/23/2009 15:28	Carrie E Youtzy	5
01588	BTEX	SW-846 8021B	1	01/23/2009 22:55	Carrie E Youtzy	5
01146	GC VOA Water Prep	SW-846 5030B	1	01/23/2009 15:28	Carrie E Youtzy	5

Lancaster Laboratories Sample No. WW5577628

Group No. 1128258

G-7-W-090113 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 13:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Reported: 02/09/2009 at 15:08

Discard: 03/12/2009

Chevron

6001 Bollinger Canyon Rd L4310

San Ramon CA 94583

GEIG7 SDG#: ASK75-03

01146	GC VOA Water Prep	SW-846 5030B	2	01/23/2009 22:55	Carrie E Youtzy	5
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	01/16/2009 18:07	Kelli M Barto	1
07786	EDB Extraction	SW-846 8011	1	01/16/2009 16:15	Kelli M Barto	1

Lancaster Laboratories Sample No. WW5577629
Group No. 1128258
G-8-W-090113 Grab Water Sample
Facility# 211081
4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 14:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Reported: 02/09/2009 at 15:08

Discard: 03/12/2009

Chevron

6001 Bollinger Canyon Rd L4310

San Ramon CA 94583

GEIG8 SDG#: ASK75-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
02923	TPH-DRO/RRO (AK) water						
02943	C10-<C25 DRO	n.a.	2.7	0.096		mg/l	2
02946	C25-C36 RRO	n.a.	1.1	0.096		mg/l	2
Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.							
07879	EDB in Wastewater						
01087	Ethylene dibromide	106-93-4	N.D.	0.000010		mg/l	1
01440	TPH-GRO AK water C6-C10						
01442	TPH-GRO AK water C6-C10	n.a.	5.1	0.05		mg/l	5
01588	BTEX						
01591	Benzene	71-43-2	0.5	0.005		mg/l	5
01592	Toluene	108-88-3	0.04	0.005		mg/l	5
01593	Ethylbenzene	100-41-4	0.5	0.005		mg/l	5
01723	Total xylenes	1330-20-7	0.8	0.01		mg/l	5

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis			Dilution Factor
			Trial#	Date and Time	Analyst	
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	01/19/2009 13:28	Diane V Do	2
07879	EDB in Wastewater	SW-846 8011	1	02/05/2009 09:28	Tricia M Gusbar	1
01440	TPH-GRO AK water C6-C10	AK 101	1	01/23/2009 23:19	Carrie E Youtzy	5
01588	BTEX	SW-846 8021B	1	01/23/2009 23:19	Carrie E Youtzy	5
01146	GC VOA Water Prep	SW-846 5030B	1	01/23/2009 23:19	Carrie E Youtzy	5

Lancaster Laboratories Sample No. WW5577629

Group No. 1128258

G-8-W-090113 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 14:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Reported: 02/09/2009 at 15:08

Discard: 03/12/2009

Chevron

6001 Bollinger Canyon Rd L4310

San Ramon CA 94583

GEIG8 SDG#: ASK75-04

02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	01/16/2009 18:07	Kelli M Barto	1
07786	EDB Extraction	SW-846 8011	1	01/16/2009 16:15	Kelli M Barto	1



Analysis Report

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Page 1 of 2

Lancaster Laboratories Sample No. WW5577630

Group No. 1128258

G-5-W-090113 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 15:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GEIG5 SDG#: ASK75-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	3.5	0.48	mg/l	10
02946	C25-C36 RRO	n.a.	N.D.	0.48	mg/l	10
Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.						
07879	EDB in Wastewater					
01087	Ethylene dibromide	106-93-4	N.D.	0.0000096	mg/l	1
01440	TPH-GRO AK water C6-C10					
01442	TPH-GRO AK water C6-C10	n.a.	23	0.1	mg/l	10
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.1	mg/l	10
01592	Toluene	108-88-3	0.4	0.01	mg/l	10
01593	Ethylbenzene	100-41-4	1.4	0.01	mg/l	10
01723	Total xylenes	1330-20-7	6.9	0.02	mg/l	10
Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for benzene. The presence or concentration of this compound cannot be determined due to the presence of this interferent.						

