

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 (inH $_2$ O) 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 μ g/L. An estimated 2.5 pounds of dissolved-phase petroleum was removed from the subsurface. A site map in 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.

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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

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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 [µq/L]), ranging from 5,100 µg/L in the sample collected from monitoring well G-8 to 27,000 µg/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 µg/L), ranging from 2,700 μg/L in the sample collected from monitoring well G-8 to 3,500 μg/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 µg/L), ranging from <100 µg/L in the sample collected from monitoring well G-5 to 500 µg/L in the sample collected from monitoring well G-8. GRO concentrations in these groundwater samples ranged from 5,100 µg/L in the sample collected from monitoring well G-8 to 27,000 µg/L in the sample collected from monitoring well G-5 (duplicate). DRO concentrations in these groundwater samples ranged from 2,700 µg/L in the sample collected from monitoring well G-8 to 3,500 µg/L in the sample collected from monitoring well G-5. Benzene concentrations ranged from 20 µg/L in the sample collected from monitoring well MW-304D to 500 µg/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 µg/L. In addition, the toluene concentration in the sample collected from monitoring well G-4 exceeded the GCL (1,000 µg/L) at a concentration of 3,500 µg/L. Groundwater samples collected from monitoring wells G-4, G-5 and G-7 contained ethylbenzene concentrations exceeding the GCL (700 µg/L) at concentrations ranging from 1,000 μg/L in the sample collected from monitoring well G-7 to 1,500 μg/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 µg/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.

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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 $50 \mu g/L$.

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 dichlorbenzenes 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

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- 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.

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Ms. Tamara Cardona-Marek March 26, 2009

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

Sincerely,

ARCADIS

Perl 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 Table 2 Table 3 Table 4	Groundwater Monitoring Schedule Groundwater Elevation and Analytical Data UAF Water Treatment System Analytical Data Proposed Semi-annual Monitoring Schedule
Figure 1 Figure 2 Figure 3 Figure 4	Site Location Map Site Map Groundwater Elevation Map January 13, 2009 Groundwater Analytical Summary Map
Appendix A Appendix B	Groundwater Sampling Field Data Sheets Laboratory Data Reports & ADEC Data Review Checklists

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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	Х			
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 - Syndolous Evangelical Lutheran Church munipical well.

(--) = sampling not scheduled.

TABLE 2 **Groundwater Elevation and Analytical Data**

		Well	Depth to	Groundwater						Ethyl-	Total
Well ID	Sample Date	Elevation	Groundwater	Elevation	GRO	DRO	RRO	Benzene	Toluene	benzene	Xylenes
		(feet-amsl)	(feet btoc)	(feet-amsl)							-
- 1-	22/22/22	100.00		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	430.69 430.69	12.07	418.62 	3,690 2,780			113 101	<5.21 <5.36	254 220	333 293
	06/27/00 ^D 09/26/00	430.69	11.09	419.60	2,780			46.5	6.52	181	293
	09/26/00 ^D	430.69		419.00	2,010			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 12/17/02	430.69 430.69	 12.87	417.82	91.2 858			15.0 75.6	<0.500 <0.500	4.65 56.2	<1.00 6.11
	12/17/02 12/17/02 ^D	430.69		417.02	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	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	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 12/02/04	430.69	13.32	417.37	69 740	460	120	13	<0.5	1.9	<1.5
	04/06/05	430.69 430.69	14.49 14.61	416.20 416.08		160 400	120 180	43 87	<0.5	48	2.5
	04/06/05 ^D	430.69	14.01	416.08	1,700 1,700	380	200	80	0.9 0.9	150 140	9.0 8.3
	04/6/05 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

Groundwater Elevation and Analytical Data

		Well	Depth to	Groundwater				_		Ethyl-	Total
Well ID	Sample Date	Elevation (feet-amsl)	Groundwater (feet btoc)	Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	benzene	Xylenes
			ADEC	GCL:	2,200	1,500	1,100	5.0	1,000	700	10,000
G-2	03/28/00	430.11				,	Well Inacce	essible Benea			_
	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						essible Benea			
	03/24/04	430.11						essible Benea			
	04/06/05	430.11			.40			n pond, low s	i :	Ŭ	۱ .، -
	06/27/05	430.11	10.47	419.64	<10	210	490	<0.5	<0.5	<0.5	<1.5
	09/22/05 03/30/06	430.11 430.11	11.62 14.73	418.49 415.38	<10			<0.5	<0.5	<0.5	<1.5
	03/30/00	430.11	14.73	413.30	Well paved	over	I -	<0.5	VO. 3	V 0.5	<1.5
G-4	03/28/00	431.62			rrom parou	0.0.		Well Froze	n		
	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 Froze	n	ļ	
	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				Ī	ĺ	Well Froze	1		
	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 Froze			
	03/24/04 06/21/04	431.62 431.62			9,400		l	Well Froze	1	150	1 700
	09/29/04	431.62	Casing 14.04	Damaged No Survey	290			<0.5	1,300 0.5	150 1.5	1,700 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	1100	12	450	55	620
	12/07/05			′	,		Vell inacce	ssible - Well o	ap frozen sl	nut	Į.
	03/30/06						Well ina	accessible - V	Vell 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					V	Vell inacce	ssible - Well o	cap frozen sl	nut	
	03/31/07					١	Well not sa	mpled - unab		ii	•
	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		 nets '	1,060	11,400	2,500	9,180
	06/27/08 09/09/08	99.66	 12.50	 97.07	E 400	vvel	ı not sampl	ed due to ice		U	000
	12/12/08	99.66 99.66	12.59 15.14	87.07 84.52	5,400	 Wall not	 Loomplad	200 due to sub-fi	200	300	900
	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

Groundwater Elevation and Analytical Data

		Well	Depth to	Groundwater				_		Ethyl-	Total
Well ID	Sample Date	Elevation (feet-amsl)	Groundwater (feet btoc)	Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	benzene	Xylenes
				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 12/22/03	430.19 430.19	9.30 12.18	420.89 418.01	19,000 100,000			28 <100	760 7,000	360	4,000 22,000
	03/24/04	430.19	14.01	416.18	94,000			<100	5,800	3,500 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 06/08/06	430.19 430.19	14.75 12.50	415.44 417.69	50,000	6,700 3,900	<800 	50 77	2,200	1,800	9,900 14,000
	09/26/06	98.39	12.45	85.94	53,000 83,000	7,300		72	2,600 3,400	2,100 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 ^{2,D}	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 08/07/08	98.39 98.39	12.58 9.94	85.81 88.45	44,000	12,000		<50	900	1,600	11,000 7,800
	8/7/2008 ^D	90.39	9.94		26,000 27,000	2,800 3,100		<40 <50	400 500	1,200 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	20,000			due to sub-fi			0,000
	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		l	<0.5	<0.5	<0.5	<1.0
	03/27/02	430.40 98.43				Rem	oved from :	sampling pro	gram in Jun	e 2001 I	1
G-7	09/26/06 03/28/00	431.54	16.27	415.27	30,500			418	<50.0	1,170	5,480
J 0,	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	1980
	06/25/02 09/28/02	431.54 431.54	12.78 12.46	418.76 419.08	4,600 1,870			20.7 11.1	<5.00 <1.00	806 161	778 269
	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 06/27/05	431.54 431.54	15.55 11.96	415.99 419.58	16,000 17,000	6,500 4,100	1700 910	130 67	9.7 6.3	1,500 1,700	1,700 1,800
	09/22/05	431.54	13.05	419.58	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

Groundwater Elevation and Analytical Data

		Well	Depth to	Groundwater							
Well ID	Sample Date	Elevation (feet-amsl)	Groundwater (feet btoc)	Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes
		(1001 0.1101)		GCL:	2,200	1,500	1,100	5.0	1,000	700	10,000
G-7 (cont)	09/15/07	98.43	13.15	85.28	2,700	2,300	,	<10*	100	100	900
	03/26/08	98.43	15.74	82.69	8,380 7	7,670 ⁵	1,020 4	336	<25	935	1,000
	03/26/08 ^D	98.43			8,520 7	7,630 ⁵	1,050 4	342	2.98	896	969
	06/06/08	98.43	14.55	83.88	9,000	1,400	620	300	6	1,100	1,000
	06/06/08 ^D 07/08/08	98.43 98.43	 14.00	84.43	9,300 10,000	2,900 2,700	1,300 	300 400	6 600	1,100 600	1,000 1,900
	08/07/08	98.43	11.41	87.02	6,900	1,900		300	90	700	1,200
	09/09/08	98.43	12.66	85.77	<10	630	380	<1	<1	<1	<2
	12/12/08	98.43	15.19	83.24		1,500	<500				
	12/12/2008 ^D	98.43				1,500	<470				
	01/13/09	98.43	15.33	83.10	7,600	3,200	670	400	<5	1,000	1,400
G-8	09/26/06	99.12	13.21	85.91	21,000			72	70	720	4,000
	12/20/06	99.12	14.67	84.45	5,000	3,200		50	4.6	180	520
	03/31/07	99.12	15.56	83.56	12,000	2,400	<210	100	30	500	1,900
	06/10/07	99.12	14.01	85.11	19,000	1,900	54	2,100	60	1,200	2,000
	09/15/07	99.12	12.76	86.36	3,100	2,300		300	<10	200	500
	01/30/08 ²	99.12	14.59	84.53		2,600		400	40	600	1,300
	03/26/08	99.12	15.18	83.94	13,800 ′	4,550 ⁵	899	630	233	719	2,100
	06/06/08	99.12	14.00	85.12	5,800	3,600	1,600	300	10	300	<2.0
	07/08/08	99.12	13.43	85.69	5,500	1,500		300	90	200	800
	08/07/08	99.12	10.83	88.29	3,500	620		90 600	30	200	700
	09/09/08 12/12/08	99.12 99.12	12.11 14.62	87.01 84.50	11,000	1,800 Well not	<260	due to sub-fi	400	400	1,600
	01/13/09	99.12	14.78	84.34	5,100	2,700	1,100	500	40	500	800
G-9	09/26/06	98.78	12.87	85.91	<10			<0.5	<0.5	<0.5	<1.5
	12/20/06	98.78	14.33	84.45	<10			<1.0	<1.0	<1.0	<2.0
	03/31/07	98.78	15.24	83.54	<10			<1.0	<1.0	<1.0	<2.0
	03/31/07 ^D				<10			<1.0	<1.0	<1.0	<2.0
	06/10/07	98.78	13.63	85.15	<10			2	<1.0	<1.0	<2.0
	09/15/07	98.78	12.20	86.58	<10			<1.0	<1.0	<1.0	<2.0
	03/26/08	98.78	14.81	83.97	<50	223 ⁶	<743	9.38	<0.5	<0.5	<1.0
	09/09/08	98.78	11.73	87.05	<10	200		<1	<1	<1	<2
MW-211	03/29/00	430.48	14.97	415.51	<50			0.528	<0.5	<0.5	<1.0
	06/28/00 09/26/00	430.48 430.48	11.74 10.76	418.74 419.72	<50 <50			5.33 5.69	<0.5 <0.5	<0.5 <0.5	<1.0 <1.0
	12/19/00	430.48	13.10	417.38	<50			0.874	<0.5	<0.5	<1.0
	03/30/01	430.48	14.12	416.36	<50			0.398	<0.5	<0.5	<1.0
	06/27/01	430.48	12.62	417.86	<50			0.203	<0.5	<0.5	<1.0
	09/19/01	430.48	11.43	419.05	<50			0.713	<0.5	<0.5	<1.0
	03/27/02	430.48	14.19	416.29	<50			0.365	<0.500	<0.500	<1.00
	09/28/02	430.48	11.00	419.48	<80.0			0.866	<0.500	<0.500	<1.00
	04/07/03	430.48	12.19	418.29	<10			<0.5	<0.5	<0.5	<1.5
	09/16/03	430.48	9.30	421.18	<10			<0.5	<0.5	<0.5	<1.5
	03/23/04	430.48	13.95	416.53	<10			<0.5	<0.5	<0.5	<1.5
	09/29/04	430.48	12.66	417.82	<10			<0.5	<0.5	<0.5	<1.5
	04/06/05	430.48	14.23	416.25	<10	<19	32	<0.5	<0.5	<0.5	<1.5
	09/22/05 03/29/06	430.48 430.48	12.08 16.02	418.40 414.46	<10 <10	<21 	27	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<1.5 <1.5
	03/29/00	430.48	15.99	414.49	<10			<1.0	<1.0	<1.0	<2.0
MW-301D	03/29/00	432.81	17.63	415.18	<50			1.71	<0.5	<0.5	<1.0
	06/28/00	432.81	14.46	418.35	<50			1.65	<0.5	<0.5	<1.0
	09/27/00	432.81	13.43	419.38	<50			1.13	<0.5	<0.5	<1.0
	12/20/00	432.81	15.78	417.03	<50			1.51	<0.5	<0.5	<1.0
	03/30/01	432.81	16.79	416.02	<50			1.40	<0.5	<0.5	<1.0
	06/28/01	432.81	15.34	417.47	<50			1.51	<0.5	<0.5	<1.0
	09/19/01	432.81	14.17	418.64	<50			1.58	<0.5	<0.5	<1.0
	03/27/02	432.81	16.89	415.92	<50			2.38	<0.500	<0.500	<1.00
	09/28/02	432.81	13.74	419.07	<80.0			2.22	<0.500	<0.500	<1.00
	04/07/03	432.81	14.89	417.92	31			7.1	<0.5	<0.5	<1.5
	09/16/03	432.81	12.07	420.74 416.15	18			4.3	<0.5	<0.5	<1.5
	03/23/04 09/29/04	432.81 432.81	16.66 15.40	416.15 417.41	31 35			11 6.5	<0.5 <0.5	<0.5 <0.5	<1.5 <1.5
	09/29/04 04/06/05	432.81	15.40 16.91	417.41	35 23	33	23	6.5 7.4	<0.5 <0.5	<0.5 <0.5	<1.5 <1.5
	04/06/05	432.81	13.47	419.34	12	37	67	2.9	<0.5 <0.5	<0.5	<1.5
	09/22/05	433.81	14.40	418.41	14	<20	22	2.9	<0.5	<0.5	<1.5
							·		1 .0.0		
	12/06/05	433.81	16.10	416.71	13 ³			2.9	< 0.5	< 0.5	<1.5
		433.81 433.81	16.10 17.69	416.71 415.12	13 ³ 19			2.9 3.3	<0.5 <0.5	<0.5 <0.5	<1.5 <1.5

Groundwater Elevation and Analytical Data

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes
		1 (1000		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
MW 2046	09/09/08	100.97	14.09	86.88	<10			<1	<1	<1	<2
MW-301S	03/29/00 3/29/00 ^D	432.44 432.44	17.26 	415.18 	4,960 4,570			2,120 2,070	<0.5 <0.5	266 230	<20.0 11.4
	3/29/00 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 03/29/06	433.44 433.44	15.75 17.27	416.69	<10 10			1.6	<0.5	<0.5	<1.5
	03/29/06	433.44	15.05	415.17 417.39	<10			<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<1.5 <1.5
	09/26/06	100.60	14.73	85.87	<10			<0.5	<0.5	<0.5	<1.5 <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	 51	120	44	<0.5	<0.5	<1.5
	04/06/05 06/27/05	435.32 435.32	19.58	415.74	29 17	51 35	120	11	<0.5	<0.5	<1.5 <1.5
	09/22/05	435.32 435.32	16.20 17.01	419.12 418.31	17 68	35 <21	63 <21	6.1 24	<0.5 <0.5	<0.5	<1.5 <1.5
	12/06/05	435.32	18.74	416.58	56	<21 	<21 	17	<0.5 <0.5	<0.5 <0.5	<1.5 <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

Groundwater Elevation and Analytical Data

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes
			ADEC	C 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 09/16/03	434.91 434.91	17.66 14.32	417.25 420.59	<10 33			<0.5 4.7	<0.5 <0.5	<0.5 <0.5	<1.5 <1.5
	12/22/03	434.91	17.16	420.59	<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	<0.5	<1.5 <1.5
	06/21/04	434.91	16.63	418.28	32			<0.5 5.9	<0.5 <0.5	<0.5 <0.5	<1.5 <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				i	i	Well Dry	ì	i	i
	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	14.00		 -10				 -1.0	 -1.0	 -2 0
W/W-304D	03/31/07	98.24	14.88	83.36	<10			<1.0	<1.0	<1.0	<2.0
MW-304D	03/28/00 06/28/00	434.86 434.86	20.15 17.19	414.71 417.67	252 303			131 130	<0.5 <2.5	<0.5 <2.5	<1.0 <5.0
	09/27/00	434.86	16.04	417.67	116			75.3	<2.5 <0.5	0.603	<5.0 1.31
	12/20/00	434.86	18.31	416.55	172			69.8	<0.5 <0.5	<0.5	<1.0
	03/30/01	434.86	19.35	415.51	172			51.1	<0.5 <0.5	<0.5 <0.5	<1.0 <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

Groundwater Elevation and Analytical Data

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes
			ADEC	GCL:	2,200	1,500	1,100	5.0	1,000	700	10,000
MW-304D	09/16/03	434.86	14.69	420.17	130			52	<0.5	<0.5	<1.5
(cont)	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-f			
	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	102.69									
	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			<0.200	<0.5	<0.5	<1.5
	03/24/04	431.81	15.04	416.77	<10			<0.5	<0.5	<0.5	<1.5
	03/24/04	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	< 4 0		<0.5	<0.5	<0.5	<1.5
	09/26/06	99.50									
	03/20/00	99.50	15.82	83.68	<10			 <1.0	 <1.0	 <1.0	<2.0
MW-306	03/31/07	Unknown	10.36		<10			<0.5	<0.5	<0.5	<1.5
11111-200	09/26/06	97.93						<0.5 	<0.5 	<0.5 	<1.5
	03/31/07	97.93 97.93	14.21	 83.72	<10			<1.0	<1.0	<1.0	<2.0
MW-307	03/31/07	Unknown						<0.5	<0.5		
1VI VV-3U/			13.90		<10					<0.5	<1.5
	09/26/06	101.09					Wall not a	 sampled - una	hlo to locate		
MANAY OOOOO	03/31/07	420.04					vveii not s			7	
MW-309S	03/28/00	436.91			.50	i	ı	Well Dry	1		.4.0
	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			Ì	vveli Rer	novea Fror	n Monitoring	rogram in .	June 2001	

Groundwater Elevation and Analytical Data

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes
		(cost amony		GCL:	2,200	1,500	1,100	5.0	1,000	700	10,000
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 12/17/02				<80.0 <50.0			5.14 3.85	<0.500 <0.500	<0.500 <0.500	<1.00 <1.00
	04/07/03				21			6.3	<0.500	<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					1		to line repair		1	1
	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 <10			<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<2.0 <2.0
	03/28/07 ^D 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				<100			<1.0	<1.0	<1.0	<2.0
	06/08/07 ^D				<10			<1.0	<1.0	<1.0	<2.0
	06/08/07							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

Groundwater Elevation and Analytical Data

Well ID	Sample Date	Well Elevation (feet-amsl)	Depth to Groundwater (feet btoc)	Groundwater Elevation (feet-amsl)	GRO	DRO	RRO	Benzene	Toluene	Ethyl- benzene	Total Xylenes
		(icci aiiisi)		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	l		1.2	<0.5	<0.5	<1.5
	04/06/05							ampling locat		1	
	06/27/05				34	31	79	12 alyzed for ED	<0.5	<0.5	<1.5
	06/27/05 ^D 09/21/05				17	J -24			<0.5	-0 E	1 -1 5
	03/29/06				48	<21 	<21 	5.2 15	<0.5 <0.5	<0.5 <0.5	<1.5 <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				<100			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
051.0	12/22/08				<100			1.5	<1.0	<1.0	<2.0
SELC	01/30/08 02/14/08					36		<1.0	<1.0	<1.0	<2.0
	04/08/08				<100	<100		<1.0	<1.0	<1.0	<2.0
	04/08/08					<23 <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

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	Ethyl- benzene	Total Xylenes
			ADEC	GCL:	2,200	1,500	1,100	5.0	1,000	700	10,000
Trip Blank	06/27/05				<10			<0.5	< 0.5	<0.5	<1.5
(cont)	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 mixtrue 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 = Syndoulous Evangelical Lutheran Church

-- = sample was not analyzed for this compound

TABLE 3 UAF Water Treatment System Analytical Data

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	10,0	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 4.17	<0.50 <0.50	< 0.50	< 0.50	<1.00 <1.00	<0.50 <0.50	<1.00 <1.00	<1.00 <1.00	<1.00 <1.00
	11/19/02 12/16/02	3.91	< 0.50	<0.50 <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
Influent	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 02/15/05	2.2 3.3	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<2.0 <2.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0
	02/15/05	3.3 4.6	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<2.0 <2.0	<1.0	<1.0 <1.0	<1.0	<1.0 <1.0
	03/06/03	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0
	04/19/03	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
	08/10/05	3.7	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	09/15/05	5.3	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	00/10/00	0.0	11.0	1110	11.0			11.10	10	11.10

TABLE 3 UAF Water Treatment System Analytical Data

		1		1	•	1		1		
Sample ID	Date Sampled	Benzene	Toluene	Ethylbenzene	Chlorobenzene	m,p-Xylene	o-Xylene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene
Influent	10/17/05	3.7	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
(cont.)	11/08/05	2.5	<1.0	<1.0	<1.0	3.		<1.0	<1.0	<1.0
	12/16/05	2.1	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	01/11/06	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	02/01/06	1.1	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	03/06/06	1.4	<1.0	<1.0 <1.0	<1.0 <1.0	<2 <2		<1.0	<1.0	<1.0 <1.0
	04/25/06 05/17/06	1.7 3.5	<1.0 <1.0	<1.0	<1.0	<2		<1.0 <1.0	<1.0 <1.0	1.1
	06/12/06	1.4	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	07/06/06	2.1	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	08/01/06	2.1	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	09/28/06	1.1	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	10/31/06	1.0	<1.0	<1.0	<1.0	<2		<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				
	01/31/07	2.0	<1.0	<1.0		<2				
	03/05/07	<1.0	<1.0	<1.0		<2				
	04/06/07	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	05/14/07	<1.0	<1.0	<1.0	<1.0	<2		2.8 ²	<1.0	<1.0
	06/08/07	1.1	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	07/13/07	1.3	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	08/21/07 09/14/07	1.4 1.1	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<2 <2		<1.0 <1.0	<1.0 <1.0	<1.0 <1.0
	10/12/07	1.6	1.1	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	11/20/07	<1.0	<1.0	<1.0	<1.0	<2		<1.0	1.0	<1.0
	12/11/07	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	01/29/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	02/14/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	03/25/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	05/27/08	1.3	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	06/27/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	07/15/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	08/05/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	09/26/08	1.7	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	10/28/08	1.3	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	11/19/08 12/22/08	<1.0 1.6	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<2 <2		<1.0 <1.0	<1.0 <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	 -0 F	 -0 F	 -0.5	 -0.5		 -0 F			
	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									
	02/23/03									

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	04/23/03									
(cont.)	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 08/19/04	<1.0 	<1.0 	<1.0 	<1.0 	<3 	.0	<1.0 	<1.0	<1.0
	12/16/05	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	01/11/06			<1.0 		<2	u I			
	06/12/06	<1.0	<1.0	<1.0	<1.0	<2	0	<1.0	<1.0	<1.0
	09/28/06	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	12/26/06	<1.0	<1.0	<1.0		<2				
	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
	05/14/07	<1.0	<1.0	<1.0	<1.0	<2		2.9^{2}	<1.0	<1.0
	06/08/07	<1.0	<1.0	<1.0	<1.0	<2		<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
	08/21/07	<1.0	<1.0	<1.0	<1.0	<2	.0	<1.0	<1.0	<1.0
	09/14/07	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	10/12/07	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	11/20/07	<1.0	<1.0	<1.0	<1.0	<2		<1.0	1.0	<1.0
	12/11/07	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	01/29/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	02/14/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	03/25/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	05/27/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	06/27/08	<1.0	<1.0	<1.0	<1.0	<2 <2		<1.0	<1.0	<1.0 <1.0
	07/15/08 08/05/08	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<2		<1.0 <1.0	<1.0 <1.0	<1.0 <1.0
	08/05/08	<1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<2		<1.0 <1.0	<1.0	<1.0 <1.0
	10/28/08	<1.0	<1.0 <1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	11/19/08	<1.0	<1.0	<1.0	<1.0	<2		<1.0	<1.0	<1.0
	12/22/08	<1.0	<1.0	<1.0	<1.0	<2		<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.

UAF = University Of Alaska Fairbanks

¹ - Sample analyzed after expiration of hold time.

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

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	Χ		X	
GW-2	Χ		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.