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02923	TPH-DRO/RRO (AK) water	AK 102/103 modified	1	01/20/2009 09:21	Diane V Do	10

Lancaster Laboratories Sample No. WW5577630

Group No. 1128258

G-5-W-090113 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 15:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GEIG5 SDG#: ASK75-05

07879	EDB in Wastewater	SW-846 8011	1	02/05/2009 10:26	Tricia M Gusbar	1
01440	TPH-GRO AK water C6-C10	AK 101	1	01/23/2009 23:44	Carrie E Youtzy	10
01588	BTEX	SW-846 8021B	1	01/23/2009 23:44	Carrie E Youtzy	10
01146	GC VOA Water Prep	SW-846 5030B	1	01/23/2009 16:16	Carrie E Youtzy	5
01146	GC VOA Water Prep	SW-846 5030B	2	01/23/2009 23:44	Carrie E Youtzy	10
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	01/16/2009 18:07	Kelli M Barto	1
07786	EDB Extraction	SW-846 8011	1	01/16/2009 16:15	Kelli M Barto	1

Lancaster Laboratories Sample No. WW5577631

Group No. 1128258

BD-1-W-090113 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 06:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GEIBD SDG#: ASK75-06FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	3.4	0.48	mg/l	10
02946	C25-C36 RRO	n.a.	N.D.	0.48	mg/l	10
Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.						
07879	EDB in Wastewater					
01087	Ethylene dibromide	106-93-4	N.D.	0.0000098	mg/l	1
01440	TPH-GRO AK water C6-C10					
01442	TPH-GRO AK water C6-C10	n.a.	27	0.1	mg/l	10
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.1	mg/l	10
01592	Toluene	108-88-3	0.5	0.01	mg/l	10
01593	Ethylbenzene	100-41-4	1.5	0.01	mg/l	10
01723	Total xylenes	1330-20-7	7.3	0.02	mg/l	10
Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for benzene. The presence or concentration of this compound cannot be determined due to the presence of this interferent.						

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
02923	TPH-DRO/RRO (AK) water	AK 102/103 modified	1	01/19/2009 14:23	Diane V Do	10

Lancaster Laboratories Sample No. WW5577631

Group No. 1128258

BD-1-W-090113 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 06:00 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GEIBD	SDG#	ASK75-06FD					
07879	EDB in Wastewater	SW-846 8011	1	02/05/2009 10:54	Tricia M Gusbar	1	
01440	TPH-GRO AK water C6-C10	AK 101	1	01/24/2009 00:08	Carrie E Youtzy	10	
01588	BTEX	SW-846 8021B	1	01/24/2009 00:08	Carrie E Youtzy	10	
01146	GC VOA Water Prep	SW-846 5030B	1	01/24/2009 00:08	Carrie E Youtzy	10	
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	01/16/2009 18:07	Kelli M Barto	1	
07786	EDB Extraction	SW-846 8011	1	01/16/2009 16:15	Kelli M Barto	1	



Analysis Report

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Lancaster Laboratories Sample No. WW5577632

Group No. 1128258

PW-1-W-090113 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 15:50 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GEIPW SDG#: ASK75-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	1.6	0.24	mg/l	5
02946	C25-C36 RRO	n.a.	0.29	0.24	mg/l	5
Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.						
07879	EDB in Wastewater					
01087	Ethylene dibromide	106-93-4	N.D.	0.0000099	mg/l	1
01440	TPH-GRO AK water C6-C10					
01442	TPH-GRO AK water C6-C10	n.a.	4.8	0.05	mg/l	5
01588	BTEX					
01591	Benzene	71-43-2	0.1	0.005	mg/l	5
01592	Toluene	108-88-3	0.1	0.005	mg/l	5
01593	Ethylbenzene	100-41-4	0.4	0.005	mg/l	5
01723	Total xylenes	1330-20-7	1.3	0.01	mg/l	5

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	01/19/2009 12:33	Diane V Do	5
07879	EDB in Wastewater	SW-846 8011	1	02/05/2009 11:23	Tricia M Gusbar	1
01440	TPH-GRO AK water C6-C10	AK 101	1	01/24/2009 00:33	Carrie E Youtzy	5
01588	BTEX	SW-846 8021B	1	01/24/2009 00:33	Carrie E Youtzy	5
01146	GC VOA Water Prep	SW-846 5030B	2	01/24/2009 00:33	Carrie E Youtzy	5



Analysis Report

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Lancaster Laboratories Sample No. **WW5577632**

Group No. **1128258**

PW-1-W-090113 Grab Water Sample

Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009 15:50 by AW

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GEIPW SDG#: ASK75-07

02135	Extraction - DRO Water	AK 102/AK 103 04/08/02	1	01/16/2009 18:07	Kelli M Barto	1
	Special					
07786	EDB Extraction	SW-846 8011	1	01/16/2009 16:15	Kelli M Barto	1



Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. **WW5577633**

Group No. **1128258**

Trip Blank Water Sample

Facility# **211081**

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009

Account Number: 11964

Submitted: 01/15/2009 09:20

Chevron

Reported: 02/09/2009 at 15:08

6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009

San Ramon CA 94583

GEITB SDG#: ASK75-08TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received	Units	Dilution Factor
				Method		
				Detection Limit		
01440	TPH-GRO AK water C6-C10					
01442	TPH-GRO AK water C6-C10	n.a.	N.D.	0.01	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.001	mg/l	1
01592	Toluene	108-88-3	N.D.	0.001	mg/l	1
01593	Ethylbenzene	100-41-4	N.D.	0.001	mg/l	1
01723	Total xylenes	1330-20-7	N.D.	0.002	mg/l	1

State of Alaska Lab Certification No. UST-061

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
01440	TPH-GRO AK water C6-C10	AK 101	1	01/23/2009 13:50	Carrie E Youtzy	1
01588	BTEX	SW-846 8021B	1	01/23/2009 13:50	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	01/23/2009 13:50	Carrie E Youtzy	1

Quality Control Summary

 Client Name: Chevron
 Reported: 02/09/09 at 03:08 PM

Group Number: 1128258

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

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 090160001A Ethylene dibromide	N.D.	0.00001 0	mg/l	71	67	60-140	6	20
Batch number: 090160003A C10-<C25 DRO C25-C36 RRO	N.D.	0.050 0.050	mg/l	107 117	103 117	75-125 60-120	4 0	20 20
Batch number: 09023A53A TPH-GRO AK water C6-C10 Benzene Toluene Ethylbenzene Total xylenes	N.D.	0.01 0.001 0.001 0.001 0.002	mg/l	95 109 112 112 114	91 102 105 107 109	60-120 86-119 82-119 81-119 82-120	5 7 6 5 4	20 30 30 30 30

Sample Matrix Quality Control

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 090160001A Ethylene dibromide	70		65-135			UNSPK: 5577628 N.D.	BKG: 5577629 N.D.	0 (1)	30
Batch number: 09023A53A TPH-GRO AK water C6-C10 Benzene Toluene Ethylbenzene Total xylenes	128* 86 112 47 (2) 76 (2)		60-120 78-131 78-129 75-133 84-131			UNSPK: 5577628, 5577629			

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: EDB in Wastewater
 Batch number: 090160001A
 1,1,2,2-
 Tetrachloroethane

*- Outside of specification

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

Quality Control Summary

Client Name: Chevron
Reported: 02/09/09 at 03:08 PM

Group Number: 1128258

Surrogate Quality Control

5577628	103
5577629	104
5577630	94
5577631	106
5577632	96
Blank	122
DUP	97
LCS	99
LCSD	95
MS	96

Limits: 46-136

Analysis Name: TPH-DRO/RRO (AK) water

Batch number: 090160003A

Orthoterphenyl

n-Triacontane-d62

5577628	94	87
5577629	70	77
5577630	108	107
5577631	88	85
5577632	93	97
Blank	100	104
LCS	97	88
LCSD	95	87

Limits: 50-150

50-150

Analysis Name: TPH-GRO AK water C6-C10

Batch number: 09023A53A

Trifluorotoluene-F

Trifluorotoluene-P

5577626	84	86
5577627	78	89
5577628	85	89
5577629	87	88
5577630	88	85
5577631	89	85
5577632	81	86
5577633	79	86
Blank	78	85
LCS	94	85
LCSD	95	86
MS	91	88