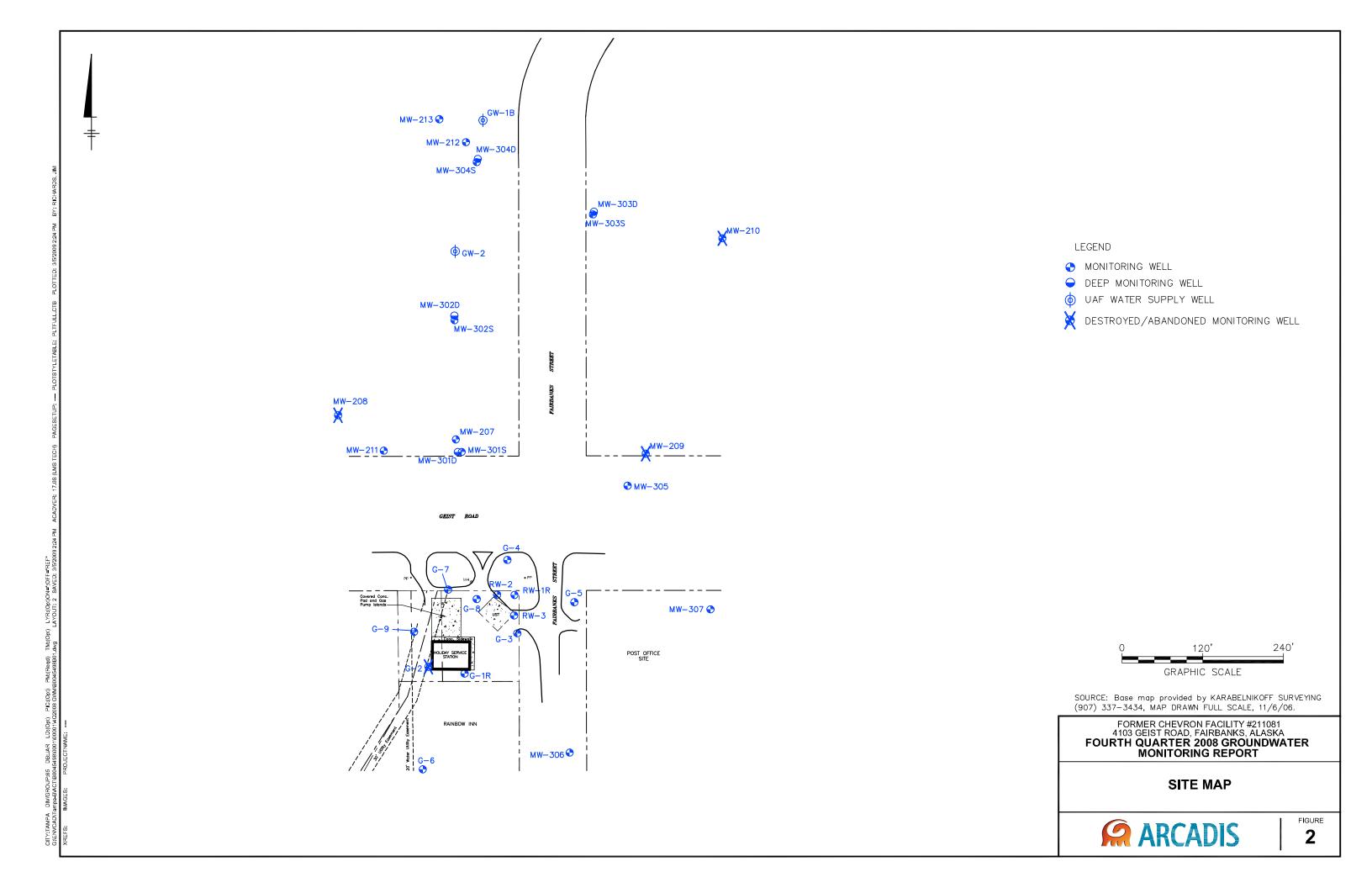
Annual sampling to be performed in March.

SELC - Syndolous Evangelical Lutheran Church munipical well.

(--) = sampling not scheduled.

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Figures



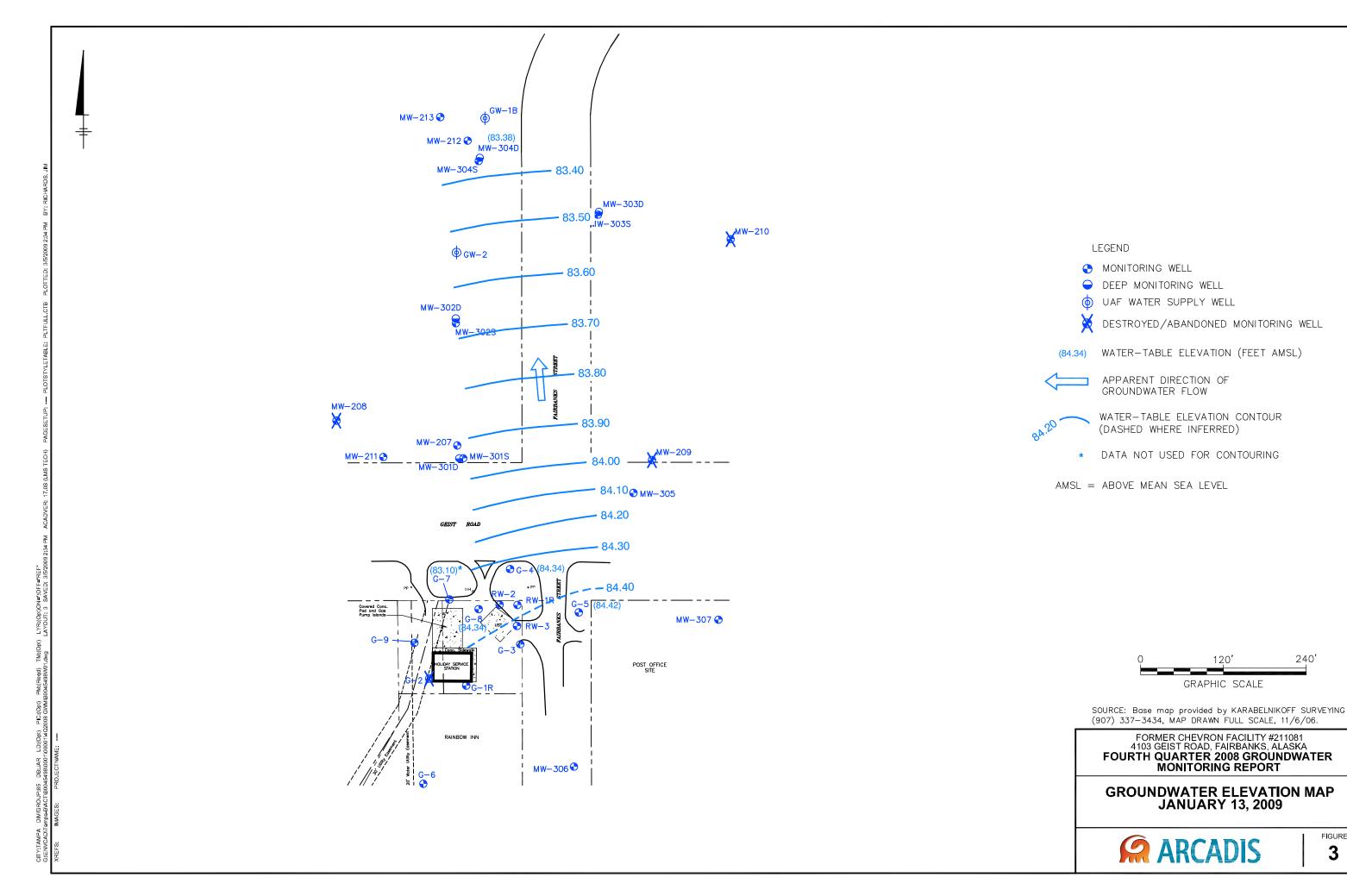
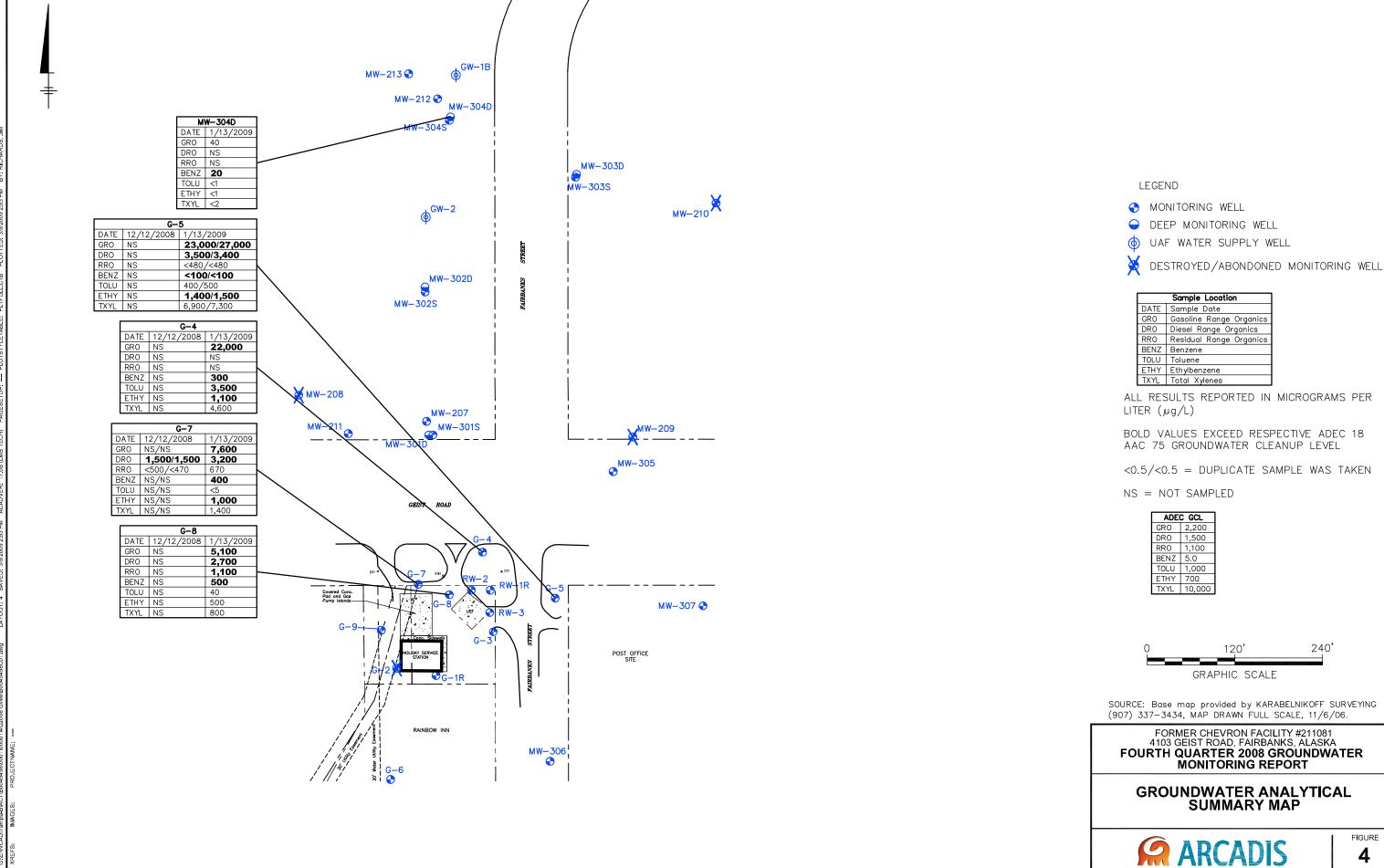


FIGURE 3



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Appendix A

Groundwater Sampling Field Data Sheets

	A	RCA	DIS	Groundwate	er Sam	pling Fo	rm ,					1)	
			4549		_	Well ID	MIS G	1-7			Date	Page 12	408	
	Project Name/	Location	Geis	St, Fair	ban	45,	AK '				Weather	Cold	, dou	des
	Measuring Pt. Description	T	00	Screen Setting (ft-bmp)			Casing Diameter (in.)	1 1		.	Well Mate	rial	PVC	0
	Static Water Level (ft-btoc)	15	,19	Total Depth (ft-bt	oc) 14.	81	Water Colum Gallons in We		162K	9,43	1.6			
	TOC Elevation	1		Pump Intake (ft-t			Purge Method	d: Baile Centrifuga	er '		Sample Method	Baile	1	
	Pump On/Off		10:00	Volumes Purgeo				Submersib Other	le					
	Sample Time:	Label Start End	1250	Replicate/ Code No.	DUT	= BD-				,	Sampled I	by MIS	>	
	Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pН	Cond. (µMhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp.	Redox (mV)	Appea	rance	- \
ws	1153	0	/		0.1	7.60	0.812	/	14.06	1 /	89,2	Lt, Br.	Slight	Petro
200	1200	7			1,6	6.96	0,945		5,23	2,33	-9.6	Br.	11	
		<		11111	0	1	1	1/2		170	7	5		
				1000		/	1 KV	10	/	X	> (
				0			0.							
	A	- 5	10)	pecl	60	ollec	Line	7 19	WC	M	ete	15		
		10	W	Cm	en	IA	mo	1871	rei					
	Constituents	Sampled			1	Container			2	Number		D		
WS	BETX	Sampled				Vol	+		•	Number 3	-	Preservat		
D. 1	DRO				-	YOP	ber		-	1	_	110	<u> </u>	
<	RRb				_	Am	foer			12	-	HC	<u> </u>	
pre	EDB				-	$-\sqrt{0}$	A		-	$\frac{3}{2}$	-	Na	Thios	uttat
					_						-			•
					_						-			
	Well Casing \ Gallons/Foot	/olumes 1" = 0.04 1.25" = 0.0		.5" = 0.09 " = 0.16	2.5" = 0.26 3" = 0.37		.5" = 0.50 " = 0.65	6" = 1.47						
	Well Informa	tion										MG		
	Well Loca		By	pump	5			-	Locked a	·	Yes		No	
	Condition of Well Comp		-	lush Mount /) Stick	Up		•	cked at De Number	_	yes N/A		GW Samp Form	
											under	rown	9/3/2008	

	111		GROUNDWA	TER SAMPLE	DATA SHI	EET			
Project Number:	510-000-13h	oseii 2	1891	Sample Location	(ie. MW-1)		MW	-3040	_
Project Name:	Glacier Bay	W Gei	+	Sample ID (ie. M	W-1-W-yyn	nmdd): MW	- 3040.	-W- 0901	13
Client:	PRIZM FW	Area	140 P	Date Sample Co				13/09	
Sampler:		ы		Time sampled:				00	-
ELECTRICATION OF THE PARTY OF T	Manufacture of the same	dest de data a	action a south term		Salatza de ra	DATE DE LA COMPONIONE		ORGANISANA.	- -
	Procedure of the Contract of t	and same	Casing	/ell Information	01110-0111	HOLE BONGO RECO		entranta anti-	Recognition
Groundwater:			Diameter (in):	2		a) Well Depth		60.05	
						b) Water Dept	4	19.6	
Other:			•			c) Water Colu		40.43	
						d) Calc. Purge	Vol. (gal):	6.5	_
		onkuotse	Calcul	ating Purge Vol	ume	Section Control			ALTO SOLO
Wat Casing Diameter	Multiply c) by:					Sand Pack Diameter	Multiply c) by:		
4	0.16					15	0.71	_	
	147					Note: assuming serv	1.28 peck has 29% por	onaty	
Example 1- purging only 2-inch casing and 6-loot w						Example 2- parging 2-inch casing, 8-inch			
One Purge Volume+ 0.16		er .						(6) = 5.22 galons water	M.
Company of the con-	e properties	exalte a	FIELD	MEASUREMEN	NTS	15/20/1807030	250		2014530656
1570	Volume	22.00	Conductivity	Temperature	1 100 00	6000000	T	my/L	
Time	(gallons)	pH	(mS)	(C)	Color	Turbidity	Redox	Dissolved O ₂	Other
10 39	6.5	6.97	0.766	1.12	clear	verylow	-32.3	4.52	-
1046	19.5	6.91	0.707	1,32	clear	very low	-48.6	3.33	
103 2	14.3	6.11	005	1,56	clear	very low	-54.3	2.64	
INCHES AND									
Total Volume Pur	ged (Gallons):		19.5	1	Free Produ	uct (y/n):	N		
Odor: he	re				Sheen (y/n):	N		01
Purge Method (di							121		
	min!	TAbres	n Subr	ersible ,	tubin	10 ~	5.5		
Sample Method (disposable balk						177.00		
		te	flon b	ailer					
Well Integrity (cor	ndition of casing	g, flush mo	unt sealing prop	erly, cement sea	I intact, etc.)			
soft		100	9	7 M22					
Remarks (well red		conditions	(observations):						
field			hoon pu	-p - decor	in i	utility s	ink la	ter	
Duplicate Samp Split Sample ID			A	√	Analyses	Requested:	GRO	/BTEX	
Signed:	- Chi	how	2 Web	~		Date:	1/13	109	
Signed/reviewer	r					Date:			
						Duit.			

Project Number: Project Name: Client; Sampler:	Ame: GleclerBay AU Geist Sample ID (ie. MW-1-W-yymmdd): G-9 PRIZM AU Arcadis Date Sample Collected: Weller, Bayette: AW Time sampled: Well Information Casing							G-4 G-4-W-090113 1/13/69 1200		
Groundwater: Other:			Casing Diameter (in):	2	118	a) Well Depth (b) Water Depth c) Water Colur d) Calc. Purge	n (ft): nn (ft):	18.58 15.32 3.26 0.5		
RESTRICTED IN	ALC: SPICE	645000	Calcul	ating Purge Vo	lume		Solidati		de a la l	
Weil Casing Diameter 2 4 6 6 Example 1- purging only 2-inch casing and 6-loot w One Purge Volumes 0.16	eter column					Sand Pack Diameter 8 13 12 Note: assuming sand Example 2-purging v 2-inch casing, 8-inch s One Purge Volume:	well casing and sa sand pack, and 6-fo	nd pack volume	,	
Westerson Diversi	Daume (Stock	annakarana.	CICI F	MEASUREME	NTC	es a seriou a le se	KURTO-FOLEN	10000000000000000000000000000000000000		
Time	Volume (gallons)	рН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other	
1150	1.6	6.46	0.884	2.46 2.34 2.31	If yellow If yellow	moderate moderate moderate	-1.2 -2.9 -11.3	4.81		
		0.10	0.103		11 yenus	21,465,415	111.5			
Total Volume Pur Odor: Sia Purge Method (di	h† hyd sposable baile	teflon bai	ler, submersible on ba ailer, submersible	iler	Free Produc Sheen (y/n)	1 (T) (T) (S)	-X	_		
Well Integrity (con		ng, flush mo	good	ba: ler erly, coment sea shape	intact, etc.)	ent female	threads d to b	are strip	e ped	
Remarks (well red		al conditions	s/observations):			14000110000		,,-	W04 -0- 0000+0 -000	
Duplicate Samp Split Sample ID:		_	AU		Analyses F	Requested:	GRO,	BTEX		
Signed: Signed/reviewer		Redrew	2 W	dh		Date:	1/13	109		
orginous reviewer						Date.				

		AW	GROUNDWA	TER SAMPL	E DATA SH	EET			
Project Number:	512 006 1 pt		11081	Sample Locat	on (ie. MW-1)):	6-	7	01
Project Name:	Glacier Bay	AN Ge	ist	Sample ID (ie.	MW-1-W-yyr	mmdd):	-7-W-C	090113	-
Client:	PRIZM AV	Ares		Date Sample	Collected:		1/1	3/09	73 90
Sampler:	Weller, Boye			Time sampled			130		•
		AND THE REAL PROPERTY.	v	ell Informatio			0450000000	NO BOLLETINGS	
			Casing	19.11	Lesson explorery s			- 7/	
Groundwater:			Diameter (in):	4		_a) Well Depth (17.7	
Other:						b) Water Depthc) Water Column	7.0.7	2.46	
Othor,			E 15			d) Calc. Purge		1.6	Will Company
castalegetto		MEDINES:	Calcul	ating Purge V	olume				
Well Casing Dismeter 2	Multiply o) by: 0.16					Sand Pack Diameter 5	Multiply c) by: 0.71	-	
- 1	1.47					10	128	7	
Example 1- purging only	well casing volume					Note: assuming sand Example 2- purging w			3
2-nch casing and 6-foot w One Purge Volume= 0.16	eater column					2-inch assing, 8-inch a	and pack, and 6-for		38
9.640.000	STORY WAR	y Property Co	FIELD	MEASUREM	ENTS	SISSINGUIS.	nie biereig	es an electric	100000000000000000000000000000000000000
	Volume		Conductivity	Temperature				1-1/L	T ST STORY SERVICES
Time	(gallons)	pH	(mS)	(C)	Color	Turbidity	Redox	Dissolved O ₂	Other
1237	3.2	6.88	1.010	2.44	tan	moderate	-25.0	3.89	
1245	4.8	6.82	1.045	2.46	tan	moderate	-27.8	3.80	
1636	1.0	6.83	1.054	2.76	tan	moderate	-39.5	3.40	-
Total Volume Pur	ged (Gallons):	- #=0 #######	4.8		Free Prode		N	-	
Odor: N. Purge Method (di	sposable baile	r teflon halle	ar euhmareibla	numn etc.)	Sheen (y/r	1):	N		
r dige wethod (di	apostable balle	r, renor ban	1 L1	1	Ĭ.				
Sample Method (dienosoblo bai	ar tellen ha	let lon	bai	icr_				
Sample Method (disposable bai	er, teriori od	teflon	bailer					0
Well Integrity (cor	ndition of casin	g, flush mou	int sealing prop) ,			
And the second of the second				shape	(Rober	o cover)			
Remarks (well red	covery, unusua	d conditions	observations):		-				
	low	wat	er co	umn , a	good .	recharge			100
Duplicate Samp			AW		Analyses	Requested:	GRO/B	TEX	
Split Sample ID:			77.00			50 S	DRO/	RRO /EI	0B
Signed:		Edrew	2	Weller		Date:	1/13	109	
Signed/reviewer	r:					Date:			7)

Project Number: Project Name: Client: Sampler:	S12-000-1 pm Glacier Bay A PRIZM- AW Weller, Boyst	Are	no81 notis	TER SAMPLE Sample Locatio Sample ID (ie. I Date Sample Co Time sampled:	n (ie. MW-1): VW-1-W-yym ollected:		1/13	6-8 8-W-090113 1/13/09 1400		
Groundwater: Other:	X		Casing Diameter (in):	2		a) Well Depth b) Water Dept c) Water Colu d) Calc. Purge	h (ft): mn (ft):	19.76 14.78 4.98 0.8		
			Calcul	ating Purge Vo	lume					
Well Casing Diameter 2 4 6 6 Example 1- purging only 2-inch casing and 6-foot # One Purge Volume= 0,16	eter column	ør.				Sand Pack Diameter 10 12 Note: assuming sand Example 2- parging 2-inch casing, 8-inch One Purge Volumes	well casing and sa sand pack, and 64s	nd pack volume		
PA 200 CO	Section.			MEASUREME	NTS					
Time	Volume (gallons)	рН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other	
1346	0.8	6.89	1.505	2.91	It orange	low	- 30.8	6.44		
1353	2.5	6.79	1.498	2.87	It orange	low	- 28.8	4.17		
Total Volume Pur Odor: A. Purge Method (dis	one		//	pump, etc.)	Free Produc Sheen (y/n)		-N	-		
Sample Method (d	disposable baile			e pump, etc.)						
Well Integrity (cor	ndition of casing			erly, cement sea	al intact, etc.)			157		
Remarks (well rec	covery, unusual	conditions	/observations):	-	200000000000000000000000000000000000000					
Duplicate Samp Split Sample ID:				AW	Analyses F	Requested:	ORO /	RRO / EI	ов	
Signed:		ach	V 2	Ugh		Date:	1/13	109		
Signed/reviewer	:					Date:		District Control of the Control of t		

Project Number; Project Name; Client; Sampler;	Glacier Bey PRIZM Weller, Boys	AN Ge	GROUNDWA 211081 eist eadis	Sample Location Sample ID (ie. M Date Sample Co Time sampled:	n (ie. MW-1) MW-1-W-yyπ):	G-5 G-5-W-090113 1/13/09 1500			
	A 5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			Well Information		OF PROPERTY				
Groundwater: Other:				_ 2		a) Well Depth (b) Water Depth c) Water Colun d) Calc. Purge	h (ft): nn (ft):	19.63 13.97 5.06 0.8		
		201523	Calcu	lating Purge Vol	lume		0.00		SAGGE	
Well Casing Diameter 2 4 6 6 Example 1- purging only 2-inch casing and 8-foot woone Purge Volume= 0.16	water solumn					Sand Pack Diameter 6 10 12 Note: assuming sand Example 2- purging v 2-inch casing, 5-inch s One Purge Volumen (i	well casing and ear eand pack, and 6-to	nd pack volume		
			FIEL	D MEASUREMEN	NTS		STATE SAN		ES-15-15-1	
Time	Volume (gallons)	pН	Conductivity (mS)	Temperature (C)	Color	Turbidity	Redox	Dissolved O ₂	Other	
1445	0.8	7,43	0.514	2.18	clear	low	- 35.2	6.37		
1448	16	7.14	0.512	2.05	clear	low	- 31.0	4.73		
1456	3.2	6.99	0.507	1.98	elear	lev	- 27.5	4.04		
Total Volume Pur Odor: \$1: \ Purge Method (di Sample Method (iii Well Integrity (cor Remarks (well rec Duplicate Samp Split Sample ID.	disposable balled disposable b	er, teflon bailing, flush mo	ter, submersible terfic ailer, submersib ter punt sealing prop s/observations):	on bailole pump, etc.) Flan boperly, cement sea od 5 ha	ailzrai intact, etc.	one of t	he femi ecds to	Втех	ent tapped	
Split Sample ID	; +0	- 68011		VILL	<u> </u>	Date:		RRA /EDI 13/09	3	
Signed/reviewe		-		- Lq.		Date:		1	ō	

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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,

Kari Hagen Project Manager

Claire K Toon ofor

"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

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

Chem bumple rune.	[]	influent-W-08								
Matrix:	Aqueou	s				C	ollection D	ate:	10/28/2008	9:05:00AM
The following test was	conducted by:	Analytica - Thornto	n			****				
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID:	-	ble Aromatics by GO	C/PID - BTI	EX & Ch	nlorobenzo	enes	Analysis D Instrument File Name: Dilution Fa	:	11/6/200 GC_B 0811061	
Prep Batch Number: Report Basis: Sample prep wt./vol:	T081107003 As Received 5.00	5 ml					Analyst Ini Prep Extra		RA 5.00	ml
Analyte 1,2-Dichlorobenzene	<u>CA</u> 5 95-50		t Flags	Units ug/L	<u>POL</u> 1.0	MDL 0.22				<u>run #:</u>
1,3-Dichlorobenzene	541-7	73-1 ND		ug/L	1.0	0.17				
1,4-Dichlorobenzene	106-4	46-7 ND		ug/L	1.0	0.21				
Benzene	71-43	3-2 1.3		ug/L	1.0	0.074				
Chlorobenzene	108-9	90-7 ND		ug/L	1.0	0.19				
Ethylbenzene	100-4	41-4 ND		ug/L	1.0	0.088				
Toluene	108-8	88-3 ND		ug/L	1.0	0.078				
Xylenes, Total	1330	-20-7 ND		ug/L	2.0	0.20				
Surrogate p-Bromofluorobenzene	<u>CAS</u> 460-0		<u>Flags</u>	Units ug/L	POL 0.50	<u>M</u> 0.12	DL Spike 27	% Recov 86.8	LCL 80	<u>UCL</u> <u>run #:</u> 120 1

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: Prep Date:	F0810374-02A 11/6/2008					Analysis Date: Instrument:	11/6/20 GC_B	08 8:46:00PM
Analytical Method ID:	602 - Purgeable Aroma	tics by GC/F	ID - BTEX & C	hlorobena	zenes	File Name:	081106	14.D
Prep Method ID:						Dilution Factor:	1	
Prep Batch Number: Report Basis:	T081107005 As Received					Analyst Initials:	RA	
Sample prep wt./vol:	5.00 ml					Prep Extract Vol.	5.00	ml
Analyte 1,2-Dichlorobenzene	<u>CASNo</u> 95-50-1	<u>Result</u> ND	Flags Units ug/L	<u>POL</u> 1.0	MDL 0.22			<u>run #:</u> 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/1	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 p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 24	Flags Units ug/L.	POL 0.50	<u>M</u> 0.12	DL <u>Spike</u> % Rec 27 88.1		<u>UCL</u> <u>run #:</u> 120

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					C	Collection D	ate:	10/28/200	8 9:35	:00AM
The following test was	conducted by: Analytica -	Thornton									
Lab Sample Number:	F0810374-03A						Analysis D	ate:	11/6/20	08 9:2	21:00PM
Prep Date:	11/6/2008						Instrument	:	GC_B		
Analytical Method ID:	ADEC AK101 - GRO						File Name:		081106	15.D	
Prep Method ID:	5030B						Dilution Fa	actor:	1		
Prep Batch Number:	T081107004										
Report Basis:	As Received						Analyst Ini	tials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extra	act Vol:	5.00	ml	
Analyte Gasoline Range Organics	<u>CASNo</u> n/a	<u>Result</u> ND	Flags	Units ug/L	<u>PQL</u> 100	MDL 21				<u>I</u>	un #:
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 21	Flags	Units ug/L	<u>POL</u> 1.5	0.50	IDL Spike 27	% Recov 76.3	LCL 50	<u>UCL</u> 150	<u>run #:</u> 1
The following test was	conducted by: Analytica -	Thornton				······································					
Lab Sample Number:	F0810374-03A						Analysis D	ate:	11/6/20	008 9:2	1:00PM
Prep Date:	11/6/2008						Instrument	:	GC_B		
Analytical Method ID:	Aromatic VOCs by GC/I	PID via metl	10d 802	1B - BTI	EX		File Name:		081106	515.D	
Prep Method ID:	5030B						Dilution Fa	actor:	1		
Prep Batch Number:	T081107005										
Report Basis:	As Received						Analyst Ini	tials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extra	act Vol:	5.00	ml	
Analyte Benzene	<u>CASNo</u> 71-43-2	Result	Flags	Units ug/L	<u>POL</u> 1.0	MDL 0.074	1			1	un #:
Ethylbenzene	100-41-4	1.3 ND		ug/L	1.0	0.074					ı
Toluene	108-88-3	ND		ug/L	1.0	0.088					
Xylenes, Total	1330-20-7	ND		ug/L ug/L	2.0	0.076					
-				•							
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 23	Flags	Units ug/l.	POL 0.50	0.12	IDL <u>Spike</u> 27	% Recov 85,9	LCL 80	<u>UCL</u> 120	<u>run #:</u> 1

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 D	ate:	10/28/2008	9:45:00AM
The following test was	conducted by: Analytica	- Thornton						**************************************	
Lab Sample Number:	F0810374-04A					Analysis D	ate:	11/6/20	08 11:05:00PM
Prep Date:	11/6/2008					Instrument	:	GC_B	
Analytical Method ID:	ADEC AK101 - GRO					File Name:		081106	18.D
Prep Method ID:	5030B					Dilution Fa	ctor:	1	
Prep Batch Number:	T081107004								
Report Basis:	As Received					Analyst Ini	tials:	RA	
Sample prep wt./vol:	5.00 ml					Prep Extra	act Vol:	5.00	ml
Analyte Gasoline Range Organics	<u>CASNo</u> n/a	<u>Result</u> ND	Flags	Units ug/L	<u>POL</u> 100	MDL 21			<u>run #:</u> !
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 21	Flags	Units ug/L	<u>POL</u> 1.5	MDL <u>Spike</u> 0.50 27	% Recov 77.1	<u>LCL</u> 50	<u>UCL</u> <u>run #:</u> 150
The following test was	conducted by: Analytica -	Thornton						· · · · · · · · · · · · · · · · · · ·	
Lab Sample Number:	F0810374-04A					Analysis D	ate:	11/6/20	08 11:05:00PM
Prep Date:	11/6/2008					Instrument		GC_B	
Analytical Method ID:	Aromatic VOCs by GC/I	PID via met	hod 802	1B - BTI	ΞX	File Name:		081106	18.D
Prep Method ID:	5030B					Dilution Fa	ictor:	1	
Prep Batch Number:	T081107005								
Report Basis:	As Received					Analyst Ini	tials:	RA	
Sample prep wt./vol:	5.00 ml					Prep Extra	ict Vol:	5.00	ml
Analyte Benzene	<u>CASNo</u> 71-43-2	Result 1.1	Flags	Units ug/L	<u>PQL</u> 1.0	MDL 0.074			<u>run #:</u>
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 p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	<u>Result</u> 24	<u>Flags</u>	Units ug/L	POL 0.50	MDL Spike 0.12 27	% Recov 87.8	LCL 80	<u>UCL</u> <u>run #:</u> 120 1

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:	Aqueo	us				.:	C	Collection D	ate:	10/28/200	8 9:05	:00AM
The following test was	conducted by	/: Analytica	- Thornton						·			
Lab Sample Number:	F0810374	-05A						Analysis D	Pate:	11/6/20	008 6:2	.6:00PM
Prep Date:	11/6/2008							Instrument		GC_B		
Analytical Method ID:	ADEC AK	01 - GRO						File Name	:	081106	10.D	
Prep Method ID:	5030B							Dilution F	actor;	1		
Prep Batch Number:	T0811070	04										
Report Basis:	As Received	1						Analyst In	itials:	RA		
Sample prep wt./vol:	5.00	ml						Prep Extr		5.00	ml	
Analyte Gasoline Range Organics	<u>C/</u> n/a	ASNo	<u>Result</u> ND	Flags	Units ug/L	<u>POL</u> 100	MDL 21				<u>r</u>	un #: 1
Surrogate p-Bromofluorobenzene		ASNo -00-4	Result 22	Flags	Units ug/L	<u>POL</u> 1.5	<u>M</u> 0.50	DL Spike 27	% Recov 81.9	<u>LCL</u> 50	<u>UCL</u> 150	<u>run#:</u>
The following test was	conducted by	: Analytica	- Thornton		***************************************							
Lab Sample Number:	F0810374	05A						Analysis D	ate:	11/6/20	008 6:2	:6:00PM
Prep Date:	11/6/2008							Instrument	:	GC_B		
Analytical Method ID:	Aromatic V	OCs by GC	/PID via meti	od 802	1B - BTI	ΞX		File Name	:	081106	10.D	
Prep Method ID:	5030B							Dilution Fa	actor:	1		
Prep Batch Number:	T0811070	05										
Report Basis:	As Received	i						Analyst In	itials:	RA		
Sample prep wt./vol:	5.00	ml						Prep Extr		5.00	ml	
<u>Analyte</u>		ASNo	Result	Flags	<u>Units</u>		MDL.				<u>r</u>	un #:
Benzene	71-	43-2	ND		ug/L	1.0	0.074					l
Ethylbenzene	100	-41-4	ND		ug/L	1.0	0.088	;				
Foluene	108	-88-3	ND		ug/L	1.0	0.078	;				
Xylenes, Total	133	0-20-7	ND		ug/L	2.0	0.20					
Surrogate p-Bromofluorobenzene		<u>-00-4</u>	Result 27	Flags	Units ug/L	<u>POL</u> 0.50	<u>M</u> 0.12	DL Spike	% Recov 98.2	LCL 80	<u>UCL</u> 120	<u>run #:</u>

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: Analytic	a - Thornton							·
Lab Sample Number:	F0810374-06A						Analysis Date:	11/6/20	08 7:02:00PM
Prep Date:	11/6/2008						Instrument:	GC_B	
Analytical Method ID:	602 - Purgeable Aroma	atics by GC/P	ID - BTI	EX & Ch	lorobenz	enes	File Name:	081106	11,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.		ml
<u>Analyte</u>	CASNo	Result	Flags	Units	POL	MDL			run #:
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	1		
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.19			
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088	3		
Toluene	108-88-3	ND		ug/L	1.0	0.078	3		
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20			
Surrogate	CASNo	Result	Flags	<u>Units</u>	POL		IDL Spike % Rec		UCL run#:
p-Bromofluorobenzene	460-00-4	26		ug/L	0.50	0.12	27 97.1	8 80	120 1

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0810374

UAF Monthly Monitoring Well Project:

Client: Arcadis BB&L Client Project Number: B0045498.0001

Report Section: Method Blank Report

Client Sample Name:	MB									
Matrix:	Aqueous					(Collection D	ate: l	1/6/2008	12:00:00AM
The following test was	conducted by: Analytica -	Thornton								
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID:	T081107005-MB 11/6/2008 602 - Purgeable Aromati	cs by GC/P	ID - BT	EX & Ch	lorobenz	zenes	Analysis D Instrument File Name Dilution Fi	: :	11/6/20 GC_B 081106	509.D
Prep Batch Number:	T081107005								-	
Report Basis:	As Received						Analyst In	itials:	RA	
Sample prep wt./vol:	5.00 ml						Prep Extr	act Vol:	5.00	ınl
Analyte 1,2-Dichlorobenzene	<u>CASNo</u> 95-50-1	<u>Result</u> ND	Flags	Units ug/L	<u>POL</u> 3.0	MDL 0.54				<u>run #:</u> 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 p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 23	<u>Flags</u>	<u>Units</u> ug/L	POL 0.50	0.12	IDL Spike 27	% Recov 86.2	LCL 80	<u>UCL run#:</u> 120 [
The following test was Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number:	conducted by: Analytica - T081107004-MB 11/6/2008 ADEC AK101 - GRO 5030B T081107004	Thornton					Analysis D Instrument File Name: Dilution Fa	: :	11/6/20 GC_B 081106	
Report Basis: Sample prep wt./vol:	As Received 5.00 ml						Analyst Ini Prep Extra		RA 5.00	ml
Analyte Gasoline Range Organics	<u>CASNo</u> n/a	<u>Result</u> ND	Flags	Units ug/L	<u>POL</u> 100	MDL 21				<u>run #:</u> 1
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	<u>Result</u> 14	Flags	Units ug/L	POL 1.5	0.50	IDL Spike 27	% Recov 51.7	<u>LCL</u> 50	<u>UCL</u> <u>run#:</u> 150]
Lab Sample Number: Prep Date:	conducted by: Analytica - T081107005-MB 11/6/2008 Aromatic VOCs by GC/I 5030B T081107005 As Received 5.00 ml		10d 802	1B - BTE	ex		Analysis D Instrument File Name: Dilution Fo Analyst Ini Prep Extr	: actor: itials:	11/6/20 GC_B 081106 1 RA 5.00	008 5:51:00PM 609.D ml
<u>Analyte</u>	CASNo	Result	Flags	Units	PQL	MDL				<u>run #:</u>

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	2:00:00AM
Lab Sample Number: Prep Date: Analytical Method ID:	T081107005-MB 11/6/2008 Aromatic VOCs by GC	/PID via met	hod 802	IB - BTE	X	Analysis Date: Instrument: File Name:	11/6/2008 GC_B 08110609	
Prep Method ID:	5030B					Dilution Factor:	1	
Prep Batch Number: Report Basis: Sample prep wt./vol:	T081107005 As Received 5.00 ml					Analyst Initials: Prep Extract Vo	RA d: 5.00	ml
Analyte Benzene	<u>CASNo</u> 71-43-2	<u>Result</u> ND	Flags	<u>Units</u> ug/L	<u>PQL</u> 1.0	MDL 0.33		<u>run #:</u> 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		
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 23	Flags	Units ug/L	POL 0.50	MDL Spike % R 0.12 27 86	ecov <u>LCL</u> <u>U</u> 5.2 80	ICL <u>run #:</u> 120 1

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0810374

Project: Client:

UAF Monthly Monitoring Well

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

32.5

MB: Prep Date: T081107005-MB

MB Anal. Date:

11/6/2008 5:51:00PM

Units:

108.3

11/6/2008 ug/L

LCS Anal, Date:

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

105.0

Aqueous

80 - 120

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 - 120Toluene 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 20 2.8 80 - 120

30.0

Prep Batch:

Xylenes, Total

T081107004

LCS/LCSD REPORT

30.0

Analysis:

ADEC AK101 - GRO

ND

31.5

MB:

T081107004-MB

Prep Date:

3.1

MB Anal. Date:

11/6/2008 5:51:00PM

Units:

11/6/2008 ug/L

LCS Anal. Date:

11/6/2008 4:41:00PM LCSD Anal. Date: 11/6/2008 5:16:00PM Matrix:

Aqueous

Analyte Name

Recov. SD Recov

SampResult

LCSRes. SDRes. SPLev SPDLev

500

91.8

RPD Recov Lim RPDLim Flag 20

20

Gasoline Range Organics

ND

443

500

88.6

3.5

60 - 120

MS/MSD REPORT

Analysis:

ADEC AK101 - GRO

Parent: Prep Date:

Units:

79.4

F0810374-03A 11/6/2008

Samp. Anal. Date: 11/6/2008 9:21:00PM

ug/L

MS Anal. Date:

11/6/2008 9:55:00PM MSD Anal, Date:

459

11/6/2008 10:30:00PM Matrix:

Aqueous

Analyte Name

SampResult

MSRes.

397

MSDRes SPLev SPDLev Recov. MSD Rec. RPD Recov Lim RPDLim

Flag

Gasoline Range Organics

ND

418

500

500

83.6

74 - 130 20 5.2

Prep Batch:

T081107005

LCS/LCSD REPORT

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0810374

Project: Client:

UAF Monthly Monitoring Well

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

T081107005-MB

Prep Date: Units:

MB:

11/6/2008

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

ug/L Aqueous

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

									•		
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	
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

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.

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		Di	lution:]					
Analysis Date:	11/6/2008 7:02:00PI	M	Cl	ient Sample:	TB-W-081028					
Batch Number:	T081107005		Da	ata File:	08110611.D					
AnalyteName		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status				
p-Bromofluorobenz	ene	98	80	120		Complete				
Lab Sample #:	F0810374-01A		Di	lution:	1					
Analysis Date:	11/6/2008 8:11:00PI	M	Cl	ient Sample:	Influent-W-081028					
Batch Number:	T081107005		Da	ata File:	08110613.D					
<u>AnalyteName</u>		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status				
p-Bromofluorobenz	ene	87	80	120		Complete				
Lab Sample #:	F0810374-02A		Di	lution:	1					
Analysis Date:	11/6/2008 8:46:00PM	M	Cl	ient Sample:	Effluent-W-081028					
Batch Number:	T081107005		Da	ıta File:	08110614.D					
<u>AnalyteName</u>		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status				
p-Bromofluorobenz	ene	88	80	120		Complete				
Lab Sample #:	T081107005-MB		Di	lution:	1					
Analysis Date:	11/6/2008 5:51:00PM	M	Cl	ient Sample:	<u>MB</u>					
Batch Number:	T081107005		Da	ıta File:	08110609.D					
<u>AnalyteName</u>		SSRecov	LCL	<u>UCL</u>	SSFlag	Result Status				
p-Bromofluorobenz	ene	86	80	120		Complete				
Lab Sample #:	T081107005-LCS		Di	lution:	1					
Analysis Date:	11/6/2008 3:30:00PM	М	Cl	ient Sample:	<u>LCS</u>					
Batch Number:	T081107005		Da	ıta File:	08110605.D					
AnalyteName		SSRecov	LCL	<u>UCL</u>	SSFlag	Result Status				
p-Bromofluorobenz	ene	100	80	120		Complete				
Lab Sample #:	T081107005-LCSD		Di	lution:	1					
Analysis Date:	11/6/2008 4:05:00PM	M	Cl	ient Sample:	<u>LCSD</u>					
Batch Number:	T081107005		Da	ıta File:	08110606.D					
<u>AnalyteName</u>		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status				
p-Bromofluorobenz	ene	99	80	120		Complete				

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0810374

Project:

UAF Monthly Monitoring Well

SSRecov

SSRecov

SSRecov

SSRecov

SSRecov

105

103

77

76

82

Client:

Arcadis BB&L B0045498.0001

Client Project Number: Test Method:

ADEC AK101 - GRO

Lab Sample #:

Batch Number:

AnalyteName

F0810374-05A

Analysis Date:

11/6/2008 6:26:00PM

T081107004

Dilution: Client Sample:

UCL

UCL

150

150

TB-W-081028

Data File:

08110610.D

SSFlag

p-Bromofluorobenzene Lab Sample #: Analysis Date:

Batch Number:

F0810374-03A

Dilution: Client Sample: GW-1B-W-081028

11/6/2008 9:21:00PM T081107004

Data File:

08110615.D

AnalyteName p-Bromofluorobenzene

LCL 50

LCL

50

SSFlag

Result Status Complete

Result Status

Complete

Result Status

Complete

Lab Sample #: Analysis Date: F0810374-04A

11/6/2008 11:05:00PM

Client Sample: Data File:

Dilution:

GW-2-W-081028 08110618.D

1

ĺ

1

Batch Number: AnalyteName

T081107004

LCL UCL 50 150

SSFlag

Lab Sample #: Analysis Date:

p-Bromofluorobenzene

T081107004-MB 11/6/2008 5:51:00PM

Dilution: Client Sample:

MB

Data File: 08110609.D

Batch Number: AnalyteName p-Bromofluorobenzene

T081107004 SSRecov 52

LCL **UCL** 60

LCL

LCL

SSFlag LOW

Result Status Complete

Lab Sample #: Analysis Date: T081107004-LCS 11/6/2008 4:41:00PM Dilution: Client Sample: Data File:

Dilution:

LCS

Batch Number: **AnalyteName** p-Bromofluorobenzene

T081107004

UCL 120

UCL

120

120

08110607.D **SSFlag**

Result Status Complete

Result Status

Complete

Lab Sample #: Analysis Date: Batch Number: T081107004-LCSD 11/6/2008 5:16:00PM T081107004

Client Sample: Data File:

LCSD 08110608.D **SSFlag**

p-Bromofluorobenzene Lab Sample #:

AnalyteName

F0810374-03A-MS 11/6/2008 9:55:00PM

Dilution: Client Sample:

MS

Analysis Date: Batch Number:

T081107004

Data File: 08110616.D

AnalyteName LCL SSRecov p-Bromofluorobenzene 50 Lab Sample #: F0810374-03A-MSD Dilution:

UCL 150 **SSFlag** Result Status Complete

Analysis Date: Batch Number:

11/6/2008 10:30:00PM T081107004

Client Sample: Data File:

150

MSD 08110617.D

1

AnalyteName p-Bromofluorobenzene

SSRecov LCL UCL 95 50

SSFlag

Result Status Complete

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0810374

Project:

UAF Monthly Monitoring Well

Client: Arcadis BB&L B0045498.0001 Client Project Number:

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

Lab Sample #: F0810374-05A Analysis Date:

11/6/2008 6:26:00PM

Dilution: TB-W-081028 Client Sample:

UCL

120

Data File:

08110610.D

AnalyteName **SSRecov** p-Bromofluorobenzene 98

T081107005

LCL 80

LCL

80

SSFlag

Result Status Complete

Lab Sample #: Analysis Date:

Batch Number:

F0810374-03A

11/6/2008 9:21:00PM

Dilution: Client Sample:

GW-1B-W-081028

GW-2-W-081028

1

1

Batch Number: **AnalyteName**

T081107005

Data File:

08110615.D

SSFlag

Result Status Complete

Complete

Lab Sample #:

p-Bromofluorobenzene

F0810374-04A

T081107005

SSRecov

SSRecov

86

100

SSRecov

86

Dilution:

Analysis Date: Batch Number: 11/6/2008 11:05:00PM

Client Sample: Data File:

<u>UCL</u>

120

08110618.D

AnalyteName p-Bromofluorobenzene **SSRecov** 88

LCL UCL 120 80 Dilution:

SSFlag Result Status Complete

Lab Sample #: Analysis Date: T081107005-MB 11/6/2008 5:51:00PM

Client Sample:

120

120

120

MB

Batch Number:

T081107005

Data File: **LCL** UCL 08110609.D **SSFlag** Result Status

p-Bromofluorobenzene Lab Sample #: Analysis Date:

AnalyteName

T081107005-LCS 11/6/2008 3:30:00PM

80

Dilution: Client Sample: LCS

08110605.D

AnalyteName p-Bromofluorobenzene

Batch Number:

SSRecov

Data File: LCL UCL

SSFlag Result Status Complete

Lab Sample #:

T081107005-LCSD 11/6/2008 4:05:00PM Dilution:

Client Sample: LCSD

Analysis Date: Batch Number:

T081107005

Data File: 08110606.D <u>UCL</u>

AnalyteName p-Bromofluorobenzene

T081107005

LCL 80 **SSFlag**

Result Status Complete

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0810374

Project:

UAF Monthly Monitoring Well

Client:

Arcadis BB&L

Client Project Number:

B0045498.0001

TB-W-081028

TB-W-081028

Influent-W-081028

Effluent-W-081028

GW-1B-W-081028

GW-2-W-081028

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 - G	FRO		
This Method blank and	sample preparation batch	are associated with the followin	g samples, spikes, an	d duplicates:
SampleNum	ClientSampleName	<u>DataFi</u>	<u>le</u>	<u>AnalysisDate</u>
T081107004-LCS	LCS	08116	0607.D	11/6/2008 4:41:00PM
T081107004-LCSD	LCSD	08110	0608.D	11/6/2008 5:16:00PM
F0810374-05A	TB-W-081028	08110	0610.D	11/6/2008 6:26:00PM
F0810374-03A	GW-1B-W-081028	08110	0615.D	11/6/2008 9:21:00PM
F0810374-03A-MS	MS	08110)616.D	11/6/2008 9:55:00PM
F0810374-03A-MSD	MSD	08110)617.D	11/6/2008 10:30:00PM
F0810374-04A	GW-2-W-081028	08110)618.D	11/6/2008 11:05:00PM
Lab Method Blank Id:	T001107006 MD			Prep Date: 11/6/2008
Prep Batch ID:	T081107005-MB T081107005			
Method:		y GC/PID via method 8021B	RTEY	
		are associated with the following		d dunlicates:
SampleNum	ClientSampleName	DataFi		AnalysisDate
T081107005-LCS	LCS		0605.D	
T081107005-LCS	LCS			
			0605.D	11/6/2008 3:30:00PM
T081107005-LCSD	LCSD)606.D	11/6/2008 4:05:00PM
T081107005-LCSD	LCSD	08110)606.D	11/6/2008 4:05:00PM

08110610.D

08110611.D

08110613.D

08110614.D

08110615.D

08110618.D

11/6/2008 6:26:00PM

11/6/2008 7:02:00PM

11/6/2008 8:11:00PM

11/6/2008 8:46:00PM

11/6/2008 9:21:00PM

11/6/2008 11:05:00PM

F0810374-05A

F0810374-06A

F0810374-01A

F0810374-02A

F0810374-03A

F0810374-04A

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

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>	# Sig Figs	Reporting Limit
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 Perinsylvania St. Thomton, CO 80241 (303) 469-8868

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

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

5438 Shaune Drive Juneau, AK 99801 (907) 780-6668

Chain of Custody No:

8710 8710

Page ___

450	hand					Shipped Via:	Shipp	7979		-065 (206)	(90	Weller		Andrew	Name of Sampler: (printed)
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	-	-			-	Initialed By:	Initia	•							
	1					Custody Seal?: _		Г	Date		у:	Received by:	Time	Date	Relinquished by:
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								×			8 0905	10/28/08		1028	INFLUENT-W-081028
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		74	E0810374	LG.	ij	Quote ID:		JWO	- 180	-180112	ame:	Project Name:	200	E, Suite	2300 Eastlake Ave E, Suite 200
		y Analytica	mpleted by	Section To be Completed by Analytica					D#:	Public Water System (PWS) ID#:	ater Syste	Public W		5:1	Client Name & Address: Arcolis
•	0	6				(907) 780-6570 fax		(907) 455-3125 Fax	634 fax	(907) 258-6634 fax	fax	(303) 489-5254 fax			GROUP &

Version 2.0



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,

Kari Hagen Project Manager

Claire K. Toon for

"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 $4.0^{\circ}C$, 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 $2.0\,^{\circ}$ 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.