Limits: 60-120

69-129

*- Outside of specification

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

Chevron Generic Analysis Request/Chain of Custody

011387



For Lancaster Laboratories use only
 Acct. #: 119104 Sample #: 5577626-33

SCR#: _____

Group # 1128258

Facility #: 211081
 Site Address: 4103 Geist Rd, Fairbanks
 Chevron PM: Greg Barton Lead Consultant: Arcadis
 Consultant/Office: OASES / Fairbanks
 Consultant Prj. Mgr.: Greg Montgomery
 Consultant Phone #: 206-726-4742 Fax #: 206-325-8218
 Sampler: Andrew Weller 907-590-7979
 Service Order #: NWRTB-0211081-1-0MA Non SAR:

Matrix		Analyses Requested												Preservative Codes										
		Preservation Codes												H = HCl	T = Thiosulfate									
Soil	Water	Oil	Air	Total Number of Containers	BTEX + MTBE	8021	8260	Naphth	8260 full scan	Oxygenates	TPH G	TPH D	Extended Rng. Silica Gel Cleanup	Lead Total	Diss.	Methrod	VPI/EPH	NWTPH HClID	quantification	60 (AK101)/BTEX (8021B)	H	T	60 (AK102)/RO (AK103)	

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil	Air	Total Number of Containers
MW-304D-W-090113	1/13/09	1100	X		X				3
G-4-W-090113	"	1200	X		X				3
G-7-W-090113	"	1300	X		X				7
G-8-W-090113	"	1400	X		X				7
G-5-W-090113	"	1500	X		X				7
BD-1-W-090113	"	0600	X		X				7
PW-1-W-090113	"	1550	X		X				7
Trip Blank	-	-			X				4

Preservative Codes
 H = HCl T = Thiosulfate
 N = HNO₃ B = NaOH
 S = H₂SO₄ O = Other

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

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

Comments / Remarks
 2 coolers

Turnaround Time Requested (TAT) (please circle)

STD. TAT	72 hour	48 hour
24 hour	4 day	5 day

Relinquished by: <u>Andrew Weller</u>	Date: <u>1/14/09</u>	Time: <u>0830</u>	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

Data Package Options (please circle if required)

QC Summary	Type I - Full
Type VI (Raw Data)	Disk / EDD
WIP (RWQCB)	Standard Format
Disk	Other: _____

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by Commercial Carrier:	UPS <u>FedEx</u> Other: _____		Received by: <u>Greg Barton</u>	Date: <u>1/15/09</u>	Time: <u>0920</u>
Temperature Upon Receipt: <u>14-3.8</u> C°			Custody Seals Intact? <input checked="" type="radio"/> Yes <input type="radio"/> No		

Lancaster Laboratories Explanation of Symbols and Abbreviations

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

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
C	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml
<	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

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

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Laboratory Data Review Checklist

Completed by:	Berl Eldridge		
Title:	Staff Scientist	Date:	Feb 10, 2009
CS Report Name:	Fourth Quarter 2008 Groundwater Monitoring Report	Report Date:	Feb 10, 2009
Consultant Firm:	ARCADIS U.S., Inc.		
Laboratory Name:	Analytica Group	Laboratory Report Number:	F0810374
ADEC File Number:	100.26.023	ADEC RecKey Number:	1989310002504

1. Laboratory

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

Yes No

Comments:

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

Yes No

Comments:

Samples transferred to AEL in Thornton, Colorado.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No

Comments:

b. Correct analyses requested?

Yes No

Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ}$ C)?

Yes No

Comments:

1 degree Celsius at Fairbanks, AK, 2.2 degrees Celsius at Thornton, CO.

b. Sample preservation acceptable - acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No

Comments:

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No

Comments:

Small air bubbles were noticed in the VOAs of nine samples.

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

Yes No

Comments:

See above.

e. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

4. Case Narrative

a. Present and understandable?

Yes No

Comments:

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

Yes No

Comments:

N/A

c. Were all corrective actions documented?