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0811228

Project:

UAF Monthly Monitoring Well

Client: Client Project Number: Arcadis BB&L B0045498.0001

CASNo

460-00-4

Report Section:

Client Sample Report

Client Sample Name:

p-Bromofluorobenzene

Result

25

Influent-W-081119 11/19/2008 3:30:00PM Matrix: Aqueous Collection Date: 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 As Received Report Basis: Analyst Initials: RA Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml **CASNo** Result Flags Units POL MDL <u>run #:</u> 1,2-Dichlorobenzene 95-50-1 ND ug/L 1.0 0.22 1,3-Dichlorobenzene ND 1.0 0.17 541-73-1 ug/L 1,4-Dichlorobenzene ND 1.0 0.21 106-46-7 ug/L 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 ND 108-88-3 ug/L 1.0 0.078 Xylenes, Total 1330-20-7 NĐ ug/L 2.0 0.20

Units

ug/L

Flags

POL

0.50

MDL Spike

27

0.12

LCL

80

<u>UCL</u>

120

<u>run #:</u>

]

% Recov

94.0

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

Analyte 1,2-Dichlorobenzene	<u>CASNo</u> 95-50-1	<u>Result</u> ND	Flags Units ug/L	<u>POL</u> 1.0	MDL 0.22			<u>run #:</u> 1
1,3-Dichlorobenzene	541-73-1	ND	ug/L	1.0	0.17			
1,4-Dichlorobenzene	106-46-7	ND	ug/L	0.1	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> p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 26	Flags Units ug/L	POL 0.50	MDL Spike 0.12 27	% Recov 95.3	LCL 80	UCL run #:

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 D	ate:	11/19/200	8 3:1	5:00PM
The following test was	conducted by: Analytica	- Thornton				•					
Lab Sample Number:	F0811228-03A						Analysis D	Pate:	11/21/2	800	8:04:00PM
Prep Date:	11/21/2008						Instrument	l:	GC_B		
Analytical Method ID:	ADEC AK101 - GRO						File Name	;	081121	13.D	
Prep Method ID:	5030B						Dilution F	actor:	1		
Prep Batch Number:	T081124007										
Report Basis:	As Received						Analyst In:	itials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extr	act Vol:	5.00	ml	
Analyte Gasoline Range Organics	<u>CASNo</u> n/a	<u>Result</u> ND	Flags	Units ug/L	<u>POL</u> 100	MDL 21					<u>run #:</u> 1
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 21	Flags	Units ug/L	<u>POL</u> 1.5	<u>M</u> 0.50	DL Spike 27	% Recov 78.9	LCL 50	<u>UCL</u> 150	<u>run #;</u>
The following test was	conducted by: Analytica	- Thornton							***************************************		
Lab Sample Number:	F0811228-03A						Analysis D	Pate:	11/21/2	800	8:04:00PM
Prep Date:	11/21/2008						Instrument	:	GC_B		
Analytical Method ID:	Aromatic VOCs by GC/	PID via metl	hod 802	1B - BTI	EX		File Name	:	081121	13.D	
Prep Method ID:	5030B						Dilution Fa	actor:	l		
Prep Batch Number:	T081124008										
Report Basis:	As Received						Analyst In	itials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extr	act Vol:	5.00	ml	
Analyte Benzene	<u>CASNo</u> 71-43-2	Result 1.8	Flags	Units ug/L	<u>PQL</u>	MDL 0.074					<u>run #:</u>
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088	i				
Toluene	108-88-3	ND		ug/L	1.0	0.078	;				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 29	Flags	Units ug/L	POL 0.50	<u>M</u> 0.12	DL Spike 27	% Recov 107	<u>LCL</u> 80	<u>UCL</u> 120	<u>run #:</u>)

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 E	Pate:	11/19/200	8 3:20	0:00PM
The following test was	conducted by: Analytica	- Thornton	·····			•		*		,	
Lab Sample Number:	F0811228-04A						Analysis I	Date:	11/21/2	.008 9):48:00PM
Prep Date:	11/21/2008						Instrumen		GC_B		
Analytical Method ID:	ADEC AK101 - GRO						File Name	:	081121	16.D	
Prep Method ID:	5030B						Dilution F	actor:	1		
Prep Batch Number:	T081124007										
Report Basis:	As Received						Analyst In	itials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extr	act Vol:	5.00	ml	
Analyte Gasoline Range Organics	<u>CASNo</u> n/a	<u>Result</u> ND	<u>Flags</u>	Units ug/L	<u>POL</u> 100	MDL 21					run #:
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 21	Flags	<u>Units</u> ug/L	<u>POL</u> 1.5	<u>M</u> 0.50	DL Spike 27	% Recov 79.6	LCL 50	<u>UCL</u> 150	<u>run #:</u>
The following test was	conducted by: Analytica -	Thornton									
Lab Sample Number:	F0811228-04A						Analysis I	Date:	11/21/2	.008 9	:48:00PM
Prep Date:	11/21/2008						Instrument	t:	GC_B		
Analytical Method ID:	Aromatic VOCs by GC/	PID via metl	10d 802	1B - BTI	ΞX		File Name	;	081121	16.D	
Prep Method ID:	5030B						Dilution F	actor:	1		
Prep Batch Number:	T081124008										
Report Basis:	As Received						Analyst In	itials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extr	act Vol:	5.00	ml	
Analyte Benzene	<u>CASNo</u> 71-43-2	Result 1.7	Flags	Units ug/L	<u>POL</u> 1.0	MDL 0.074	į.			:	<u>run #:</u>
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 p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	<u>Result</u> 28	<u>Flags</u>	Units ug/L	POL 0.50	<u>M</u> 0.12	DL Spike 27	% Recov 104	LCL 80	<u>UCL</u> 120	<u>run #;</u> 1

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

		1111-41-0	ULLIZ									
Matrix:	Aq	ueous					C	Collection D	ate:	11/19/200	8 3:15	:00PM
The following test was	conducte	d by: Analytica -	Thornton									
Lab Sample Number:	F08112	228-05A						Analysis D	ate:	11/21/2	.008 6	:19:00PM
Prep Date:	11/21/2	8008						Instrument	:	GC_B		
Analytical Method ID:	ADEC A	AK101 - GRO						File Name:		081121	10.D	
Prep Method ID:	5030B							Dilution Fa	ictor:	1		
Prep Batch Number:	T08112	24007										
Report Basis:	As Rece	eived						Analyst Ini	tials:	RA		
Sample prep wt./vol:	5.00	ml						Prep Extra	act Vol:	5.00	ml	
Analyte		CASNo	Result	Flags	<u>Units</u>		MDL				ï	<u>un #:</u>
Gasoline Range Organics		n/a	ND		ug/L	100	21					1
<u>Surrogate</u> p-Bromofluorobenzene		<u>CASNo</u> 460-00-4	<u>Result</u> 21	Flags	Units ug/L	POL 1.5	<u>M</u> 0.50	DL Spike 27	% Recov 76.6	<u>LCL</u> 50	<u>UCL</u> 150	<u>run #:</u>]
The following test was	conducte	d by: Analytica -	Thornton							···		
Lab Sample Number:	F08112	228-05A						Analysis D	ate:	11/21/2	008 6	:19:00PM
Prep Date:	11/21/2	2008						Instrument	:	GC_B		
Analytical Method ID:	Aromati	ic VOCs by GC/.	PID via met	hod 802	1B - BT	EX		File Name:		081121	10.D	
Prep Method ID:	5030B							Dilution Fa	ctor:	1		
Prep Batch Number:	T08112	24008										
Report Basis:	As Rece	eived						Analyst Ini	tials:	RA		
Sample prep wt./vol:	5.00	ml						Prep Extra	act Vol:	5.00	ml	
Analyte		CASNo	Result	Flags	<u>Units</u>	<u>POL</u>	MDL				Ţ	<u>un #:</u>
Benzene		71-43-2	ND		ug/L	1.0	0.074					I
Ethylbenzene		100-41-4	ND		ug/L	1.0	0.088	1				
Toluene		108-88-3	ND		ug/L	1.0	0.078	;				
Xylenes, Total		1330-20-7	ND		ug/L	2.0	0.20					
Surrogate p-Bromofluorobenzene		<u>CASNo</u> 460-00-4	Result 27	<u>Flags</u>	<u>Units</u> ug/L	POL 0.50	<u>M</u> 0.12	DL Spike 27	% Recov 100	LCL 80	<u>UCL</u> 120	<u>run #:</u> 1

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0811228

UAF Monthly Monitoring Well Project:

Client: Arcadis BB&L B0045498.0001 Client Project Number:

Report Section: **Client Sample Report**

108-88-3

1330-20-7

CASNo

460-00-4

ND

ND

Result

28

Client Sample Name:

TB-W-081119

11/19/2008 3:15:00PM Matrix: Aqueous Collection Date: 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 Dilution Factor: Prep Method ID: 1 T081124008 Prep Batch Number: As Received Report Basis: Analyst Initials: RA Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml **Analyte** POL MDL <u>CASNo</u> Result Flags Units <u>run #:</u> 1,2-Dichlorobenzene ND 0.22 95-50-1 ug/L 1.0 1,3-Dichlorobenzene 541-73-1 ND ug/L 1.0 0.171,4-Dichlorobenzene 106-46-7 ND 1.0 0.21 ug/L Benzene ND 71-43-2 ug/L 1.0 0.074 Chlorobenzene ND 108-90-7 ug/L 1.0 0.19 Ethylbenzene ND 1.0 0.088 100-41-4 ug/L

ug/L

ug/L

Units

ug/L

Flags

1.0

2.0

POL

0.50

0.078

0.20

0.12

MDL Spike

27

% Recov

103

LCL

80

<u>UCL</u>

120

<u>run #:</u>

Toluene

Xylenes, Total

p-Bromofluorobenzene

Surrogate

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0811228

UAF Monthly Monitoring Well Project:

Client: Arcadis BB&L Client Project Number: B0045498.0001

Report Section: Method Blank Report

Client Sample Name:	MB						1			
Matrix:	Aqueous					(Collection Date:	11/21/200	8 12:0	00:00AM
The following test was	conducted by: Analytica	- Thornton								
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID:	T081124008-MB 11/21/2008 602 - Purgeable Aroma	tics by GC/PI	D - BTI	EX & Ch	loroben	zenes	Analysis Date: Instrument: File Name: Dilution Factor:	11/21/ GC_B 08112 1		5:44:00P M
Prep Batch Number:	T081124008						Dilution Pactor.			
Report Basis:	As Received						Analyst Initials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extract Vol		ml	
Analyte 1,2-Dichlorobenzene	<u>CASNo</u> 95-50-1	Result ND	Flags	<u>Units</u> ug/L	<u>PQL</u> 3.0	MDL 0.54	4			<u>run #:</u> (
1,3-Dichlorobenzene	541-73-1	ND		ug/L	3.0	0.73	3			
1,4-Dichlorobenzene	106-46-7	ND		ug/L	3.0	0.89)			
Benzene	71-43-2	ND		ug/L	1.0	0.33	3			
Chlorobenzene	108-90-7	ND		ug/L	1.0	0.30)			
Ethylbenzene	100-41-4	ND		ug/L	1.5	0.46	5			
Toluene	108-88-3	ND		ug/L	1.2	0.35				
Xylenes, Total	1330-20-7	ND		ug/L	3.0	0.82	2			
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 25	Flags	Units ug/L	<u>POL</u> 0.50	0.12	<u>4DL Spike </u>		<u>UCL</u> 120	<u>run #:</u>) 1
The following test was Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID: Prep Batch Number: Report Basis:	conducted by: Analytica T081124007-MB 11/21/2008 ADEC AK101 - GRO 5030B T081124007 As Received	- Thornton					Analysis Date: Instrument: File Name: Dilution Factor:	11/21// GC_B 08112 1 RA		5:44:00PM
Sample prep wt./vol:	5.00 ml						Analyst Initials: Prep Extract Vol.		ml	
Analyte Gasoline Range Organics	<u>CASNo</u> n/a	<u>Result</u> ND	Flags	Units ug/L	POL 100	MDL 21				<u>run #:</u> l
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	<u>Result</u> 24	Flags	Units ug/L	POL 1.5	<u>M</u> 0.50	<u>MDL Spike</u> <u>% Rec</u> 27 87.		<u>UCL</u> 150	<u>run #:</u>
The following test was	conducted by: Analytica	- Thornton								
Lab Sample Number: Prep Date: Analytical Method ID: Prep Method ID;	T081124008-MB 11/21/2008 Aromatic VOCs by GC 5030B	/PID via meth	od 802	1B - BTE	EΧ		Analysis Date: Instrument: File Name: Dilution Factor:	11/21/ GC_B 08112		5:44:00PM
Prep Batch Number:	T081124008						= *************************************	•		
Report Basis:	As Received						Analyst Initials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extract Vol		ml	
<u>Analyte</u>	<u>CASNo</u>	Result	Flags	<u>Units</u>	PQL	MDL				run #:

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					C	ollection Dat	le:	11/21/2008	8 12:00:00AM
Lab Sample Number: Prep Date: Analytical Method ID:	T081124008-MB 11/21/2008 Aromatic VOCs by GO	C/PID via met	hod 802	B - BTE	X		Analysis Da Instrument: File Name:	te:	11/21/2 GC_B 081121	
Prep Method ID:	5030B						Dilution Fac	etor:	1	
Prep Batch Number: Report Basis: Sample prep wt./vol:	T081124008 As Received 5.00 ml						Analyst Initi Prep Extrac		RA 5.00	ml
Analyte Benzene	<u>CASNo</u> 71-43-2	<u>Result</u> ND	Flags	Units ug/L	<u>POL</u> 1.0	MDL 0.33				<u>run #:</u> 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				
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 25	<u>Flags</u>	Units ug/L	<u>POL</u> 0.50	<u>M</u> 0.12	DL Spike 27	% Recov	<u>LCL</u> 80	<u>UCL</u> <u>run #:</u> 120 1

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0811228

Project: Client:

UAF Monthly Monitoring Well

Arcadis BB&L

Client Project Number:

B0045498.0001

Tests Run at:

Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): F0811228

UAF Monthly Monitoring Well Project:

Project Number:

QUALITY CONTROL REPORT

Prep Batch:

T081124008

LCS/LCSD REPORT

Analysis:

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

34.3

MB: Prep Date:

T081124008-MB

MB Anal, Date:

11/21/2008 5:44:00PM

Units:

ug/L

LCS Anal. Date:

ND

33.6

11/21/2008 3:24:00PMLCSD Anal. Date: 11/21/2008 3:59:00PMMatrix:

112.0

Aqueous

80 - 120

11/21/2008

Analyte Name SampResult LCSRes. SDRes. SPLev SPDLev RPD Recov Lim RPDLim Flag Recov. SD Recov Benzene ND 11.5 11.6 10.0 10.0 115.0 116.0 0.9 80 - 120 20 Toluene ND 20 11.4 11.7 10.0 10.0 114.0 117.0 2.6 80 - 120 Ethylbenzene ND 11.4 11.6 10.0 10.0 114.0 116.0 20 1.7 80 - 120

30.0

30.0

Prep Batch:

Xylenes, Total

T081124007

LCS/LCSD REPORT

Analysis:

ADEC AK101 - GRO

MB:

2.1

T081124007-MB

Prep Date: 11/21/2008

MB Anal. Date:

11/21/2008 5:44:00PM

Units:

ug/L

LCS Anal. Date:

114.3

Aqueous

Analyte Name

11/21/2008 4:34:00PMLCSD Anal. Date: 11/21/2008 5:09:00PMMatrix:

SPLev SPDLev Recov.

SD Recov RPD

Recov Lim RPDLim Flag

Gasoline Range Organics

1,020

1,000

97.3

4.7

20

ND

SampResult

LCSRes. SDRes.

973

1,000

102.0

60 - 120

MS/MSD REPORT

Analysis:

ADEC AK101 - GRO

Parent: Prep Date:

F0811228-03A 11/21/2008

Samp. Anal. Date: 11/21/2008 8:04:00PM

Units:

ug/L

MS Anal, Date:

11/21/2008 8:38:00PMMSD Anal. Date: 11/21/2008 9:13:00PMMatrix:

ND

Aqueous

74 - 130 20

Analyte Name

Gasoline Range Organics

SampResult

MSRes. 520

MSDRes SPLev SPDLev Recov. 567 500

500

104.0 113.4

MSD Rec. RPD Recov Lim RPDLim

Flag

Prep Batch:

T081124008

LCS/LCSD REPORT

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0811228

Project: Client:

UAF Monthly Monitoring Well

Arcadis BB&L

Client Project Number:

Tests Run at:

B0045498.0001

Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): F0811228

UAF Monthly Monitoring Well

Project:

Project Number:

QUALITY CONTROL REPORT

Prep Batch:

T081124008

LCS/LCSD REPORT

Analysis:

602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes

T081124008-MB

Prep Date: 11/21/2008 ug/L

MB Anal. Date: LCS Anal Date: 11/21/2008 5:44:00PM

11/21/2008 3:24:00PMLCSD Anal. Date: 11/21/2008 3:59:00PMMatrix:

MB:

Units:

Aqueous

Beo i mai. Bate.	11/21/2000 5.2	T.OOL IVE	Alla Cic.	i, izaic.	11721720	00 5.59.	OUI IVIIVIAUI	λ.	Aqueous		
Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	<u>Flag</u>
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

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.

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 Aro	matics by GC	/PID - BTI	EX & Chlore	benzene	
Lab Sample #:	F0811228-06A		Di	lution:	l	
Analysis Date:	11/21/2008 6:54:00	PM	Cl	ient Sample:	TB-W-081119	
Batch Number:	T081124008		Da	ata File:	08112111.D	
AnalyteName		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluorobenz	ene	103	80	120		Complete
Lab Sample #:	F0811228-01A		Di	lution:	1	
Analysis Date:	11/22/2008 3:34:00	AM	Cl	ient Sample:	Influent-W-081119	
Batch Number:	T081124008		Da	ıta File:	08112126.D	
<u>AnalyteName</u>		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluorobenz	ene	94	80	120		Complete
Lab Sample #:	F0811228-02A		Di	lution:	1	
Analysis Date:	11/22/2008 4:09:00	AM	Cl	ient Sample:	Effluent-W-081119	
Batch Number:	T081124008		Da	ıta File:	08112127.D	
AnalyteName		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluorobenz	ene	95	80	120		Complete
Lab Sample #:	T081124008-MB		Di	lution:	1	
Analysis Date:	11/21/2008 5:44:001	PM	Cl	ient Sample:	<u>MB</u>	
Batch Number:	T081124008		Da	ıta File:	08112109.D	
AnalyteName		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluorobenz	ene	94	80	120		Complete
Lab Sample #:	T081124008-LCS		Di	lution:	1	
Analysis Date:	11/21/2008 3:24:001	PM	Cl	ient Sample:	<u>LCS</u>	
Batch Number:	T081124008		Da	ıta File:	08112105.D	
<u>AnalyteName</u>		SSRecov	LCL	<u>UCL</u>	SSFlag	Result Status
p-Bromofluorobenz	ene	96	80	120		Complete
Lab Sample #:	T081124008-LCSD		Di	lution:	1	
Analysis Date:	11/21/2008 3:59:001	PM	Cl	ient Sample:	<u>LCSD</u>	
Batch Number:	T081124008		Da	ıta File:	08112106.D	
<u>AnalyteName</u>		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluorobenz	ene	102	80	120		Complete

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0811228

Project:

UAF Monthly Monitoring Well

SSRecov

SSRecov

SSRecov

SSRecov

SSRecov

SSRecov

SSRecov

96

104

101

87

80

79

77

Client:

Arcadis BB&L

Client Project Number:

B0045498.0001

Test Method:

ADEC AK101 - GRO

Lab Sample #: Analysis Date: F0811228-05A

11/21/2008 6:19:00PM

Dilution: Data File:

Client Sample:

UCL

UCL

150

TB-W-081119

Batch Number: AnalyteName

T081124007

LCL 50

LCL

LCL

LCL

LCL

60

60

08112110.D **SSFlag**

Lab Sample #: Analysis Date:

Batch Number:

p-Bromofluorobenzene

F0811228-03A

11/21/2008 8:04:00PM

T081124007

Dilution: Client Sample:

1 GW-1B-W-081119

Data File:

08112113.D **SSFlag**

AnalyteName p-Bromofluorobenzene Lab Sample #:

F0811228-04A

11/21/2008 9:48:00PM

50 150 Dilution:

> GW-2-W-081119 Client Sample: 08112116.D

Analysis Date: Batch Number: AnalyteName

T081124007

Data File: **LCL** UCL 50 150

SSFlag

SSFlag

SSFlag

SSFlag

I

1

Result Status Complete

Result Status

Complete

Result Status

Complete

Result Status

Complete

Result Status

Complete

Result Status

Complete

Result Status

Complete

Lab Sample #: Analysis Date:

Batch Number:

p-Bromofluorobenzene

T081124007-MB

11/21/2008 5:44:00PM

T081124007

Dilution: Client Sample:

UCL

120

UCL

120

MB Data File: 08112109.D

AnalyteName p-Bromofluorobenzene Lab Sample #:

T081124007-LCS

Analysis Date: 11/21/2008 4:34:00PM

Batch Number: T081124007 **AnalyteName**

60 120 Dilution: 1 Client Sample: LCS

> Data File: 08112107.D UCL **SSFlag**

p-Bromofluorobenzene Lab Sample #:

T081124007-LCSD 11/21/2008 5:09:00PM

Analysis Date: Batch Number:

T081124007

Dilution: 1 Client Sample: LCSD Data File: 08112108.D

p-Bromofluorobenzene Lab Sample #:

AnalyteName

F0811228-03A-MS 11/21/2008 8:38:00PM

Analysis Date: Batch Number: T081124007

Dilution: Client Sample: MS

Data File: 08112114.D LCL **SSFlag** UCL

p-Bromofluorobenzene Lab Sample #: Analysis Date:

Batch Number:

AnalyteName

F0811228-03A-MSD

11/21/2008 9:13:00PM

150 50 Dilution:

MSD Client Sample: 08112115.D Data File:

AnalyteName p-Bromofluorobenzene

T081124007

SSRecov LCL 97 50 UCL 150

Result Status Complete

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 #: Analysis Date: Batch Number: F0811228-05A