Yes No

Comments:

N/A

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

Comments:

N/A

5. Samples Results

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

Yes No

Comments:

b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

N/A

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

Yes No

Comments:

e. Data quality or usability affected? Explain.

Comments:

Data quality/usability is not affected.

6. QC Samples

a. Method Blank

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

Yes No

Comments:

ii. All method blank results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

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

Yes No

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

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

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No Comments:

Yes

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

Yes No Comments:

N/A

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

Yes No Comments:

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

Yes No Comments:

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

Comments:

N/A

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

Yes No Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

N/A

c. Surrogates - Organics Only

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

Yes No Comments:

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

Yes No

Comments:

The surrogate was recovered outside the acceptance limits method for the method blank.

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

Yes No

Comments:

No data flags were triggered by failed surrogate.

iv. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

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

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

Yes No

Comments:

ii. All results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

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

Yes No

Comments:

ii. Submitted blind to lab?

Yes No

Comments:

N/A

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes No

Comments:

N/A

iv. Data quality or usability affected? Explain.

Yes No

Comments:

N/A

f. Decontamination or Equipment Blank (if applicable)

Yes No Not Applicable

i. All results less than PQL?

Yes No

Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate?

Yes No

Comments:

N/A

Reset Form

Laboratory Data Review Checklist

Completed by:

Title: Date:

CS Report Name: Report Date:

Consultant Firm:

Laboratory Name: Laboratory Report Number:

ADEC File Number: ADEC RecKey Number:

1. Laboratory

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

Yes No

Comments:

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

Yes No

Comments:

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No

Comments:

b. Correct analyses requested?

Yes No

Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ}$ C)?

Yes No

Comments:

b. Sample preservation acceptable - acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No

Comments:

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No

Comments:

Two sample VOAs and one Trip Blank had air bubbles.

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

Yes No

Comments:

See above.

e. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

4. Case Narrative

a. Present and understandable?

Yes No

Comments:

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

Yes No

Comments:

Several targets were recovered outside the acceptance limits in the batch MS/MSD.

c. Were all corrective actions documented?

Yes No

Comments:

The spiked sample is not associated with this project.

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

Comments:

Data quality or usability does not appear to be affected.

5. Samples Results

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

Yes No

Comments:

b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

N/A

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

Yes No

Comments:

e. Data quality or usability affected? Explain.

Comments:

N/A

6. QC Samples

a. Method Blank

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

Yes No

Comments:

ii. All method blank results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

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

Yes No

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

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

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No Comments:

Yes

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

Yes No Comments:

N/A

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

Yes No Comments:

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

Yes No Comments:

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

Comments:

N/A

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

Yes No Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

N/A

c. Surrogates - Organics Only

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

Yes No Comments:

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

Yes No

Comments:

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

Yes No

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

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

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

Yes No

Comments:

ii. All results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

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

Yes No

Comments:

ii. Submitted blind to lab?

Yes No

Comments:

N/A

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes No

Comments:

N/A

iv. Data quality or usability affected? Explain.

Yes No

Comments:

N/A

f. Decontamination or Equipment Blank (if applicable)

Yes No Not Applicable

i. All results less than PQL?

Yes No

Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate?

Yes No

Comments:

N/A

Reset Form

Laboratory Data Review Checklist

Completed by:	Berl Eldridge		
Title:	Staff Scientist	Date:	Feb 10, 2009
CS Report Name:	Fourth Quarter 2008 Groundwater Monitoring Report	Report Date:	Feb 10, 2009
Consultant Firm:	ARCADIS U.S., Inc.		
Laboratory Name:	Analytica Group	Laboratory Report Number:	F0812326
ADEC File Number:	100.26.023	ADEC RecKey Number:	1989310002504

1. Laboratory

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

Yes No

Comments:

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

Yes No

Comments:

Samples transferred to AEL in Thornton, Colorado.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No

Comments:

b. Correct analyses requested?

Yes No

Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ}$ C)?

Yes No

Comments:

3 degrees Celsius at Fairbanks, AK, 2 degrees Celsius at Thornton, CO.

b. Sample preservation acceptable - acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No

Comments:

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No

Comments:

Three sample VOAs and one Trip Blank had air bubbles.

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

Yes No

Comments:

See above.

e. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

4. Case Narrative

a. Present and understandable?

Yes No

Comments:

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

Yes No

Comments:

Several targets were recovered outside the acceptance limits in the MS/MSD.

c. Were all corrective actions documented?

Yes No

Comments:

Targets were recovered normally in the LCS and LCS Duplicate, indicating a potential matrix effect.

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

Comments:

Data quality or usability does not appear to be affected.

5. Samples Results

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

Yes No

Comments:

b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

N/A

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

Yes No

Comments:

e. Data quality or usability affected? Explain.

Comments:

N/A

6. QC Samples

a. Method Blank

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

Yes No

Comments:

ii. All method blank results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

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

Yes No

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

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

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No Comments:

Yes

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

Yes No Comments:

N/A

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

Yes No Comments:

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

Yes No Comments:

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

Comments:

N/A

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

Yes No Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

N/A

c. Surrogates - Organics Only

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

Yes No Comments:

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

Yes No

Comments:

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

Yes No

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

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

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

Yes No

Comments:

ii. All results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

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

Yes No

Comments:

ii. Submitted blind to lab?

Yes No

Comments:

N/A

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes No

Comments:

N/A

iv. Data quality or usability affected? Explain.

Yes No

Comments:

N/A

f. Decontamination or Equipment Blank (if applicable)

Yes No Not Applicable

i. All results less than PQL?

Yes No

Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate?

Yes No

Comments:

N/A

Reset Form

Laboratory Data Review Checklist

Completed by:

Title: Date:

CS Report Name: Report Date:

Consultant Firm:

Laboratory Name: Laboratory Report Number:

ADEC File Number: ADEC RecKey Number:

1. Laboratory

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

Yes No

Comments:

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

Yes No

Comments:

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No

Comments:

b. Correct analyses requested?

Yes No

Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ}$ C)?

Yes No

Comments:

b. Sample preservation acceptable - acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No

Comments:

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No

Comments:

N/A

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

Yes No

Comments:

N/A

e. Data quality or usability affected? Explain.

Comments:

N/A

4. Case Narrative

a. Present and understandable?

Yes No

Comments:

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

Yes No

Comments:

N/A

c. Were all corrective actions documented?

Yes No

Comments:

N/A

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

Comments:

N/A

5. Samples Results

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

Yes No

Comments:

b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

N/A

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

Yes No

Comments:

e. Data quality or usability affected? Explain.

Comments:

N/A

6. QC Samples

a. Method Blank

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

Yes No

Comments:

ii. All method blank results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

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

Yes No

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

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

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No Comments:

Yes

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

Yes No Comments:

N/A

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

Yes No Comments:

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

Yes No Comments:

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

Comments:

N/A

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

Yes No Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

N/A

c. Surrogates - Organics Only

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

Yes No Comments:

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

Yes No

Comments:

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

Yes No

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

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

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

Yes No

Comments:

Trip blank vials were not received by the laboratory for this sample group.

ii. All results less than PQL?

Yes No

Comments:

N/A

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

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

Yes No

Comments:

ii. Submitted blind to lab?

Yes No

Comments:

N/A

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes No

Comments:

N/A

iv. Data quality or usability affected? Explain.

Yes No

Comments:

N/A

f. Decontamination or Equipment Blank (if applicable)

Yes No Not Applicable

i. All results less than PQL?

Yes No

Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate?

Yes No

Comments:

N/A

Reset Form

Laboratory Data Review Checklist

Completed by:	Berl Eldridge		
Title:	Staff Scientist	Date:	Feb 10, 2009
CS Report Name:	Fourth Quarter 2008 Groundwater Monitoring Report	Report Date:	Feb 10, 2009
Consultant Firm:	ARCADIS U.S., Inc.		
Laboratory Name:	Lancaster Laboratories	Laboratory Report Number:	1125157
ADEC File Number:	100.26.023	ADEC RecKey Number:	1989310002504

1. Laboratory

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

Yes No

Comments:

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

Yes No

Comments:

N/A

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No

Comments:

b. Correct analyses requested?