11/21/2008 6:19:00PM

T081124008

Dilution:

TB-W-081119 Client Sample: Data File: 08112110.D

AnalyteName

SSRecov LCL 100 80 UCL **SSFlag** 120

Result Status Complete

Lab Sample #: Analysis Date:

p-Bromofluorobenzene

F0811228-03A

11/21/2008 8:04:00PM

Client Sample:

Dilution:

GW-1B-W-081119

Batch Number:

T081124008

Data File:

08112113.D

AnalyteName **SSRecov LCL UCL SSFlag** Result Status p-Bromofluorobenzene 107 80 120 Complete

Lab Sample #:

F0811228-04A

Dilution:

Analysis Date:

11/21/2008 9:48:00PM

Client Sample: Data File:

GW-2-W-081119 08112116.D

Batch Number: AnalyteName

T081124008

LCL **UCL** 80 120

SSFlag Result Status Complete

Lab Sample #:

p-Bromofluorobenzene

T081124008-MB

Dilution: Client Sample: 1

Analysis Date:

11/21/2008 5:44:00PM

Data File:

120

120

120

08112109.D

Batch Number: **AnalyteName**

T081124008

LCL UCL

80

LCL

80

SSFlag

Result Status Complete

p-Bromofluorobenzene Lab Sample #:

T081124008-LCS

11/21/2008 3:24:00PM

SSRecov

SSRecov

SSRecov

SSRecov

102

96

94

104

Dilution: Client Sample:

MB

I LCS

Analysis Date: Batch Number: **AnalyteName**

T081124008

Data File: **LCL** UCL 08112105.D **SSFlag**

Result Status

p-Bromofluorobenzene Lab Sample #:

T081124008-LCSD

11/21/2008 3:59:00PM

Dilution: Client Sample:

LCSD

Complete

Analysis Date: Batch Number:

AnalyteName

p-Bromofluorobenzene

T081124008

Data File: UCL 08112106.D **SSFlag**

Result Status Complete

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 - G	RO			
This Method blank and		are associated with the follow		duplicates:	
<u>SampleNum</u>	ClientSampleName	<u>Datal</u>	<u> ile</u>	<u>AnalysisDate</u>	
T081124007-LCS	LCS	081	12107.D	11/21/2008	4:34:00PM
T081124007-LCSD	LCSD	081	12108.D	11/21/2008	5:09:00PM
F0811228-05A	TB-W-081119	081	12110.D	11/21/2008	6:19:00PM
F0811228-03A-MS	MS	081	12114.D	11/21/2008	8:38:00PM
F0811228-03A-MSD	MSD	081	12115.D	11/21/2008	9:13:00PM
F0811228-04A	GW-2-W-081119	081	12116.D	11/21/2008	9:48:00PM
F0811228-03A	GW-1B-W-081119	081	12113.D	11/21/2008	8:04:00PM
Lab Method Blank Id: Prep Batch ID: Method:	T081124008-MB T081124008 Aromatic VOCs by	GC/PID via method 80211	3 - BTEX		
	•	are associated with the follow		duplicates:	
SampleNum	ClientSampleName	<u>Data</u>		AnalysisDate	
F0811228-03A	GW-1B-W-081119	081	12113.D	11/21/2008	8:04:00PM
F0811228-04A	GW-2-W-081119	081	12116.D	11/21/2008	9:48:00PM
F0811228-01A	Influent-W-081119	081	12126.D	11/22/2008	3:34:00AM
F0811228-02A	Effluent-W-081119	081	12127.D	11/22/2008	4:09:00AM
F0811228-05A	TB-W-081119	081	12110.D	11/21/2008	6:19:00PM
F0811228-06A	TB-W-081119		12111.D	11/21/2008	6:54:00PM
T081124008-LCS	LCS	081	12105.D	11/21/2008	3:24:00PM
T081124008-LCS	LCS	081	12105.D	11/21/2008	3:24:00PM
T081124008-LCSD	LCSD	081	12106.D	11/21/2008	3:59:00PM

08112106.D

11/21/2008 3:59:00PM

T081124008-LCSD LCSD

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)

Oualifier 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

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

<u>TestPkgName</u>	<u>Basis</u>	# Sig Figs	Reporting Limit
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

Version 2.0 Name of Sampler: (printed) Refinquished by: Relinquished by: Relinquished by: EFFLUENT -W- 081119 6 M- 2-W-081119 Kit Prep/Shipping Charge: \$ E-mail: Creating interpretations/Comments: INFLUENT-W-081119 way 2W-18-W-081119 Fax No: Phone No: Report to: B-W-081119 Client Name & Address 2300 Eastlake 及 Include chlorobenzene in Totalizer: Scattle, WA W Client Sample Identification / Location 206-Great 325-8218 126-4742 Treadis Ave E. 98102 92,868,400 11/19/68 Indrew Pale Date Date Swite 200 1600 Weller Fine ā Time 200 gallons Received by: Received by 12189 Pennsylvania St. Thornton, CO 80241 [303] 469-8268 (303) 469-6254-tax Received by: analysis 11/19/10 Requested Due Date for Results: 1119 08 Date Sampled Project Name: = Public Water System (PWS) ID#: OASIS ***** Standard UAF Turnaround Time for Results (TAT) 1520 21.51 1285 Time Sampled 1530 211081 -OML Water Treatment 4307: Artic Boulevard Anchorage, AK 99503 (907) 258: 2155 (907) 258: 6694 fax 590-7979 11-19-08 2 7,0 D V Date Date 20 Matrix Date (S-DW-WW-Other) Expedited (< 10 days, prior support appropriate) 2 ^ C ~ No. of Containers 18 (Dionase spacify the that below; add to the below; 475 Hetl St. Fairbanks, AK:99701 (907) 456 - 3116 (907) 456-3125 Fax Time ime ime Shipped Via: Condition of Custody Seat?: Thermo ID#: Temp/Loc: Initialed By: 5438 Shaune Drive Jimeau, AK.99801 (907) 780-6668 (907) 780-6670 fax 602 BTEX P.O. or Contract No: Quote ID: Invoice to Name & Address: Account #: 당 Requested Analysis Method ANG Same Chain of Custody No: Cash LON F0811228 ONL Credit Card W to Field Preserved FBKS Field Filtered MS/MSD ?



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.

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 $2.0\,^{\circ}$ 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/PID - BTEX & Chlorobenzenes - Aqueous

MS/MSD and DUP OUTLIERS:

The dichlorbenzenes 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.

Тур	e Client Sample I	LabSample	Analyte	Recovery	LCL	UCL :	Parent	Spike
MS	Effluent-W-08122	F0812326-02A	1,2-Dichlorobenzer	ne 79.1	80	1.20	0.00	10.0
MS	Effluent-W-08122	F0812326-02A	1,4-Dichlorobenzer	ne 74.1	80	120	0.00	10.0
MS	Effluent-W-08122	F0812326-02A	1,3-Dichlorobenzer	ne 68.4	80	120	0.00	10.0
MSD	Effluent-W-08122	F0812326-02A	1,3-Dichlorobenzer	ne 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

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

	inituen	it- vv -0812	22					
Matrix:	Aqueous				С	ollection Date:	12/22/200	08 10:50:00AM
The following test was	conducted by: Analytic	a - Thornton						
Lab Sample Number:	F0812326-01A	e				Analysis Date:		2008 11:35:00PM
Prep Date:	12/30/2008					Instrument:	GC_B	
Analytical Method ID:	602 - Purgeable Arom	atics by GC/P	ID - BTEX & Ch	lorobenz	enes	File Name:	081230	017.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>	CASNo	Result	Flags Units	<u>PQL</u>	MDL.			<u>run #:</u>
1,2-Dichlorobenzene	95-50-1	ND	ug/L	1.0	0.22			l
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	0.1	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			
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 29	Flags Units ug/L	<u>POL</u> 0.50	<u>M</u> 0.12	DL <u>Spike</u> % Re- 27 10'		<u>UCL</u> <u>run #:</u> 120

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0812326

Project:

UAF Monthly Monitoring Well

Client:

Arcadis BB&L

Client Project Number:

B0045498.0001

460-00-4

25

Report Section:

Client Sample Report

Client Sample Name:

p-Bromofluorobenzene

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 GC_B Instrument: Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes 08123018.D File Name: Prep Method ID: Dilution Factor: 1 Prep Batch Number: T090105012 As Received Report Basis: RA Analyst Initials: Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 mi Analyte CASNo Result Flags Units PQL MDL <u>run #:</u> 1,2-Dichlorobenzene 95-50-1 ND ug/L 1.0 0.22 1,3-Dichlorobenzene NĐ ug/L 1.0 0.17 541-73-1 1,4-Dichlorobenzene ND ug/L 1.0 0.21 106-46-7 Benzene ND ug/L 1.0 0.074 71-43-2 ug/L Chlorobenzene ND 1.0 0.19 108-90-7 Ethylbenzene 100-41-4 ND ug/L 1.0 0.088 Toluene ND 1.0 0.078 108-88-3 ug/L Xylenes, Total 1330-20-7 ND ug/L 2.0 0.20 Surrogate CASNo Result Flags Units POL <u>run #:</u> MDL Spike % Recov LCL <u>UCL</u>

ug/L

0.50

0.12

27

91.4

120

1

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

	OW ID	11 00122									
Matrix:	Aqueous					C	Collection D	ate:	12/22/200	8 12:0	0:00PM
The following test was	conducted by: Analytica	- Thornton									
Lab Sample Number:	F0812326-03A						Analysis D	Date:	12/30/2	8 800	3:46:00PM
Prep Date:	12/30/2008						Instrument	.;	GC_B		
Analytical Method ID:	ADEC AK101 - GRO						File Name:	;	081230	12.D	
Prep Method ID:	5030B						Dilution Fa	actor:	l		
Prep Batch Number:	T090105011										
Report Basis:	As Received						Analyst Ini	itials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extra	act Vol:	5.00	ml	
Analyte	CASNo	Result	Flags	<u>Units</u>		MDL					<u>run #:</u>
Gasoline Range Organics	n/a	ND		ug/L	100	21					ì
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 20	Flags	Units ug/L	POL 1.5	<u>M</u> 0.50	IDL Spike 27	% Recov 74.3	<u>LCL</u> 50	<u>UCL</u> 150	<u>run #:</u> 1
The following test was	conducted by: Analytica	- Thornton		************							
Lab Sample Number:	F0812326-03A						Analysis D	Pate:	12/30/2	800.	3:46:00PM
Prep Date:	12/30/2008						Instrument	.:	GC_B		
Analytical Method ID:	Aromatic VOCs by GC	/PID via met	hod 802	1B - BT	EX		File Name:	:	081230	12.D	
Prep Method ID:	5030B						Dilution Fa	actor:	1		
Prep Batch Number:	T090105012										
Report Basis:	As Received						Analyst Ini	itials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extr	act Vol:	5.00	ml	
Analyte	CASNo	Result	Flags	<u>Units</u>	POL	MDL.					<u>run #:</u>
Benzene	71-43-2	1.6		ug/L	1.0	0.074	1				I
Ethylbenzene	100-41-4	ND		ug/L	1.0	0.088	3				
Toluene	108-88-3	ND		ug/L	1.0	0.078	3				
Xylenes, Total	1330-20-7	ND		ug/L	2.0	0.20					
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	<u>Result</u> 28	Flags	Units ug/L	POL 0.50	<u>M</u> 0.12	IDL <u>Spike</u> 27	<u>% Recov</u> 104	<u>LCL</u> 80	<u>UCL</u> 120	<u>run #:</u>

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0812326

Project:

UAF Monthly Monitoring Well

Client:

Arcadis BB&L B0045498.0001

Client Project Number: Report Section:

Client Sample Report

Client Sample Name:

GW-2-W-081222

Chem Sample Name,	GW-2-	·W-081222									
Matrix:	Aqueous					C	Collection D	ate:	2/22/200	8 12:10	D:00PM
The following test was	conducted by: Analytic	a - Thornton									
Lab Sample Number:	F0812326-04A						Analysis D	ate:	12/30/2	008 1	1:01:00PM
Prep Date:	12/30/2008						Instrument	:	GC_B		
Analytical Method ID:	ADEC AK101 - GRC)					File Name:		081230	16.D	
Prep Method ID:	5030B						Dilution Fa	actor:	1		
Prep Batch Number:	T090105011										
Report Basis:	As Received						Analyst Ini	tials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extra	act Vol:	5.00	ml	
Analyte Gasoline Range Organics	<u>CASNo</u> n/a	<u>Result</u> ND	Flags	Units ug/L	<u>POL</u> 100	MDL 21				1	run #:
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 20	<u>Flags</u>	Units ug/L	<u>POL</u> 1.5	<u>M</u> 0.50	DL Spike 27	% Recov 72.9	LCL 50	<u>UCL</u> 150	<u>run #:</u> 1
The following test was	conducted by: Analytic	a - Thornton									
Lab Sample Number:	F0812326-04A						Analysis D	ate:	12/30/2	008 1	1:01:00PM
Prep Date:	12/30/2008						Instrument	:	GC_B		
Analytical Method ID:	Aromatic VOCs by G	C/PID via metl	nod 802	1B - BTI	EX		File Name:		081230	16.D	
Prep Method ID:	5030B						Dilution Fa	actor:	ž		
Prep Batch Number:	T090105012										
Report Basis:	As Received						Analyst Ini	tials:	RA		
Sample prep wt./vol:	5.00 ml						Prep Extra	act Vol:	5.00	ml	
Analyte	CASNo	Result	Flags	<u>Units</u>		MDL.				1	run #:
Benzene	71-43-2	1.5		ug/L	1.0	0.074	ļ				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 p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	<u>Result</u> 26	<u>Flags</u>	<u>Units</u> ug/L	POL 0.50	<u>M</u> 0.12	DL Spike 27	% Recov 98.0	LCL 80	<u>UCL</u> 120	<u>run #:</u>

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0812326

Project:

UAF Monthly Monitoring Well

Client:

Arcadis BB&L B0045498.0001

Client Project Number: Report Section:

Client Sample Report

Client Sample Name:

TB-W-081222

-		1 13 44 -0	01.2.2.2									
Matrix:	Aq	ueous					C	Collection D	ate:	12/22/200	8 10:5	0:00 AM
The following test was	conducte	d by: Analytica	- Thornton									
Lab Sample Number:	F08123	326-05A						Analysis D	ate:	12/30/2	2008 7	:39:00PM
Prep Date:	12/30/2	8008						Instrument	:	GC_B		
Analytical Method ID:	ADEC A	AK101 - GRO						File Name:		081230	10.D	
Prep Method ID:	5030B							Dilution Fa	actor:	1		
Prep Batch Number:	T09010	05011										
Report Basis:	As Reco	eived						Analyst Ini	tials:	RA		
Sample prep wt./vol:	5.00	ml						Prep Extra	act Vol:	5.00	וֹנונו	
Analyte		CASNo	Result	Flags	<u>Units</u>		MDL				j	run #:
Gasoline Range Organics		n/a	ND		ug/L	100	21					1
Surrogate p-Bromofluorobenzene		<u>CASNo</u> 460-00-4	Result 20	Flags	Units ug/L	POL 1.5	<u>M</u> 0.50	DL Spike 27	% Recov 74.1	LCL 50	<u>UCL</u> 150	<u>run #:</u>
The following test was	conducte	d by: Analytica	- Thornton								······································	**
Lab Sample Number:	F08123	326-05A						Analysis D	ate:	12/30/2	2008 7	:39:00PM
Prep Date:	12/30/2	2008						Instrument	:	GC_B		
Analytical Method ID:	Aromati	ic VOCs by GC/	PID via metl	10d 802	1B - BT	EX		File Name:		081230	0.010	
Prep Method ID:	5030B							Dilution Fa	actor;	1		
Prep Batch Number:	T09010	05012										
Report Basis:	As Reco	eived						Analyst Ini	tials:	RA		
Sample prep wt./vol:	5.00	ml						Prep Extra	act Vol:	5.00	ml	
Analyte		CASNo	Result	Flags	Units		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	3				
Toluene		108-88-3	ND		ug/L	1.0	0.078	3				
Xylenes, Total		1330-20-7	ND		ug/L	2.0	0.20					
Surrogate p-Bromofluorobenzene		<u>CASNo</u> 460-00-4	<u>Result</u> 27	Flags	<u>Units</u> ug/L	POL 0.50	0.12	IDL <u>Spike</u> 27	% Recov 98.4	LCL 80	<u>UCL</u> 120	<u>run #:</u> !

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0812326

Project:

UAF Monthly Monitoring Well

Client:

Arcadis BB&L B0045498.0001

Client Project Number: **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

<u>run #:</u>

Prep Date:

12/30/2008

Instrument:

 GC_B

File Name:

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

Dilution Factor:

08123011.D 1

Prep Batch Number:

1,2-Dichlorobenzene

T090105012

Analyst Initials:

RA

Report Basis:

Analyte

As Received

Prep Extract Vol:

5.00 ml

Sample prep wt./vol: 5.00

ml CASNo

95-50-1

1330-20-7

POL MDL Result Flags Units 1.0 0.22 ug/L ug/L 1.0 0.17 ug/L 1.0 0.21

2.0

0.20

1,3-Dichlorobenzene 541-73-1 ND 1,4-Dichlorobenzene 106-46-7 ND Benzene ND 0.074 ug/L. 1.0 71-43-2 Chlorobenzene ND ug/L 1.0 0.19 108-90-7 Ethylbenzene 100-41-4 ND ug/L 1.0 0.088 Toluene 108-88-3 ND ug/L 1.0 0.078 Xylenes, Total ND

ND

ug/L <u>run #:</u> Surrogate CASNo POL MDL Spike Result Flags Units % Recov **LCL** <u>UCL</u> p-Bromofluorobenzene 460-00-4 ug/L 0.50 0.12 27 95.7 120 26 1

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

.	IVLD										
Matrix:	Aqueous					(Collection D	ate:	12/30/2008	12:0	0:00AM
The following test was	conducted by: Analytica	- Thornton									
Lab Sample Number: Prep Date:	T090105012-MB 12/30/2008						Analysis D Instrument		12/30/20 GC_B	800	7:06:00PM
Analytical Method ID:	602 - Purgeable Aroma	tics by GC/Pl	D - BTI	EX & Ch	lorobenz	enes	File Name:	:	0812300)9.D	
Prep Method ID:							Dilution Fa	actor:	1		
Prep Batch Number:	T090105012										
Report Basis:	As Received						Analyst Ini		RA		
Sample prep wt./vol:	5.00 ml						Prep Extra	act Vol:	5.00	ml	
Analyte 1,2-Dichlorobenzene	<u>CASNo</u> 95-50-1	<u>Result</u> ND	Flags	Units ug/L	<u>POL</u> 3.0	MDL 0.54					<u>run #:</u>
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 p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 26	Flags	<u>Units</u> ug/L	POL 0.50	<u>N</u> 0.12	IDL Spike 27	% Recov 96.6	LCL 80	UCL 120	<u>run #:</u>) 1
The following test was	conducted by: Analytica	- Thornton									
Lab Sample Number:	T090105011-MB						Analysis D	ate:	12/30/20	308	7:06:00PM
Prep Date:	12/30/2008						Instrument	:	GC_B		
Analytical Method ID:							File Name:		0812300)9.D	
Prep Method ID:	5030B						Dilution Fa	actor:	1		
Prep Batch Number:	T090105011										
Report Basis:	As Received						Analyst Ini		RA		
Sample prep wt./vol:	5.00 ml						Prep Extra	act Vol:	5.00	ml	
Analyte Gasoline Range Organics	<u>CASNo</u> n/a	<u>Result</u> ND	Flags	<u>Units</u> ug/L	<u>POL</u> 100	<u>MDL</u> 21					<u>run #:</u> 1
Surrogate p-Bromofluorobenzene	<u>CASNo</u> 460-00-4	Result 23	Flags	Units ug/L	<u>PQL</u> 1.5	0.50	IDL Spike 27	% Recov 83.5	<u>LCL</u> 50	<u>UCL</u> 150	<u>run #:</u>
The following test was	conducted by: Analytica	- Thornton									
Lab Sample Number:	T090105012-MB						Analysis D	ate:	12/30/20	308	7:06:00PM
Prep Date:	12/30/2008						Instrument	:	GC_B		
Analytical Method ID:	Aromatic VOCs by GC	/PID via metl	10d 802	lB - BTE	EX		File Name:	:	0812300)9.D	
Prep Method ID:	5030B						Dilution Fa	actor:	1		
Prep Batch Number:	T090105012										
Report Basis:	As Received						Analyst Ini		RA		
Sample prep wt./vol:	5.00 ml						Prep Extr	act Vol:	5.00	ml	
<u>Analyte</u>	CASNo	Result	Flags	<u>Units</u>	<u>PQL</u>	MDL					<u>run #:</u>

Analytica Environmental Laboratories, Inc.

Workorder (SDG): F0812326

Project: **UAF Monthly Monitoring Well**

Client: Arcadis BB&L B0045498.0001 Client Project Number:

Report Section: Method Blank Report MB

Client Sample Name:

Matrix;	Aqueous			, - #		C	Collection D	ate:	12/30/2008	3 12:00:00AM
Lab Sample Number; Prep Date: Analytical Method ID:	T090105012-MB 12/30/2008 Aromatic VOCs by GC	/PID via met	hod 802	IB - BTE:	X		Analysis D Instrument File Name:	:	12/30/2 GC_B 081230	
Prep Method ID:	5030B						Dilution Fa	ictor:	1	
Prep Batch Number: Report Basis: Sample prep wt./vol:	T090105012 As Received 5.00 ml						Analyst Ini Prep Extra		RA 5.00	ml
Analyte Benzene	<u>CASNo</u> 71-43-2	<u>Result</u> ND	Flags	Units ug/L	<u>PQL</u> 1.0	MDL 0.33				<u>run #:</u> l
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 p-Bromofluorobenzene	<u>CASNo</u> 46()-0()-4	Result 26	Flags	Units ug/L	POL 0.50	<u>M</u> 0.12	DL Spike 27	% Recov 96.6	LCL 80	<u>UCL</u> <u>run #:</u> 120 1

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: Project Number: **UAF Monthly Monitoring Well**

QUALITY CONTROL REPORT

Prep Batch:

T090105012

LCS/LCSD REPORT

Analysis:

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

31.3

MB:

Units:

104.3

T090105012-MB

Prep Date:

0.3

MB Anal, Date:

12/30/2008 7:06:00PM

104.7

ug/L

LCS Anal, Date:

12/30/2008 4:50:00PMLCSD Anal. Date: 12/30/2008 5:24:00PMMatrix:

31.4

495

Aqueous

80 - 120

12/30/2008

Analyte Name LCSRes. SDRes. RPD Recov Lim RPDLim Flag SampResult **SPLev** SPDLev SD Recov Recov. 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 10.0 107.0 10.0 107.0 0.0 20 80 - 120Ethylbenzene \overline{ND} 10.6 10.6 10.0 10.0 106.0 106.0 20 0.0 80 - 120 Xylenes, Total ND

30.0

Prep Batch:

T090105011

LCS/LCSD REPORT

30.0

Analysis:

ADEC AK101 - GRO

MB:

T090105011-MB

20

Prep Date:

12/30/2008

MB Anal. Date:

12/30/2008 7:06:00PM

Units:

ug/L

LCS Anal. Date: Analyte Name

12/30/2008 5:58:00PMLCSD Anal. Date: 12/30/2008 6:32:00PMMatrix:

Aqueous

RPD Recov Lim RPDLim Flag

Gasoline Range Organics

LCSRes. SDRes.

SPLev SPDLev Recov. 500

100.0

SampResult ND

ADEC AK101 - GRO

500

99.0

1.0 60 - 120

500

SD Recov

Analysis:

MS/MSD REPORT

Parent: F0812326-03A 12/30/2008

Samp. Anal. Date: 12/30/2008 8:46:00PM

Prep Date: Units:

ug/L

MS Anal. Date:

12/30/2008 9:20:00PMMSD Anal. Date:

12/30/2008 9:54:00PMMatrix:

Aqueous

Analyte Name

Gasoline Range Organics

SampResult

ND

MSRes. 336

321

500

500

67.2

64.2 4.6

MSDRes SPLev SPDLev Recov. MSD Rec. RPD Recov Lim RPDLim

Flag 74 - 130 20 lowMS lowMSD

Prep Batch:

T090105012

LCS/LCSD REPORT

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0812326

Project:

UAF Monthly Monitoring Well

Client: Client Project Number:

Arcadis BB&L

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:

Aqueous

12/30/2008 4:50:00PMLCSD Anal. Date: 12/30/2008 5:24:00PMMatrix:

į.									-		
Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	<u>RPD</u>	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	0.101	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	0.1	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: MS Anal. Date: 12/31/2008 3:31:00AMMSD Anal. Date: 12/31/2008 4:05:00AMMatrix: ug/L

Aqueous

	2.01.2000 0.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			21.51.2000		307 8372736667		7 Iqueou.	,
Analyte Name	SampResult	MSRes.	MSDRes	SPLcv	SPDLev	Recov.	MSD Rec.	<u>RPD</u>	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

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.

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 Aro	matics by GC	Z/PID - BTI	EX & Chlore	benzene	
Lab Sample #:	F0812326-06A		Di	lution:	1	
Analysis Date:	12/30/2008 8:13:00	PM	Cl	ient Sample:	TB-W-081222	
Batch Number:	T090105012		Da	ıta File:	08123011.D	
<u>AnalyteName</u>		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluoroben	zene	96	80	120		Complete
Lab Sample #:	F0812326-01A		Di	lution:	1	
Analysis Date:	12/30/2008 11:35:00	PM	Cl	ient Sample:	Influent-W-081222	
Batch Number:	T090105012		Da	ıta File:	08123017.D	
AnalyteName		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluoroben	zene	107	80	120		Complete
Lab Sample #:	F0812326-02A		Di	lution;	1	
Analysis Date:	12/31/2008 12:09:00	AM	Cli	ient Sample:	Effluent-W-081222	
Batch Number:	T090105012		Da	ıta File:	08123018.D	
AnalyteName		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluoroben	zene	91	80	120		Complete
Lab Sample #:	T090105012-MB		Di	lution:]	
Analysis Date:	12/30/2008 7:06:001	PM	Cli	ient Sample:	<u>MB</u>	
Batch Number:	T090105012		Da	ıta File:	08123009.D	
<u>AnalyteName</u>		SSRecov	<u>LCL</u>	UCL	SSFlag	Result Status
p-Bromofluoroben	zene	97	80	120		Complete
Lab Sample #:	T090105012-LCS		Di	lution:	1	
Analysis Date:	12/30/2008 4:50:001	PM	Cli	ient Sample:	LCS	
Batch Number:	T090105012		Da	ıta File:	08123005.D	
<u>AnalyteName</u>		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluoroben	zene	98	80	120		Complete
Lab Sample #:	T090105012-LCSD		Di	lution:	1	
Analysis Date:	12/30/2008 5:24:001	PM	Cli	ient Sample:	LCSD	
Batch Number:	T090105012		Da	ıta File:	08123006.D	
<u>AnalyteName</u>		SSRecov	<u>LCL</u>	<u>UCL</u>	SSFlag	Result Status
p-Bromofluoroben	zene	98	80	120		Complete
Lab Sample #:	F0812326-02A-MS		Di	lution:	1	
Analysis Date:	12/31/2008 3:31:00/	AΜ	Cli	ient Sample:	<u>MS</u>	
Batch Number:	T090105012		Da	ıta File:	08123024.D	
<u>AnalyteName</u>		SSRecov	LCL	<u>UCL</u>	SSFlag	Result Status
p-Bromofluoroben	zene	109	80	120		Complete
Lab Sample #:	F0812326-02A-MSD		Di	lution:	1	
Analysis Date:	12/31/2008 4:05:00	4M		ient Sample:	MSD	
Batch Number:	T090105012			ıta File:	08123025.D	
<u>AnalyteName</u>		SSRecov	LCL	<u>UCL</u>	SSFlag	Result Status
p-Bromofluoroben	zene	97	80	120		Complete
p-istomoradioocis	zene	21	<u> </u>	120		Complete

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0812326

Project:

UAF Monthly Monitoring Well

SSRecov

74

Client:

Arcadis BB&L B0045498.0001

Client Project Number: Test Method:

ADEC AK101 - GRO

Lab Sample #:

Analysis Date: Batch Number: F0812326-05A

12/30/2008 7:39:00PM

T090105011

Dilution: Client Sample:

TB-W-081222

1

Data File: 08123010.D UCL

150

SSFlag Result Status Complete

Lab Sample #: Analysis Date:

p-Bromofluorobenzene

AnalyteName

F0812326-03A

12/30/2008 8:46:00PM

Client Sample: Data File:

Dilution:

GW-1B-W-081222

Batch Number:

T090105011

LCL

50

08123012.D

AnalyteName **SSRecov LCL UCL Result Status SSFlag** p-Bromofluorobenzene 74 50 150 Complete

Lab Sample #:

F0812326-04A

Dilution:

Analysis Date:

12/30/2008 11:01:00PM

Client Sample: Data File:

GW-2-W-081222 08123016.D

Batch Number: T090105011 AnalyteName **SSRecov LCL** UCL **SSFlag** p-Bromofluorobenzene 73 50 150

SSRecov

SSRecov

SSRecov

SSRecov

69

84

84

84

Lab Sample #:

T090105011-MB

Dilution:

1

Analysis Date: Batch Number: 12/30/2008 7:06:00PM T090105011

Client Sample: Data File:

UCL

08123009.D

AnalyteName p-Bromofluorobenzene

T090105011-LCS

60 120 Dilution:

LCL

60

SSFlag 1 Result Status Complete

Result Status

Complete

Lab Sample #: Analysis Date:

12/30/2008 5:58:00PM

Client Sample:

LCS

MB

Batch Number: **AnalyteName**

p-Bromofluorobenzene

T090105011

T090105011

Data File: 08123007.D LCL UCL **SSFlag** 120

Result Status Complete

Lab Sample #: Analysis Date: Batch Number: T090105011-LCSD 12/30/2008 6:32:00PM

Dilution: Client Sample: Data File:

1 LCSD

AnalyteName p-Bromofluorobenzene

LCL UCL 120 60

08123008.D **SSFlag**

Result Status Complete

Result Status

Complete

Lab Sample #: Analysis Date:

F0812326-03A-MS 12/30/2008 9:20:00PM

Dilution: Client Sample:

MS

Batch Number: AnalyteName

T090105011

Data File: 08123013.D

p-Bromofluorobenzene Lab Sample #:

F0812326-03A-MSD

50 150 Dilution:

LCL

SSFlag 1

Analysis Date: Batch Number:

12/30/2008 9:54:00PM

Client Sample: MSD Data File:

08123014.D **SSFlag** Result Status

AnalyteName p-Bromofluorobenzene

T090105011

UCL 150

UCL

Complete

Analytica Environmental Laboratories, Inc.

Workorder (SDG):

F0812326

Project: Client:

UAF Monthly Monitoring Well

Client Project Number:

Arcadis BB&L B0045498.0001

Test Method:

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

Lab Sample #:

F0812326-05A

Analysis Date: Batch Number: 12/30/2008 7:39:00PM

T090105012

Dilution: Client Sample:

TB-W-081222

Data File: UCL

120

08123010.D

AnalyteName p-Bromofluorobenzene

SSRecov

98

104

SSRecov

SSRecov

SSRecov

98

97

98

Dilution:

SSFlag

Result Status Complete

Lab Sample #: Analysis Date: Batch Number: F0812326-03A

T090105012

12/30/2008 8:46:00PM

Client Sample: Data File:

GW-1B-W-081222

08123012.D

AnalyteName p-Bromofluorobenzene

SSRecov

LCL 80

LCL

LCL

80

<u>LC</u>L

80

UCL 120

UCL

UCL

UCL

120

120

SSFlag

Result Status Complete

Lab Sample #: Analysis Date:

Batch Number:

F0812326-04A

T090105012

T090105012

T090105012

12/30/2008 11:01:00PM

Client Sample: Data File:

Dilution:

GW-2-W-081222

1

1

08123016.D **SSFlag**

AnalyteName p-Bromofluorobenzene

T090105012-MB

80 120 Dilution:

Result Status Complete

Result Status

Complete

Result Status

Complete

Lab Sample #: Analysis Date: Batch Number:

12/30/2008 7:06:00PM

Client Sample: Data File:

MB

SSFlag

08123009.D

AnalyteName p-Bromofluorobenzene Lab Sample #:

Analysis Date:

Batch Number:

T090105012-LCS 12/30/2008 4:50:00PM

Dilution: Client Sample:

LCS

SSFlag

Data File: 08123005.D

AnalyteName p-Bromofluorobenzene Lab Sample #:

T090105012-LCSD 12/30/2008 5:24:00PM Dilution:

LCL

Client Sample: LCSD

Batch Number: AnalyteName p-Bromofluorobenzene

Analysis Date:

T090105012

Data File: 08123006.D **SSFlag**

SSRecov LCL 98 80 UCL 120 Result Status Complete

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	.907 Lab Project Number: F081232			
				Prep Date:	12/30/2008
Lab Method Blank Id:	T090105011-MB			·	
Prep Batch ID:	T090105011				
Method:	ADEC AK101 - GR	O			
This Method blank and	sample preparation batch a	re associated with the followin	g samples, spikes, and	duplicates:	
<u>SampleNum</u>	ClientSampleName	<u>DataF</u>	le	AnalysisDate	
T090105011-LCS	LCS	0812	3007.D	12/30/2008	5:58:00PM
T090105011-LCSD	LCSD	0812	3008.D	12/30/2008	6:32:00PM
F0812326-05A	TB-W-081222	0812	3010.D	12/30/2008	7:39:00PM
F0812326-03A	GW-1B-W-081222	0812	3012.D	12/30/2008	8:46:00PM
F0812326-03A-MS	MS	0812	3013.D	12/30/2008	9:20:00PM
F0812326-03A-MSD	MSD	0812	3014.D	12/30/2008	9:54:00PM
F0812326-04A	GW-2-W-081222	0812	3016.D	12/30/2008	11:01:00PM

Prep Date: 12/30/2008

Lab Method Blank Id:

T090105012-MB

Prep Batch ID:

Method:

T090105012 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

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

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

<u>TestPkgName</u>	<u>Basis</u>	# Sig Figs	Reporting Limit
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

Analytica Chain of Custody Form

12189 Pennsylvania St. Thornton, CO 8324† (303) 469-8868 (303) 469-5254 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 Shaure Drive Juneau, AK 99801 (907) 780-5668

(907) 780-6670 fax

Chain of Custody No:

Version 2.0 Name of Sampler: (printed) Relinquished by: Relinquished by: E-mail: Cregary. Montgomery Careadis-us.com Fax No: 206 -Client Name & Address: 2300 Eastlake Relinquished by: Kit Prep/Shipping Charge: \$ Phone No: Report to: 6W-18- W-- M5 EFFLUENT- W-081222 INFLUENT-W-081222 L'ALE lotalizer 18-W-081222 2-W-081222 206-1726-4742 Senthe, Client Sample Identification / Location 222180 325 - 8218 Z Z Ave E. Suite 200 Include 6,578,800 98102 n/22/08 Date THATE Date Date 1330 chbro benzene i me Time Time Nettergallows Received by Received by: Requested Due Date for Results: Received by: Project Name: 12/22/68 12/22/08 Public Water System (PWS) ID#: 12/22/08 80/12/2 Sampled Date X Standard スなア Λ 967-56-7979 Turnaround Time for Results (TAT) 12/0 1260 1055 1050 Sampled 1 Time Water \$ 211081 -OML 2-22-08 DA A 602 (Σ ۲ Matrix Date Date Date (S-DW-WW-Other) Expedited (< 10 days, prior authorization required) Treatment ħ 2 2 No. of Containers Analysis (please specify due date below; add'il charges may apply) 13:35 602 BTEX × ime ime Time 8021 BTEX/ AK 101 GRO × Shipped Via × Custody Seal?: Condition of Thermo (D#: emp/Loc: nitialed By: P.O. or Contract No: Invoice to Name & Address: Account # Quote ID: Requested Analysis/Method Section To Be Completed by Analytica H Section To be Completed by Analytica Same ANC Cash CGN: F0812326 SIL Lot# Credit Card 67609 Field Preserved nand 300 FBKS Field Filtered MS/MSD ?



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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 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 DescriptionLancaster Labs NumberSELC-W-081215 Grab Water Sample5560410

METHODOLOGY

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

ELECTRONIC Arcadis US, Inc. Attn: Rebecca Andresen

COPY TO

ELECTRONIC Arcadis BBL Attn: Vanessa Varbel

COPY TO

ELECTRONIC ARCADIS Attn: Michael Strickler

COPY TO

ELECTRONIC ARCADIS Attn: Andrew Ohrt

COPY TO

ELECTRONIC Arcadis Attn: Greg Montgomery

COPY TO

1 COPY TO Data Package Group



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

Respectfully Submitted,

Janifa Elfers Jenifer E. Hess

Manager



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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*

				As Received		
CAT			As Received	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	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			-	Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
02244	TPH-DRO AK C10-C25 w/Si Gel	AK 102/AK 103 04	4/08/02 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	4/08/02 1	12/19/2008 02:30	Roman Kuropatkin	1



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Quality Control Summary

Client Name: Chevron Group Number: 1125156

Reported: 12/31/08 at 01:08 PM

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

Laboratory Compliance Quality Control

Analysis Name	Blank <u>Result</u>	Blank <u>MDL</u>	Report <u>Units</u>	LCS %REC	LCSD %REC	LCS/LCSD <u>Limits</u>	RPD	RPD Max
Batch number: 083530019A TPH-DRO AK C10-C25 w/Si Gel	Sample nu N.D.	umber(s): 0.050	5560410 mg/l	93	95	75-125	3	20
Batch number: 08357A13A Benzene	Sample nu	mber(s): 0.0005	5560410 mg/l	105	105	86-119	0	30
Toluene	0.04	0.0005	mg/1	105	105	82-119	Ö	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
5560410 Blank LCS LCSD	93
LCS	100
LCSD	101
Limits:	50-150

Analysis Name: BTEX Batch number: 08357A13A

Trifluorotoluene-P

5560410	116		
Blank	115		
LCS	115		
5560410 Blank LCS 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



Acct. # 11964

For Lancaster Laboratories use only Group# 1125150 Sample # 5560410

COC # 191322

		F	Please print. Ins	structi	ions d	on re	everse	side	e cor	respon	d with	circle	d numb	ers.	000	ler l	emi.	3.1°C		
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_ \	Client: Arcadis Seattle	dis SeattleAcct.#:						! ($\frac{1}{4}$			Pre	servat	ion C	odes	. .		SCR#:		_ _ ::
	Project Name/#: Geist Rd 21)08 Project Manager: Great Montgoner, Sampler: Andrew Weller 907-350-79	PWSID 06-726-479 P.O.#: 177 Quote #	#: / Z				Polable Check if NPDES Applicable		onfainers.	五 (201 ×	(8120							Preservation Codes H=HCI T=Thiose N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other	1	6 (Separa
	Name of state where samples were collected: 2 Sample Identification	Date Collected	Time Collected	(m) geso	Composite		Water:		0.5 # 1870	DR0 (A)	BTEX (8							Need Silica cleanup for Remarks	- BR	emperature of s
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8	Data Package Options (please circle if required) Type I (validation/NJ Reg) TX TRRP-13 Type II (Tier II) MA MCP CT	Ye	G Complete?	-	Relir	nqui	shed	by:	_	_	_		Date	Tir	ne [æcejv	ed by	: ()	Date	Time
	Type III (Reduced NJ) Type IV (CLP SOW) Site-specific QC ((If yes, indicate QC sample and suit	MS/MSD/Dup)?		1	Relir	qui	shed	by:				<u> </u>	Date	Tir	ne I	Receiv	1 -	1 10	Date	_
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Lancaster Laboratories Explanation of Symbols and Abbreviations

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

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
С	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)	I	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.

Inorganic Qualifiers

- ppb parts per billion
- **Dry weight**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:

9	lifier	(uu	9	 u	" 9	•

A B C D E	TIC is a possible aldol-condensation product Analyte was also detected in the blank Pesticide result confirmed by GC/MS Compound quatitated on a diluted sample Concentration exceeds the calibration range of the instrument	B E M N S	Value is <crdl, (msa)="" additions="" amount="" but="" calculation<="" control="" due="" duplicate="" estimated="" for="" injection="" interference="" limits="" met="" method="" not="" of="" precision="" spike="" standard="" th="" to="" used="" within="" ≥idl=""></crdl,>
J	Estimated value	U	Compound was not detected
N	Presumptive evidence of a compound (TICs only)	W	Post digestion spike out of control limits
Р	Concentration difference between primary and	*	Duplicate analysis not within control limits
	confirmation columns >25%	+	Correlation coefficient for MSA < 0.995
U	Compound was not detected		
X,Y,Z	Defined in case narrative		

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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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 Description	<u>Lancaster Labs Number</u>
G-7 Grab Water Sample	5560411
Trip_Blank Water Sample	5560412
BD-1 Grab Water Sample	5560413

METHODOLOGY

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

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

Respectfully Submitted,

Janua Elfers Jenifer E. Hess

Manager



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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<="" td=""><td>n.a.</td><td>1.5</td><td>0.50</td><td>mg/l</td><td>10</td></c25>	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 the analysis. The reporting lin		•	s used for		

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	Chro	nicle		
CAT				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	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 04/08/0	2 1	12/20/2008 12:00	Jessica Agosto	1



Account Number: 11964

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Page 1 of 1

Lancaster Laboratories Sample No. WW5560412 Group No. 1125157

Trip_Blank Water Sample
Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected:12/12/2008

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

Analysis Name	CAS Number	As Received Result	As Received Method Detection	Units	Dilution Factor
•			Limit		
TPH-GRO AK water C6-C10	n.a.	N.D.	0.01	mg/l	1
BTEX/MTBE					
Benzene	71-43-2	N.D.	0.001	mg/l	1
Toluene	108-88-3	N.D.	0.001	mg/l	1
Ethylbenzene	100-41-4	N.D.	0.001	mg/l	1
Total xylenes	1330-20-7	N.D.	0.002	mg/l	1
Methyl tert-Butyl ether	1634-04-4	N.D.	0.003	mg/l	1
	BTEX/MTBE Benzene Toluene Ethylbenzene Total xylenes	TPH-GRO AK water C6-C10 TPH-GRO AK water C6-C10 BTEX/MTBE Benzene 71-43-2 Toluene 108-88-3 Ethylbenzene 100-41-4 Total xylenes 1330-20-7	Analysis Name CAS Number Result TPH-GRO AK water C6-C10 TPH-GRO AK water C6-C10 n.a. N.D. BTEX/MTBE Benzene 71-43-2 N.D. Toluene 108-88-3 N.D. Ethylbenzene 100-41-4 N.D. Total xylenes 1330-20-7 N.D.	Analysis Name CAS Number Result Detection Limit TPH-GRO AK water C6-C10 TPH-GRO AK water C6-C10 n.a. N.D. 0.01 BTEX/MTBE Benzene 71-43-2 N.D. 0.001 Toluene 108-88-3 N.D. 0.001 Ethylbenzene 100-41-4 N.D. 0.001 Total xylenes 1330-20-7 N.D. 0.002	Analysis Name CAS Number As Received Result Method Detection Limit Units TPH-GRO AK water C6-C10 N.D. 0.01 mg/l BTEX/MTBE N.D. 0.001 mg/l Benzene 71-43-2 N.D. 0.001 mg/l Toluene 108-88-3 N.D. 0.001 mg/l Ethylbenzene 100-41-4 N.D. 0.001 mg/l Total xylenes 1330-20-7 N.D. 0.002 mg/l

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			_	Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
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



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Lancaster Laboratories Sample No. WW5560413

Group No. 1125157

Account Number: 11964

BD-1 Grab Water Sample Facility# 211081

4103 Geist Road - Fairbanks, AK Collected:12/12/2008 by MLS

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 Method Detection Limit	Units	Dilution Factor
02923	TPH-DRO/RRO (AK) water					
02943	C10- <c25 dro<="" td=""><td>n.a.</td><td>1.5</td><td>0.47</td><td>mg/l</td><td>10</td></c25>	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 the analysis. The reporting lin		•	s used for		

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	Chro	nicle		
CAT		-		Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	12/22/2008 21:30	Heather E Williams	10
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/0	2 1	12/20/2008 12:00	Jessica Agosto	1



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Page 1 of 2

Quality Control Summary

Client Name: Chevron Group Number: 1125157

Reported: 12/24/08 at 01:26 PM

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

Laboratory Compliance Quality Control

Analysis Name	Blank <u>Result</u>	Blank <u>MDL</u>	Report <u>Units</u>	LCS %REC	LCSD %REC	LCS/LCSD <u>Limits</u>	RPD	RPD Max
Batch number: 08353A53A	Sample nu	mber(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 nu	mber(s):	5560411,55	60413				
C10- <c25 dro<="" td=""><td>N.D.</td><td>0.050</td><td>mg/l</td><td>94</td><td>96</td><td>75-125</td><td>2</td><td>20</td></c25>	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

Analysis Name	MS %REC	MSD %REC	MS/MSD <u>Limits</u>	RPD	RPD <u>MAX</u>	BKG Conc	DUP <u>Conc</u>	DUP <u>RPD</u>	Dup RPD <u>Max</u>
Batch number: 08353A53A	Sample	number(s)	: 5560412	UNSPK:	P5594	78, 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.



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Quality Control Summary

Client Name: Chevron Group Number: 1125157

Reported: 12/24/08 at 01:26 PM

Surrogate Quality Control

Limits:	60-120	69-129
	me: TPH-DRO/RRO (AK) water r: 083540016A Orthoterphenyl	n-Triacontane-d62
5560411	80	73
5560413 Blank	82 85	76 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 011367

For Langaster Laboratories use only

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Lancaster Laboratories Explanation of Symbols and Abbreviations

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

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
С	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)	I	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.

Inorganic Qualifiers

- ppb parts per billion
- **Dry weight**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:

9	lifier	(uu	9	 u	" 9	•

A B C D E	TIC is a possible aldol-condensation product Analyte was also detected in the blank Pesticide result confirmed by GC/MS Compound quatitated on a diluted sample Concentration exceeds the calibration range of the instrument	B E M N S	Value is <crdl, (msa)="" additions="" amount="" but="" calculation<="" control="" due="" duplicate="" estimated="" for="" injection="" interference="" limits="" met="" method="" not="" of="" precision="" spike="" standard="" th="" to="" used="" within="" ≥idl=""></crdl,>
J	Estimated value	U	Compound was not detected
N	Presumptive evidence of a compound (TICs only)	W	Post digestion spike out of control limits
Р	Concentration difference between primary and	*	Duplicate analysis not within control limits
	confirmation columns >25%	+	Correlation coefficient for MSA < 0.995
U	Compound was not detected		
X,Y,Z	Defined in case narrative		

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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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	<u>Lancaster Labs Number</u>
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 Attn: Greg Montgomery

COPY TO

ELECTRONIC Arcadis Attn: Russ Greisler

COPY TO



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

Respectfully Submitted,

Martha L. Seidel Martha L. Seidel Senior Chemist



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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 Account Number: 11964 by AW

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

				As Received		
CAT			As Received	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
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.

CAT					Dilution	
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
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



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Lancaster Laboratories Sample No. WW5577627

Group No. 1128258

Account Number: 11964

G-4-W-090113 Grab Water Sample Facility# 211081

4103 Geist Road - Fairbanks, AK

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

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

				As Received		
CAT			As Received	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
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.

CAT					Dilution	
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
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



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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 02946	C10- <c25 analysis.="" c25-c36="" dro="" due="" lim<="" nature="" of="" reporting="" rro="" sample="" td="" the="" to=""><td></td><td></td><td>0.24 0.24 used for</td><td>mg/l mg/l</td><td>5 5</td></c25>			0.24 0.24 used for	mg/l mg/l	5 5
07879	EDB in Wastewater					
01087	Ethylene dibromide	106-93-4	N.D.	0.0000098	mg/l	1
01440	TPH-GRO AK water C6-C10 TPH-GRO AK water C6-C10	n.a.	7.6	0.05	mq/l	5
01588	BTEX				3,	
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/1	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.

CAT				Analysis		Dilution
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor
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



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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

01146 GC VOA Water Prep SW-846 5030B 2 01/23/2009 22:55 Carrie E Youtzy 5 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



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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 Chevron

Reported: 02/09/2009 at 15:08 6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009 San Ramon CA 94583

GEIG8 SDG#: ASK75-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
02923	TPH-DRO/RRO (AK) water					
02943 02946	C10- <c25 analysis.="" c25-c36="" dro="" due="" lim<="" nature="" of="" reporting="" rro="" sample="" td="" the="" to=""><td></td><td></td><td>0.096 0.096 used for</td><td>mg/l mg/l</td><td>2 2</td></c25>			0.096 0.096 used for	mg/l mg/l	2 2
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 01592 01593 01723	Benzene Toluene Ethylbenzene Total xylenes	71-43-2 108-88-3 100-41-4 1330-20-7	0.5 0.04 0.5 0.8	0.005 0.005 0.005 0.01	mg/l mg/l mg/l mg/l	5 5 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.