Yes No

Comments:

AK methods requested by ARCADIS.

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ}$ C)?

Yes No

Comments:

1.2 degrees Celsius.

b. Sample preservation acceptable - acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No

Comments:

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No

Comments:

N/A

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

Yes No

Comments:

N/A

e. Data quality or usability affected? Explain.

Comments:

Data quality or usability does not appear to be affected.

4. Case Narrative

a. Present and understandable?

Yes No

Comments:

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

Yes No

Comments:

N/A

c. Were all corrective actions documented?

Yes No

Comments:

N/A

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

Comments:

N/A

5. Samples Results

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

Yes No

Comments:

b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

N/A

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

Yes No

Comments:

e. Data quality or usability affected? Explain.

Comments:

N/A

6. QC Samples

a. Method Blank

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

Yes No

Comments:

ii. All method blank results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

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

Yes No

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

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

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No Comments:

Yes

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

Yes No Comments:

N/A

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

Yes No Comments:

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

Yes No Comments:

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

Comments:

N/A

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

Yes No Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

N/A

c. Surrogates - Organics Only

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

Yes No Comments:

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

Yes No

Comments:

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

Yes No

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

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

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

Yes No

Comments:

ii. All results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

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

Yes No

Comments:

ii. Submitted blind to lab?

Yes No

Comments:

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

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

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No Comments:

iv. Data quality or usability affected? Explain.
 Yes No Comments:

f. Decontamination or Equipment Blank (if applicable)

Yes No Not Applicable

i. All results less than PQL?
 Yes No Comments:

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

iii. Data quality or usability affected? Explain.
Comments:

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

a. Defined and appropriate?
 Yes No Comments:

Reset Form

Laboratory Data Review Checklist

Completed by:	Berl Eldridge		
Title:	Staff Scientist	Date:	Feb 10, 2009
CS Report Name:	Fourth Quarter 2008 Groundwater Monitoring Report	Report Date:	Feb 10, 2009
Consultant Firm:	ARCADIS U.S., Inc.		
Laboratory Name:	Lancaster Laboratories	Laboratory Report Number:	1128258
ADEC File Number:	100.26.023	ADEC RecKey Number:	1989310002504

1. Laboratory

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

Yes No

Comments:

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

Yes No

Comments:

N/A

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No

Comments:

b. Correct analyses requested?

Yes No

Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ}$ C)?

Yes No

Comments:

1.4-3.8 degrees Celsius

b. Sample preservation acceptable - acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No

Comments:

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No

Comments:

N/A

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

Yes No

Comments:

N/A

e. Data quality or usability affected? Explain.

Comments:

N/A

4. Case Narrative

a. Present and understandable?

Yes No

Comments:

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

Yes No

Comments:

c. Were all corrective actions documented?

Yes No

Comments:

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

Comments:

Due to the presence of an interferent near its retention time, the normal reporting limit was not attained for benzene for G-5 and BD-1. The presence or concentration of this compound cannot be determined due to the presence of this interferent.

5. Samples Results

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

Yes No

Comments:

b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

N/A

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

Yes No

Comments:

e. Data quality or usability affected? Explain.

Comments:

Concentrations detected above raised PQL for G-5, G-7 and G-8 for DRO and RRO.

6. QC Samples

a. Method Blank

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

Yes No

Comments:

ii. All method blank results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

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

Yes No

Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

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

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No

Comments:

Yes

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

Yes No

Comments:

N/A

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

Yes No

Comments:

MS % REC exceeded MS/MSD limit for GRO.

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/DMSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No

Comments:

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

Comments:

N/A

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

Yes No

Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

N/A

c. Surrogates - Organics Only

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

Yes No

Comments:

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

Yes No

Comments:

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

Yes No

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

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

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

Yes No

Comments:

ii. All results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

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

Yes No

Comments:

ii. Submitted blind to lab?

Yes No

Comments:

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes No

Comments:

iv. Data quality or usability affected? Explain.

Yes No

Comments:

N/A

f. Decontamination or Equipment Blank (if applicable)

Yes No Not Applicable

i. All results less than PQL?

Yes No

Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate?

Yes No

Comments:

N/A

Reset Form