CAT	Analysis						
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor	
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 Youtzv	5	



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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 Chevron

Reported: 02/09/2009 at 15:08 6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009 San Ramon CA 94583

GEIG8 SDG#: ASK75-04

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



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Lancaster Laboratories Sample No. WW5577630

Group No. 1128258

As Received

Chevron

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

Reported: 02/09/2009 at 15:08 6001 Bollinger Canyon Rd L4310

Discard: 03/12/2009 San Ramon CA 94583

GEIG5 SDG#: ASK75-05

				As Received		
CAT			As Received	Method		Dilution
No.	Analysis Name	CAS Number	Result	Detection Limit	Units	Factor
02923	TPH-DRO/RRO (AK) water					
02943	C10- <c25 dro<="" td=""><td>n.a.</td><td>3.5</td><td>0.48</td><td>mg/l</td><td>10</td></c25>	n.a.	3.5	0.48	mg/l	10
02946	C25-C36 RRO	n.a.	N.D.	0.48	mg/1	10
	Due to the nature of the sample	extract matri	x, a dilution was	used for		
	the analysis. The reporting li	mits were rais	ed 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
01500	DIRITY					
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.1	mq/l	10
01592	Toluene	108-88-3	0.4	0.01	mg/1	10
01593	Ethylbenzene	100-41-4	1.4	0.01	mg/l	10
01723	Total xylenes	1330-20-7	6.9	0.01	mg/l	10
01/23	-				ilig/ I	10
	Due to the presence of an interpretation limit was not attained		·	the normal		
	report ind limit was not attained	i ior penzene.	The			

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
 Analysis
 Dilution

 No.
 Analysis Name
 Method
 Trial# Date and Time
 Analyst
 Factor

 02923
 TPH-DRO/RRO (AK) water
 AK 102/103 4/08/02 modified
 1 01/20/2009 09:21 Diane V Do
 Diane V Do
 10



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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



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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 02946	C10- <c25 analysis.="" c25-c36="" dro="" due="" lin<="" nature="" of="" reporting="" rro="" sample="" td="" the="" to=""><td></td><td>•</td><td>0.48 0.48 used for</td><td>mg/l mg/l</td><td>10 10</td></c25>		•	0.48 0.48 used for	mg/l mg/l	10 10
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 01592	Benzene Toluene	71-43-2 108-88-3	N.D. 0.5	0.1 0.01	mg/l mg/l	10 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 inter	ferent 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
 Analysis
 Dilution

 No.
 Analysis Name
 Method
 Trial# Date and Time
 Analyst
 Factor

 02923
 TPH-DRO/RRO (AK) water
 AK 102/103 4/08/02 1 01/19/2009 14:23 Diane V Do modified
 Dilution
 10



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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	AK 102/AK 103 04/08/02	1	01/16/2009 18:07	Kelli M Barto	1
	Special					
07786	FDR Extraction	CM-816 8011	1	01/16/2000 16:15	Kalli M Barto	1



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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 02946	C10- <c25 analysis.="" c25-c36="" dro="" due="" lim<="" nature="" of="" reporting="" rro="" sample="" td="" the="" to=""><td></td><td></td><td>0.24 0.24 used for</td><td>mg/l mg/l</td><td>5 5</td></c25>			0.24 0.24 used for	mg/l mg/l	5 5
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/1	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.

CAT	Analysis						
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor	
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 Youtzv	5	



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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

Special

07786 EDB Extraction SW-846 8011 1 01/16/2009 16:15 Kelli M Barto



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Lancaster Laboratories Sample No. WW5577633

Group No. 1128258

Account Number: 11964

Trip_Blank Water Sample Facility# 211081

4103 Geist Road - Fairbanks, AK

Collected: 01/13/2009

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 Method Detection Limit	Units	Dilution Factor
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/1	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.

CAT	CAT			Analysis			
No.	Analysis Name	Method	Trial#	Date and Time	Analyst	Factor	
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	



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Quality Control Summary

Client Name: Chevron Group Number: 1128258

Reported: 02/09/09 at 03:08 PM

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

Laboratory Compliance Quality Control

Analysis Name	Blank <u>Result</u>	Blank <u>MDL</u>	Report <u>Units</u>	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 090160001A Ethylene dibromide	Sample num	nber(s): 5 0.00001 0		77632 71	67	60-140	6	20
Batch number: 090160003A Sample number(s): 5577628-5577632								
C10- <c25 dro<="" td=""><td>N.D.</td><td>0.050</td><td>mg/1</td><td>107</td><td>103</td><td>75-125</td><td>4</td><td>20</td></c25>	N.D.	0.050	mg/1	107	103	75-125	4	20
C25-C36 RRO	N.D.	0.050	mg/l	117	117	60-120	0	20
Batch number: 09023A53A	Sample num	mber(s): 5	577626-55	77633				
TPH-GRO AK water C6-C10	N.D.	0.01	mg/l	95	91	60-120	5	20
Benzene	N.D.	0.001	mg/l	109	102	86-119	7	30
Toluene	N.D.	0.001	mg/l	112	105	82-119	6	30
Ethylbenzene	N.D.	0.001	mg/l	112	107	81-119	5	30
Total xylenes	N.D.	0.002	mg/l	114	109	82-120	4	30

Sample Matrix Quality Control

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

Analysis Name	MS <u>%REC</u>	MSD %REC	MS/MSD <u>Limits</u>	RPD	RPD <u>MAX</u>	BKG <u>Conc</u>	DUP Conc	DUP RPD	Dup RPD <u>Max</u>
Batch number: 090160001A Ethylene dibromide	Sample :	number(s)	: 5577628 65-135	-557763	2 UNSPI	K: 5577628 N.D.	BKG: 5577629 N.D.	0 (1)	30
Batch number: 09023A53A TPH-GRO AK water C6-C10 Benzene Toluene Ethylbenzene Total xylenes	Sample: 128* 86 112 47 (2) 76 (2)	number(s)	: 5577626 60-120 78-131 78-129 75-133 84-131	-557763	3 UNSPI	K: 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.



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Quality Control Summary

Client Name: Chevron Group Number: 1128258

Reported: 02/09/09 at 03:08 PM

Surrogate Quality Control

5577628	103	
5577629	104	
5577630	94	
5577631	106	
5577632	96	
Blank	122	
DUP	97	
LCS	99	
LCSD	95	
MS	96	
MS	96	
Limits:	46-136	
Analysis Na	ame: TPH-DRO/RRO (AK) wat	ar .
	er: 090160003A	61
	Orthoterphenyl	n-Triacontane-d62
5577628	94	87
5577629	70	77
5577630	108	107
5577631	88	85
5577632	93	97
Blank		104
	100	
LCS	97	88
LCSD	95	87
Limits:	50-150	50-150
Analysis Na	ame: TPH-GRO AK water C6-	C10
	er: 09023A53A	
Davoir Iramo	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	79 78	85
LCS		85
	94	
LCSD	95	86
MS	91	88

60-120

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.

Chevron Generic Analysis Request/Chain of Custod



Lancaster Laboratories Where quality is a science.					Acct. #: 11964					For Lancaster Laboratories use only Sample #: 5577626-33							only 3	SCR#:	0113			
vvnere quality is a science.								Γ				naly							7	Group*	1128	328
Facility #: 211081				Т	Matrix						rva	tion	Coc			-1			rative Cod	es		
Site Address: 4103 Geist Rd Fairbanks								<u> </u>			-		\vdash_{\top}			18)	I	五01	_	H = HCI N = HNO3	T = Thios B = NaO	
Chevron PM: Grea Barton Lead Consultant: Arcadis							μ	lapht								202		¥		S = H ₂ SO ₄	O = Othe	
Consultant/Office: OASIS /Fo	irbanks_			-	Potable		ine		ĺ	ĺ		aunb	g	i	fion	C) X		RPO (AKIO)		☐ J value repo	-	
Consultant Prj. Mgr.: Greg Montg						<u> </u>	Containers	☐ 8260 ☐ Naphth ☐				Extended Rng.	☐ Method		NWTPH HCID ☐quantification	BTEX (80218		18	-	☐ Must meet le possible for	owest detect 8260 compo	
Consultant Phone #: 206 - = 726 - 470		-325-8	3218	ł		-	ŏ	8021	Ì	Ì		Extend	Si Si		 	7	\subseteq	Ž		8021 MTBE C	onfirmation	
Sampler: Andrew Weller 907-5			$\overline{}$	-1			per		_	nates			□ Diss.		읈	1017	(80	Ž		Confirm MT	•	
Service Order # NWRTB -6211081-1-0ML				Composite		Air	Total Number	+ MTBE	8260 full scan	Oxygenates	TPHG	TPHD	Total		포	6Ro (4K101)	9			☐ Confirm high	hits by 8260	
Sample Identification	Date Collected	Time Collected	Grab	E .	Soil Water	Oil	otal	BTEX	260 fu				Lead 7	УРН/ЕРН	WTP	SRO	EDB	20		☐ Run o: ☐ Run o:		
MW-3040 -W-090113	1/13/09	1100	X	`	X	┰	3	۱	- B	<u> </u>	† <u> </u>				_	又				Comments /		
G-4-W-090113	11/12/07 6 11	1200	X	1	X	1	3	┢	<u> </u>	<u> </u>						X		<u> </u>		_		
6-7-W-090113	11	1300	X	T	X		7								_	X	X	X		2 cool	ers	
G-8-W-090113	11	1400	X		X		7									Х	Х	X				
6-5-W-090113	71	1500	X		X		7	<u> </u>			L		<u> </u>	<u> </u>			x	X		•		
BD-1-W-090113	1!	0600	X	_	X		7	L	<u> </u>				<u> </u>			Х	x	X				
PW-1-W-090113	10	1550	X	_	X	4-	7	1	igspace		<u> </u>	ļ				X.	بلا	×				
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Lancaster Laboratories Explanation of Symbols and Abbreviations

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

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
С	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)	I	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.

Inorganic Qualifiers

- ppb parts per billion
- **Dry weight**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:

9	lifier	(uu	9	 u	" 9	•

A B C D E	TIC is a possible aldol-condensation product Analyte was also detected in the blank Pesticide result confirmed by GC/MS Compound quatitated on a diluted sample Concentration exceeds the calibration range of the instrument	B E M N S	Value is <crdl, (msa)="" additions="" amount="" but="" calculation<="" control="" due="" duplicate="" estimated="" for="" injection="" interference="" limits="" met="" method="" not="" of="" precision="" spike="" standard="" th="" to="" used="" within="" ≥idl=""></crdl,>
J	Estimated value	U	Compound was not detected
N	Presumptive evidence of a compound (TICs only)	W	Post digestion spike out of control limits
Р	Concentration difference between primary and	*	Duplicate analysis not within control limits
	confirmation columns >25%	+	Correlation coefficient for MSA < 0.995
U	Compound was not detected		
X,Y,Z	Defined in case narrative		

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: 1989	310002504								
1. <u>Laboratory</u>									
a. Did an ADEC CS approved laboratory receive and perform all of Yes No Comments:	f the submitted sample analyses?								
b. If the samples were transferred to another "network" laboratory of laboratory, was the laboratory performing the analyses ADEC 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 O No Comments:									
b. Correct analyses requested? • Yes									
3. <u>Laboratory Sample Receipt Documentation</u>									
a. Sample/cooler temperature documented and within range at receipt	$t (4^{\circ} \pm 2^{\circ} C)$?								
○ Yes									
1 degree Celsius at Fairbanks AK 2.2 degrees Celsius at Thornton CO	,								

Yes	\bigcirc No	Comments:
© 165		Comments.
c. Sample con Yes	ndition documente	d - broken, leaking (Methanol), zero headspace (VOC vials)? Comments:
Small air bubble	es were noticed in t	the VOAs of nine samples.
	•	es, were they documented? - For example, incorrect sample container re ouside of acceptance range, insufficient or missing samples, etc.? Comments:
See above.		
e. Data qualit	y or usability affec	cted? Explain.
		Comments:
Data quality or t	usability does not a	appear to be affected.
ase Narrative		
	l understandable?	
• Yes	○ No	Comments:
• Yes	○ N0	Comments.
b. Discrepand	cies, errors or QC f	failures identified by the lab?
b. Discrepand	cies, errors or QC f	failures identified by the lab?
b. Discrepand O Yes N/A	cies, errors or QC f	failures identified by the lab? Comments:
b. Discrepand O Yes N/A	cies, errors or QC f	failures identified by the lab? Comments:
b. Discrepand O Yes N/A c. Were all co	cies, errors or QC f	failures identified by the lab? Comments:
b. Discrepance Yes N/A c. Were all co	cies, errors or QC f O No Orrective actions do O No	failures identified by the lab? Comments: ocumented? Comments:
b. Discrepance Yes N/A c. Were all co	cies, errors or QC f O No Orrective actions do O No	failures identified by the lab? Comments:
b. Discrepance Yes N/A c. Were all co	cies, errors or QC f O No Orrective actions do O No	failures identified by the lab? Comments: ocumented? Comments: ality/usability according to the case narrative?
b. Discrepance Yes N/A c. Were all co Yes N/A d. What is the	cies, errors or QC f O No Orrective actions do O No	failures identified by the lab? Comments: ocumented? Comments: ality/usability according to the case narrative?
b. Discrepance Yes N/A c. Were all coony Yes N/A d. What is the	cies, errors or QC f No Orrective actions do No e effect on data qua	failures identified by the lab? Comments: ocumented? Comments: ality/usability according to the case narrative?

b.	All applica • Yes	ble holding times	met? Comments:
c.	All soils re	ported on a dry we	eight basis? Comments:
N/A			
	Are the reproject?	oorted PQLs less th	an the Cleanup Level or the minimum required detection level for the
	• Yes	○ No	Comments:
e.	Data qualit	y or usability affec	cted? Explain. Comments:
Data	quality/usa	bility is not affecte	d.
5. <u>QC Sar</u>	<u>mples</u>		
a	Method Bla	ank	
			d per matrix, analysis and 20 samples? Comments:
		thod blank results	
	• Yes	O No	Comments:
	iii. If abov	ve PQL, what samp	oles are affected? Comments:
N/A			
	iv. Do the	affected sample(s) have data flags? If so, are the data flags clearly defined? Comments:
N/A			
	v. Data qı	uality or usability a	nffected? Explain. Comments:
N/A			

-		nethods, LCS requir	ed per 5 W 640)
O	Yes	○ No	Comments:
S			
	. Metals.	/Inorganics - One L	CS and one sample duplicate reported per matrix, analysis and 20
0	Yes	○ No	Comments:
A			
pı	roject sp	ecified DQOs, if ap	coveries (%R) reported and within method or laboratory limits? And oplicable. (AK Petroleum methods: AK101 60%-120%, AK102 0%; all other analyses see the laboratory QC pages)
(• Yes	○ No	Comments:
iv	. Precisi	•	rcent differences (RPD) reported and less than method or laboratory
li1 or			DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, ar (AK Petroleum methods 20%; all other analyses see the laboratory QO
lii or pa	r sample		
lin on pa	r sample ages) Yes	/sample duplicate. ((AK Petroleum methods 20%; all other analyses see the laboratory QC
lin on pa	r sample ages) Yes	/sample duplicate. ((AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected?
lin or pa	r sample ages) Yes	or RPD is outside of	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected?
lin or pa	r sample ages) Yes If %R of	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined?
v. A	r sample ages) Yes If %R of the Yes	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:
v. A	r sample ages) Yes If %R of the Yes	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:
v. A vi A	r sample ages) Yes If %R of the O Yes ii. Data of	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:

	project spec	ified DQOs, if a	opplicable. (AK Petroleum methods 50-150 %R; all other analyses see
	the laborato Yes	ry report pages) • No	Comments:
The s	surrogate was	recovered outsic	e the acceptance limits method for the method blank.
	iii. Do the sa clearly defin	•	h failed surrogate recoveries have data flags? If so, are the data flags
	○ Yes	⊙ No	Comments:
No d	ata flags were	triggered by fai	ed surrogate.
	iv. Data qua	lity or usability	affected? Explain. Comments:
Data	quality or usa	bility does not a	ppear to be affected.
	oil	•	s only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and r matrix, analysis and cooler?
	• Yes	O No	Comments:
	·· A11 nonul4	1 41 DOI (
	11. All result • Yes	ts less than PQL?	Comments:
	iii. If above	PQL, what samp	oles are affected?
N/A			Comments:
11/12	iv. Data qua	llity or usability	affected? Explain. Comments:
N/A			
e.	Field Duplica	ıte	
	i. One field O Yes	duplicate submit No	ted per matrix, analysis and 10 project samples? Comments:
	ii. Submitte	d blind to lab? ○ No	Comments:
N/A			

iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil) RPD (%) = Absolute Value of: $(R_1 - R_2)_{X 100}$ $((R_{1+} R_2)/2)$ Where $R_1 = Sample Concentration$ R_2 = Field Duplicate Concentration O Yes O No Comments: N/A iv. Data quality or usability affected? Explain. Comments: O Yes O No N/A f. Decontamination or Equipment Blank (if applicable) Not Applicable O Yes \bigcirc No i. All results less than PQL? Comments: O Yes O No 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? O Yes Comments: \bigcirc No 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 F	Report Date: Feb 10, 2009								
Consultant Firm: ARCADIS U.S., Inc.									
Laboratory Name: Analytica Group Laboratory Report Number: F08111228									
ADEC File Number: 100.26.023 ADEC RecKey Number: 1989310002504									
1. <u>Laboratory</u> a. Did an ADEC CS approved laboratory receive and <u>performance</u> • Yes O No Comments:	rform all of the submitted sample analyses?								
b. If the samples were transferred to another "network" laboratory, was the laboratory performing the analyse • Yes O No Comments:	•								
Samples transferred to AEL in Thornton, Colorado.									
2. Chain of Custody (COC)									
a. COC information completed, signed, and dated (including Yes O No Comments:	ng released/received by)?								
b. Correct analyses requested? • Yes • No Comments:									
3. <u>Laboratory Sample Receipt Documentation</u>									
 a. Sample/cooler temperature documented and within rang Yes O No Comments: 	te at receipt $(4^{\circ} \pm 2^{\circ} C)$?								
4 degrees Celsius at Fairbanks, AK, 2 degrees Celsius at Tho	rnton, CO.								

υ.		hlorinated Solver	able - acidified waters, Methanol preserved VOC son	(GRO, BTEA,
	• Yes	○ No	Comments:	
C.	Sample co • Yes	ndition document	ted - broken, leaking (Methanol), zero headspace (VC Comments:	OC vials)?
Two	sample VC	As and one Trip	Blank had air bubbles.	
		•	cies, were they documented? - For example, incorrect ure ouside of acceptance range, insufficient or missin Comments:	•
See a	above.			
e.	Data quali	ty or usability aff	ected? Explain.	
	•		Comments:	
Data	quality or	usability does not	appear to be affected.	
Yogo N	[armative			
	<u> Iarrative</u>			
a.		d understandable?		
	• Yes	○ No	Comments:	
b	Discrepan	cies, errors or OC	failures identified by the lab?	
0.	• Yes	O No	Comments:	
Seve	eral targets v	were recovered or	utside the acceptance limits in the batch MS/MSD.	
			•	
C.	Were all converse Yes	orrective actions of No	documented? Comments:	
The	spiked sam	ple is not associat	ted with this project.	
d.	What is th	e effect on data q	uality/usability according to the case narrative? Comments:	
Data	quality or	usability does not	appear to be affected.	
ample	es Results			
a	Correct and	alvses performed	reported as requested on COC?	
u.	• Yes	© No	Comments:	
	~			
1				

4.

5.

b	• Yes	O No	Comments:
C	. All soils re	eported on a dry w	eight basis? Comments:
N/A			
	. Are the reproject?	ported PQLs less t	han the Cleanup Level or the minimum required detection level for the
	• Yes	○ No	Comments:
e	. Data quali	ty or usability affe	cted? Explain. Comments:
N/A			
QC Sa	<u>mples</u>		
a.	i. One me		ed per matrix, analysis and 20 samples? Comments:
	ii. All me	ethod blank results	less than PQL? Comments:
	iii. If abo	ve PQL, what sam	ples are affected? Comments:
N/A			
	iv. Do the	e affected sample(s) have data flags? If so, are the data flags clearly defined? Comments:
N/A			
	v. Data q	uality or usability	affected? Explain. Comments:
N/A			

6.

_		ed per SW846)		
O	Yes	○ No	Comments:	
S				
	Metals. amples?	/Inorganics - One L	CS and one sample duplicate reported per matrix, analysis and 20	
0	Yes	○ No	Comments:	
A				
pı	roject sp	ecified DQOs, if ap	coveries (%R) reported and within method or laboratory limits? And oplicable. (AK Petroleum methods: AK101 60%-120%, AK102 0%; all other analyses see the laboratory QC pages)	
	• Yes	O 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, an or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)				
lii 01	r sample		DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, ar	
lin on pa	r sample		DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, ar	
lin on pa	r sample ages) Yes	/sample duplicate. (DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, an (AK Petroleum methods 20%; all other analyses see the laboratory QC	
lin on pa	r sample ages) Yes	/sample duplicate. (DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, and (AK Petroleum methods 20%; all other analyses see the laboratory QCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	
ling on page of v.	r sample ages) Yes	or RPD is outside of	DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, and (AK Petroleum methods 20%; all other analyses see the laboratory QCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	
ling on page of v.	r sample ages) Yes If %R o	or RPD is outside of affected samples(s	DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, and (AK Petroleum methods 20%; all other analyses see the laboratory QCCCOmments: f acceptable limits, what samples are affected? Comments:) have data flags? If so, are the data flags clearly defined?	
v. A	r sample ages) Yes i. If %R of the C Yes	or RPD is outside of affected samples(s	DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, and (AK Petroleum methods 20%; all other analyses see the laboratory QCCCOMMENTS: Comments: f acceptable limits, what samples are affected? Comments: have data flags? If so, are the data flags clearly defined? Comments:	
v. A vi	r sample ages) Yes i. If %R of the C Yes	or RPD is outside of affected samples(s	DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, ar (AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: have data flags? If so, are the data flags clearly defined? Comments:	
V. A Vi A	r sample ages) Yes i. If %R of the O Yes ii. Data of	or RPD is outside of affected samples(s	DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, ar (AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: have data flags? If so, are the data flags clearly defined? Comments:	

	•		plicable. (AK Petroleum methods 50-150 %R; all other analyses	
	the laborator	y report pages) ○ No	Comments:	
	iii. Do the sa		n failed surrogate recoveries have data flags? If so, are the data flags?	ags
	○ Yes	○ No	Comments:	
N/A				
	iv. Data qual	ity or usability a	ffected? Explain. Comments:	
N/A				
	-	olatile analyses	only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water a	<u>nd</u>
<u>Sc</u>		ank reported per	matrix, analysis and cooler?	
	• Yes	○ No	Comments:	
	ii All results	less than PQL?		
	• Yes		Comments:	
	iii If abaya I	OI what same	on are affected?	
	III. II above i	QL, what samp	les are affected? Comments:	
N/A				
	iv. Data qual	ity or usability a	ffected? Explain. Comments:	
N/A				
e.	Field Duplicat	e		
	i. One field d	luplicate submit	ed per matrix, analysis and 10 project samples?	
	○ Yes	No	Comments:	
	ii. Submitted	blind to lab?		
	O Yes	O No	Comments:	
N/A				

iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil) RPD (%) = Absolute Value of: $(R_1 - R_2)_{X 100}$ $((R_{1+} R_2)/2)$ Where $R_1 = Sample Concentration$ R_2 = Field Duplicate Concentration O Yes O No Comments: N/A iv. Data quality or usability affected? Explain. Comments: O Yes O No N/A f. Decontamination or Equipment Blank (if applicable) Not Applicable O Yes \bigcirc No i. All results less than PQL? Comments: O Yes O No 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? O Yes Comments: \bigcirc No 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 N	umber: F0812326
ADEC File Number: 100.26.023 ADEC RecKey Number: 1989	9310002504
1. <u>Laboratory</u>	
a. Did an ADEC CS approved laboratory receive and <u>perform</u> all o Yes No Comments:	f the submitted sample analyses?
b. If the samples were transferred to another "network" laboratory laboratory, was the laboratory performing the analyses ADEC Comments:	
Samples transferred to AEL in Thornton, Colorado.	
2. Chain of Custody (COC)	
a. COC information completed, signed, and dated (including released	d/received by)?
● Yes ○ No Comments:	
b. Correct analyses requested? • Yes O No Comments:	
3. <u>Laboratory Sample Receipt Documentation</u>	
a. Sample/cooler temperature documented and within range at receip ● Yes ○ No Comments:	$t (4^{\circ} \pm 2^{\circ} C)$?
3 degrees Celsius at Fairbanks AK 2 degrees Celsius at Thornton CO	

c. Sample condition documented - broken, leaking (Methanol), zero headspace (VOC vials)? ② 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 container preservation, sample temperature ouside of acceptance range, insufficient or missing samples, etc.? ③ Yes ○ No Comments: See above. e. Data quality or usability affected? Explain. Comments: Data quality or usability does not appear to be affected. ase Narrative a. Present and understandable? ④ Yes ○ No Comments: Several targets were recovered outside the acceptance limits in the MS/MSD. c. Were all corrective actions documented? ④ 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. amples Results a. Correct analyses performed/reported as requested on COC? ⑥ Yes ○ No Comments:		Yes	○ No	s, etc.)? Comments:
Three sample VOAs and one Trip Blank had air bubbles. d. If there were any discrepancies, were they documented? - For example, incorrect sample container preservation, sample temperature ouside 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. Asse 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. Imples Results a. Correct analyses performed/reported as requested on COC?		res	O 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 container preservation, sample temperature ouside 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. See 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. mples Results a. Correct analyses performed/reported as requested on COC?	- C	1	11.2 1	
d. If there were any discrepancies, were they documented? - For example, incorrect sample container preservation, sample temperature ouside 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. See 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. Imples Results a. Correct analyses performed/reported as requested on COC?		-		
preservation, sample temperature ouside 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. See 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. Imples Results a. Correct analyses performed/reported as requested on COC?	Three s	ample V(As and one Trip	Blank had air bubbles.
e. Data quality or usability affected? Explain. Comments: Data quality or usability does not appear to be affected. ase Narrative a. Present and understandable? • Yes	prese	ervation,	sample temperat	re ouside of acceptance range, insufficient or missing samples, etc.?
Comments: Data quality or usability does not appear to be affected. ase Narrative a. Present and understandable? ② Yes O No Comments: b. Discrepancies, errors or QC failures identified by the lab? ② Yes O No Comments: Several targets were recovered outside the acceptance limits in the MS/MSD. c. Were all corrective actions documented? ③ Yes O 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. umples Results a. Correct analyses performed/reported as requested on COC?	See abo	ve.		
Data quality or usability does not appear to be affected. ase Narrative a. Present and understandable? • Yes	e. Da	ata qualit	y or usability aff	cted? Explain.
ase Narrative a. Present and understandable? • Yes				Comments:
a. Present and understandable? • Yes	Data qu	ality or u	sability does not	appear to be affected.
a. Present and understandable?	ase Narı	ative		
 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. a. Correct analyses performed/reported as requested on COC? 			understandahle?	
 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:
© Yes ○ No Comments: Several targets were recovered outside the acceptance limits in the MS/MSD. c. Were all corrective actions documented? ② 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. amples Results a. Correct analyses performed/reported as requested on COC?				
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. amples Results a. Correct analyses performed/reported as requested on COC?	b. D :	screpanc	ies, errors or QC	•
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. amples Results a. Correct analyses performed/reported as requested on COC?	•	Yes	O 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. umples Results a. Correct analyses performed/reported as requested on COC?	Several	targets w	ere recovered ou	tside the acceptance limits in the MS/MSD.
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. amples Results a. Correct analyses performed/reported as requested on COC?				
Comments: Data quality or usability does not appear to be affected. amples Results a. Correct analyses performed/reported as requested on COC?	Targets	were rec	overed normally	n the LCS and LCS Duplicate, indicating a potential matrix effect.
Data quality or usability does not appear to be affected. amples Results a. Correct analyses performed/reported as requested on COC?	d. W	hat is the	effect on data q	
a. Correct analyses performed/reported as requested on COC?	Data gu	ality or u	sability does not	
a. Correct analyses performed/reported as requested on COC?				11
	mpics I		lvigag narformadi	caparted as requested on COC?
				enomen as requesten on COC/

4.

5.

b	• Yes	O No	met? Comments:
c	. All soils re	eported on a dry w	eight basis? Comments:
N/A			
	. Are the reproject?	ported PQLs less t	nan the Cleanup Level or the minimum required detection level for the
	• Yes	○ No	Comments:
e	. Data quali	ty or usability affe	cted? Explain. Comments:
N/A			
QC Sa	<u>mples</u>		
a. 	i. One mo		ed per matrix, analysis and 20 samples? Comments:
	ii. All me	ethod blank results	less than PQL? Comments:
	iii. If abo	ve PQL, what sam	ples are affected? Comments:
N/A			
	iv. Do the	e affected sample(s) have data flags? If so, are the data flags clearly defined? Comments:
N/A			
	v. Data q	uality or usability	affected? Explain. Comments:
N/A			

-		nethods, LCS requir	ed per 5 W 640)
O	Yes	○ No	Comments:
S			
	. Metals.	/Inorganics - One L	CS and one sample duplicate reported per matrix, analysis and 20
0	Yes	○ No	Comments:
A			
pı	roject sp	ecified DQOs, if ap	coveries (%R) reported and within method or laboratory limits? And oplicable. (AK Petroleum methods: AK101 60%-120%, AK102 0%; all other analyses see the laboratory QC pages)
(• Yes	○ No	Comments:
iv	. Precisi	•	rcent differences (RPD) reported and less than method or laboratory
li1 or			DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, ar (AK Petroleum methods 20%; all other analyses see the laboratory QO
lii or pa	r sample		
lin on pa	r sample ages) Yes	/sample duplicate. ((AK Petroleum methods 20%; all other analyses see the laboratory QC
lin on pa	r sample ages) Yes	/sample duplicate. ((AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected?
lin or pa	r sample ages) Yes	or RPD is outside of	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected?
lin or pa	r sample ages) Yes If %R of	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined?
v. A	r sample ages) Yes If %R of the C Yes	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:
v. A	r sample ages) Yes If %R of the C Yes	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:
v. A vi A	r sample ages) Yes If %R of the O Yes ii. Data of	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:

	•		plicable. (AK Petroleum methods 50-150 %R; all other analyses	
	the laborator Yes	y report pages) ○ No	Comments:	
	iii. Do the sa		n failed surrogate recoveries have data flags? If so, are the data f	lags
	○ Yes	○ No	Comments:	
N/A				
	iv. Data qual	ity or usability a	ffected? Explain. Comments:	
N/A				
	-	olatile analyses	only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water	and
<u>Sc</u>		ank reported per	matrix, analysis and cooler?	
	• Yes	○ No	Comments:	
	ii All results	less than PQL?		
	• Yes	O No	Comments:	
	iii If abaya I	OOL what same	as are affected?	
	III. II above i	PQL, what samp	Comments:	
N/A				
	iv. Data qual	ity or usability a	ffected? Explain. Comments:	
N/A				
e.	Field Duplicat	e		
	i. One field d	luplicate submit	ed per matrix, analysis and 10 project samples?	
	○ Yes	No	Comments:	
	ii. Submitted	blind to lab?		
	O Yes	○ No	Comments:	
N/A				

iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil) RPD (%) = Absolute Value of: $(R_1 - R_2)_{X 100}$ $((R_{1+} R_2)/2)$ Where $R_1 = Sample Concentration$ R_2 = Field Duplicate Concentration O Yes O No Comments: N/A iv. Data quality or usability affected? Explain. Comments: O Yes O No N/A f. Decontamination or Equipment Blank (if applicable) Not Applicable O Yes \bigcirc No i. All results less than PQL? Comments: O Yes O No 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? O Yes Comments: \bigcirc No 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 Groundwate	r Monitoring Report
Consultant Firm: ARCADIS U.S., Inc.	
Laboratory Name: Lancaster Laboratories	Laboratory Report Number: 1125156
ADEC File Number: 100.26.023 ADEC	C RecKey Number: 1989310002504
1. <u>Laboratory</u>	
a. Did an ADEC CS approved laboratoryYes	receive and <u>perform</u> all of the submitted sample analyses? Comments:
b. If the samples were transferred to anoth laboratory, was the laboratory performing Yes No	ner "network" laboratory or sub-contracted to an alternate ng the analyses ADEC CS approved? Comments:
2. Chain of Custody (COC)	
a. COC information completed, signed, and	• • • • • • • • • • • • • • • • • • • •
• Yes O No	Comments:
b. Correct analyses requested?	
● Yes ○ No	Comments:
3. <u>Laboratory Sample Receipt Documentation</u>	
a. Sample/cooler temperature documented a	nd within range at receipt $(4^{\circ} \pm 2^{\circ} C)$?
• Yes O No	Comments:
3.7 degrees Celsius	

▲ 37 = =:		Comments:
• Yes	○ No	Comments.
c. Sample co	ndition documented No	d - broken, leaking (Methanol), zero headspace (VOC vials)? Comments:
N/A		
		es, were they documented? - For example, incorrect sample container e ouside of acceptance range, insufficient or missing samples, etc.? Comments:
N/A		
e. Data quali	ty or usability affec	eted? Explain.
		Comments:
N/A		
ase Narrative		
	1 1 1 - 1 - 1 - 0	
a. Present and • Yes	d understandable?	Comments:
© Tes		Comments.
b. Discrepand Yes	cies, errors or QC f	ailures identified by the lab? Comments:
	O NO	Comments.
N/A		
c Were all co	orrective actions do	ocumented?
○ Yes	○ No	Comments:
N/A		
d What is the	a affact on data qua	ulity/usability according to the case narrative?
u. What is un	e errect on data qua	Comments:
N/A		
amples Results		
-	alvege narformad/ro	anorted as requested on COC^{9}
	nyses performed/re	eported as requested on COC? Comments:
Yes		

b	• Yes	O No	met? Comments:
c	. All soils re	eported on a dry w	eight basis? Comments:
N/A			
	. Are the reproject?	ported PQLs less t	nan the Cleanup Level or the minimum required detection level for the
	• Yes	○ No	Comments:
e	. Data quali	ty or usability affe	cted? Explain. Comments:
N/A			
QC Sa	<u>mples</u>		
a. 	i. One mo		ed per matrix, analysis and 20 samples? Comments:
	ii. All me	ethod blank results	less than PQL? Comments:
	iii. If abo	ve PQL, what sam	ples are affected? Comments:
N/A			
	iv. Do the	e affected sample(s) have data flags? If so, are the data flags clearly defined? Comments:
N/A			
	v. Data q	uality or usability	affected? Explain. Comments:
N/A			

-		nethods, LCS requir	ed per 5 W 640)
O	Yes	○ No	Comments:
S			
	. Metals.	/Inorganics - One L	CS and one sample duplicate reported per matrix, analysis and 20
0	Yes	○ No	Comments:
A			
pı	roject sp	ecified DQOs, if ap	coveries (%R) reported and within method or laboratory limits? And oplicable. (AK Petroleum methods: AK101 60%-120%, AK102 0%; all other analyses see the laboratory QC pages)
(• Yes	○ No	Comments:
iv	. Precisi	•	rcent differences (RPD) reported and less than method or laboratory
li1 or			DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, ar (AK Petroleum methods 20%; all other analyses see the laboratory QO
lii or pa	r sample		
lin on pa	r sample ages) Yes	/sample duplicate. ((AK Petroleum methods 20%; all other analyses see the laboratory QC
lin on pa	r sample ages) Yes	/sample duplicate. ((AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected?
lin or pa	r sample ages) Yes	or RPD is outside of	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected?
lin or pa	r sample ages) Yes If %R of	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined?
v. A	r sample ages) Yes If %R of the C Yes	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:
v. A	r sample ages) Yes If %R of the C Yes	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:
v. A vi A	r sample ages) Yes If %R of the O Yes ii. Data of	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:

	project specif	fied DQOs, if ap	plicable. (AK Petroleum methods 50-150 %R; all other analyses se	
	the laboratory Yes	y report pages) O No	Comments:	
	iii. Do the san	-	failed surrogate recoveries have data flags? If so, are the data flags	s
	○ Yes	○ No	Comments:	
N/A				
	iv. Data qual	ity or usability a	ffected? Explain. Comments:	
N/A				
	-	olatile analyses	only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and	Ĺ
<u>Sc</u>		ank reported per	matrix, analysis and cooler?	
	○ Yes	No	Comments:	
Trip 1	blank vials wer	e not received b	y the laboratory for this sample group.	
	ii All results	less than PQL?		
	O Yes		Comments:	
N/A				
	iii If above F	QL, what samp	es are affected?	
		(=, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Comments:	
N/A				
	iv. Data qual	ity or usability a	ffected? Explain. Comments:	
N/A				
e.	Field Duplicat	e		
	i. One field d O Yes	uplicate submitt No	ed per matrix, analysis and 10 project samples? Comments:	
	ii. Submitted			
	○ Yes	○ No	Comments:	
N/A				

iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil) RPD (%) = Absolute Value of: $(R_1 - R_2)_{X 100}$ $((R_{1+} R_2)/2)$ Where $R_1 = Sample Concentration$ R_2 = Field Duplicate Concentration O Yes O No Comments: N/A iv. Data quality or usability affected? Explain. Comments: O Yes O No N/A f. Decontamination or Equipment Blank (if applicable) Not Applicable O Yes \bigcirc No i. All results less than PQL? Comments: O Yes O No 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? O Yes Comments: \bigcirc No 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 Mo	nitoring Report Date: Feb 10, 2009
Consultant Firm: ARCADIS U.S., Inc.	
Laboratory Name: Lancaster Laboratories I	Laboratory Report Number: 1125157
ADEC File Number: 100.26.023 ADEC Rec	Key Number: 1989310002504
1. <u>Laboratory</u>	
♠ V ○ N-	ve and <u>perform</u> all of the submitted sample analyses? nments:
laboratory, was the laboratory performing the	network" laboratory or sub-contracted to an alternate are analyses ADEC CS approved? nments:
2. Chain of Custody (COC)	
a. COC information completed, signed, and dated	d (including released/received by)?
• Yes O No Con	nments:
b. Correct analyses requested?	
·	nments:
AK methods requested by ARCADIS.	
3. Laboratory Sample Receipt Documentation	
a. Sample/cooler temperature documented and w	ithin range at receipt $(4^{\circ} \pm 2^{\circ} \text{ C})$?
○ Yes	nments:
1.2 degrees Celsius.	

	○ No	Comments:
• Yes		Comments.
c. Sample co	ondition documented	d - broken, leaking (Methanol), zero headspace (VOC vials)? Comments:
N/A		
d. If there we		es, were they documented? - For example, incorrect sample container re ouside of acceptance range, insufficient or missing samples, etc.? Comments:
N/A		
e. Data quali	ity or usability affec	cted? Explain.
		Comments:
Data quality or	usability does not a	appear to be affected.
ana Namativa		
ase Narrative		
	d understandable?	
• Yes	○ No	Comments:
-		failures identified by the lab?
O Yes	○ No	Comments:
N/A		
	vorractiva actions de	voumantad?
	corrective actions do	ocumented? Comments:
c. Were all c		
c. Were all c		
c. Were all c Yes	○ No	Comments: ality/usability according to the case narrative?
c. Were all c Yes	○ No	Comments:
c. Were all c Yes N/A d. What is th	○ No	Comments: ality/usability according to the case narrative?
c. Were all c Yes	○ No	Comments: ality/usability according to the case narrative?
c. Were all c Yes N/A d. What is the N/A amples Results	O No	Comments: ality/usability according to the case narrative?

b	• Yes	O No	met? Comments:
c	. All soils re	eported on a dry w	eight basis? Comments:
N/A			
	. Are the reproject?	ported PQLs less t	nan the Cleanup Level or the minimum required detection level for the
	• Yes	○ No	Comments:
e	. Data quali	ty or usability affe	cted? Explain. Comments:
N/A			
QC Sa	<u>mples</u>		
a. 	i. One mo		ed per matrix, analysis and 20 samples? Comments:
	ii. All me	ethod blank results	less than PQL? Comments:
	iii. If abo	ve PQL, what sam	ples are affected? Comments:
N/A			
	iv. Do the	e affected sample(s) have data flags? If so, are the data flags clearly defined? Comments:
N/A			
	v. Data q	uality or usability	affected? Explain. Comments:
N/A			

-		nethods, LCS requir	ed per 5 W 640)
O	Yes	○ No	Comments:
S			
	. Metals.	/Inorganics - One L	CS and one sample duplicate reported per matrix, analysis and 20
0	Yes	○ No	Comments:
A			
pı	roject sp	ecified DQOs, if ap	coveries (%R) reported and within method or laboratory limits? And oplicable. (AK Petroleum methods: AK101 60%-120%, AK102 0%; all other analyses see the laboratory QC pages)
(• Yes	○ No	Comments:
iv	. Precisi	•	rcent differences (RPD) reported and less than method or laboratory
li1 or			DQOs, if applicable. RPD reported from LCS/LCSD, MS/DMSD, ar (AK Petroleum methods 20%; all other analyses see the laboratory QO
lii or pa	r sample		
lin on pa	r sample ages) Yes	/sample duplicate. ((AK Petroleum methods 20%; all other analyses see the laboratory QC
lin on pa	r sample ages) Yes	/sample duplicate. ((AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected?
lin or pa	r sample ages) Yes	or RPD is outside of	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected?
lin or pa	r sample ages) Yes If %R of	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined?
v. A	r sample ages) Yes If %R of the C Yes	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:
v. A	r sample ages) Yes If %R of the C Yes	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:
v. A vi A	r sample ages) Yes If %R of the O Yes ii. Data of	or RPD is outside of affected samples(s	(AK Petroleum methods 20%; all other analyses see the laboratory QC Comments: f acceptable limits, what samples are affected? Comments: s) have data flags? If so, are the data flags clearly defined? Comments:

	project specthe laborate	cified DQOs, if ory report pages	pplicable. (AK Petroleum methods 50-150 %R; all other analyses see
	• Yes	○ No	Comments:
	iii. Do the s		th failed surrogate recoveries have data flags? If so, are the data flags
	○ Yes	○ No	Comments:
N/A			
	iv. Data qua	ality or usability	affected? Explain. Comments:
N/A			
	-	Volatile analys	s only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and
<u>Sc</u>	<u>oil</u> i. One trip b	olank reported p	er matrix, analysis and cooler?
	• Yes	O No	Comments:
		ts less than PQI	
	• Yes	O No	Comments:
	iii If ahoya	POI what can	ples are affected?
	III. II audve	r QL, what sain	Comments:
N/A			
	· D.	1'4 1 '1'4	CC + 10 F 1 :
	iv. Data qua	ality or usability	affected? Explain. Comments:
N/A			
e.	Field Duplica	ate	
	i One field	dunlicate subm	tted per matrix, analysis and 10 project samples?
	• Yes	O No	Comments:
		d blind to lab?	Comments
	• Yes	O No	Comments:

iii. Precision - All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil) RPD (%) = Absolute Value of: $(R_1 - R_2)_{X 100}$ $((R_{1+} R_2)/2)$ Where $R_1 = Sample Concentration$ R_2 = Field Duplicate Concentration Yes O No Comments: iv. Data quality or usability affected? Explain. Comments: O Yes O No N/A f. Decontamination or Equipment Blank (if applicable) Not Applicable O Yes \bigcirc No i. All results less than PQL? Comments: O Yes O No 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? O Yes Comments: \bigcirc No 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: 1128258					
ADEC File Number: 100.26.023 ADEC RecKey Number: 1989310002504					
1. <u>Laboratory</u>					
a. Did an ADEC CS approved laboratoryYes No	receive and <u>perform</u> all of the submitted sample analyses? Comments:				
b. If the samples were transferred to anoth laboratory, was the laboratory performing Yes No	ner "network" laboratory or sub-contracted to an alternate ing the analyses ADEC CS approved? Comments:				
2. Chain of Custody (COC)					
• • •	1.16.17.1.1.1.10				
a. COC information completed, signed, andYes O No	Comments:				
b. Correct analyses requested?● Yes ○ No	Comments:				
3. <u>Laboratory Sample Receipt Documentation</u>					
a. Sample/cooler temperature documented aYes No	and within range at receipt $(4^{\circ} \pm 2^{\circ} C)$? Comments:				
1.4-3.8 degrees Celsius					

• Yes	○ No	Comments:
c. Sample co	ondition documented	d - broken, leaking (Methanol), zero headspace (VOC vials)? Comments:
N/A		
	•	es, were they documented? - For example, incorrect sample conta re ouside of acceptance range, insufficient or missing samples, etc Comments:
N/A		
e. Data quali	ty or usability affec	eted? Explain.
		Comments:
N/A		
se Narrative	1 - 1 4-11-0	
ase Narrative a. Present and	d understandable?	Comments:
ase Narrative	d understandable?	Comments:
ase Narrative a. Present and		Comments:
a. Present and Yes	○ No	Comments: Cailures identified by the lab?
a. Present and Yes	○ No	
a. Present and Yes b. Discrepan	○ No	ailures identified by the lab?
a. Present and Yes b. Discrepan Yes	○ No	Failures identified by the lab? Comments:
Yesb. DiscrepantYesc. Were all c	○ No cies, errors or QC f ○ No	Cailures identified by the lab? Comments:

• Yes	○ No	Comments:
	able holding times r	net? Comments:
• Yes	○ No	Comments.
c. All soils re	eported on a dry wei	ight basis? Comments:
O res	O NO	Comments.
N/A		
d. Are the repproject?	ported PQLs less that	an the Cleanup Level or the minimum required detection level for the
O Yes	No	Comments:
e. Data qualit	y or usability affec	ted? Explain. Comments:
Concentrations	detected above raise	ed PQL for G-5, G-7 and G-8 for DRO and RRO.
C Comples		
C Samples		
a. Method Bl	ank	
	•	d per matrix, analysis and 20 samples?
• Yes	○ No	Comments:
ii A11 maa	thed blook regults 1	and the or DOI 9
• Yes	thod blank results l	Comments:
- 100		
iii. If abo	ve PQL, what samp	oles are affected?
	1	Comments:
N/A		
iv. Do the	e affected sample(s)	have data flags? If so, are the data flags clearly defined?
○ Yes	O No	Comments:

5. <u>Samples Results</u>

	v. Data q	uality or usability	affected? Explain. Comments:	
N/A			Comments.	
	T -1	- C tu -1 C1-	/D1;t- (I_OC/I_CCD)	
D.	Laboratory	Control Sample	/Duplicate (LCS/LCSD)	
	i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD require per AK methods, LCS required per SW846)			
	O Yes	○ No	Comments:	
Yes				
	ii. Metals samples?	_	e LCS and one sample duplicate reported per matrix, analysis and 20	
	○ Yes	○ No	Comments:	
N/A				
	project sp	pecified DQOs, if	recoveries (%R) reported and within method or laboratory limits? And applicable. (AK Petroleum methods: AK101 60%-120%, AK102 120%; all other analyses see the laboratory QC pages)	
	○ Yes	No	Comments:	
MS 9	% REC exc	eeded MS/MSD	imit 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, or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory pages)			
	• Yes	○ No	Comments:	
	v. If %R	or RPD is outside	e of acceptable limits, what samples are affected? Comments:	
N/A				
	vi. Do the	e affected sample	s(s) have data flags? If so, are the data flags clearly defined? Comments:	
N/A				
	vii. Data	quality or usabili	ty affected? Explain. Comments:	
N/A				

C.	c. Surrogates - Organics Only		
	i. Are surro	ogate recoveries re	eported for organic analyses - field, QC and laboratory samples? Comments:
	project spe		coveries (%R) reported and within method or laboratory limits? And oplicable. (AK Petroleum methods 50-150 %R; all other analyses see Comments:
	iii. Do the s	-	h failed surrogate recoveries have data flags? If so, are the data flags
	○ Yes	O No	Comments:
N/A			
	iv. Data qu	ality or usability a	nffected? Explain. Comments:
N/A			
d. Sc	<u>oil</u>		only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and matrix, analysis and cooler? Comments:
	ii. All resul • Yes	Its less than PQL?	Comments:
	iii. If above	e PQL, what samp	les are affected? Comments:
N/A			
	iv. Data qu	ality or usability a	nffected? Explain. Comments:
N/A			
e.	Field Duplic	eate	
	i. One field • Yes	duplicate submit	ted per matrix, analysis and 10 project samples? Comments:

	ii. Submitt	ed blind to lab?	
	Yes	O No	Comments:
		on - All relative por, 50% soil)	ercent differences (RPD) less than specified DQOs? (Recommended:
		RPD	(%) = Absolute Value of: $(R_1-R_2)_{X 100}$ ($(R_{1+}R_2)/2$)
	Where R	= Sample Conce	ntration
	•	= Field Duplicate	
	_	_	
	Yes	○ No	Comments:
	iv. Data qu O Yes	nality or usability	affected? Explain. Comments:
N/A			
	Decontamin	ation or Equipme	nt Blank (if applicable)
1.	Decontainin	ation of Equipmen	tt Blank (II applicable)
	○ Yes	○No	ot Applicable
	i All recul	ts less than PQL?	
	O Yes	O No	Comments:
N/A			
	ii If above	DOL what samn	los ara affactad?
	II. II above	PQL, what samp	Comments:
N/A			
L			
	iii. Data qı	uality or usability	affected? Explain. Comments:
N/A			
Other I	Data Flags/Q	ualifiers (ACOE,	AFCEE, Lab Specific, etc.)
ล	Defined and	appropriate?	
a.	○ Yes	O No	Comments:
N/A			
1 1/ 1/1			

Reset Form