CD3 & CD4 Alpine Lakes 2007 Water Quality Monitoring Report

Submitted to

ConocoPhillips

Submitted by

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Contents

Figures

Tables

Appendices

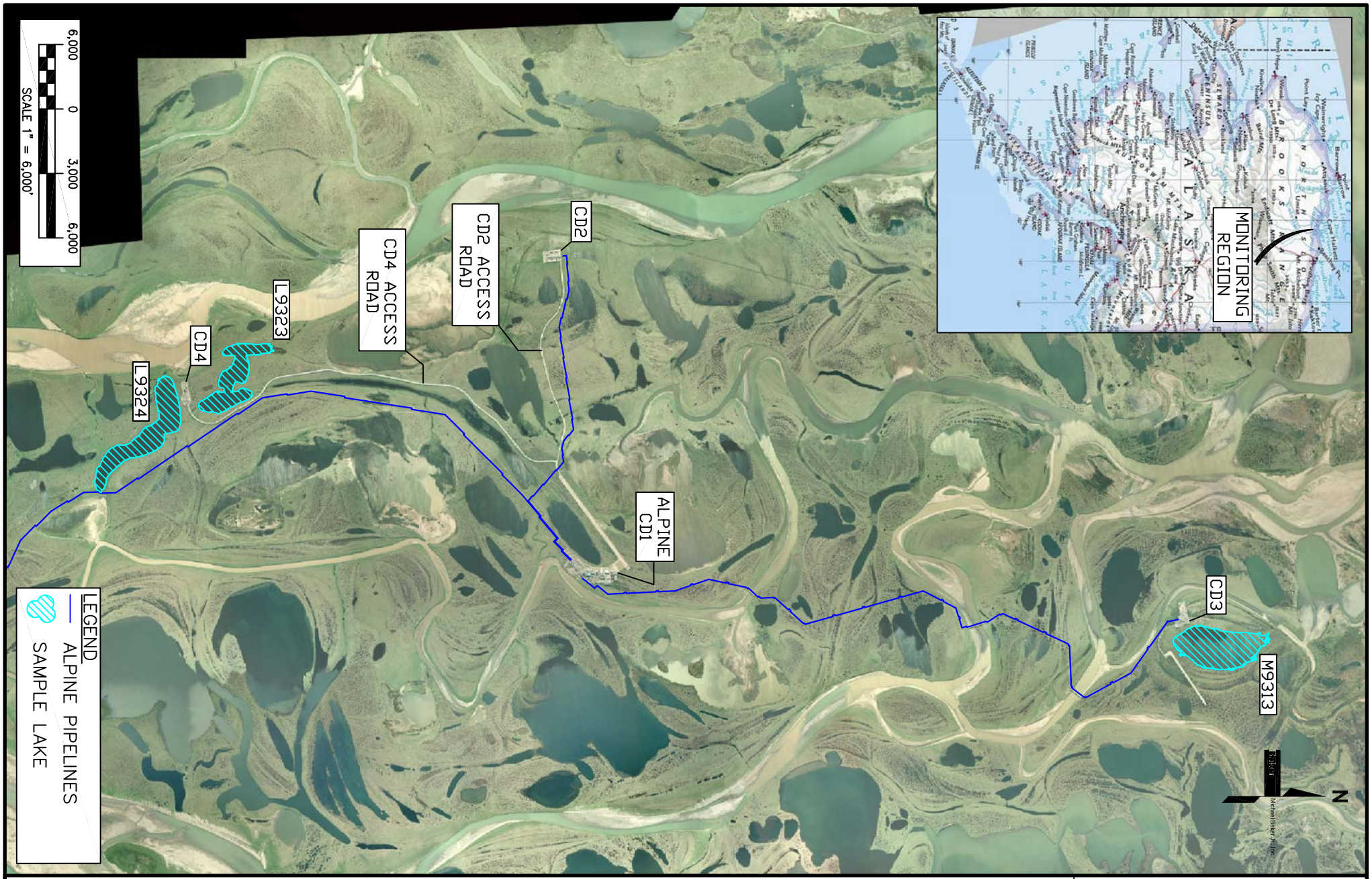
1.0 Introduction

ConocoPhillips Alaska, Inc. (CPAI) expanded Alpine Facility operations with implementation of the Alpine Satellites Development Plan during the 2004/2005 winter season. Construction included placement of gravel facilities for two new satellite drill sites: CD3 and CD4. The CD3 pad development includes an airstrip and its access road, apron, and taxiway. The CD4 pad development includes an access road, running parallel with the existing Alpine sales pipeline, which connects to the CD2 access road.

During the summer of 2007, Michael Baker Jr., Inc. (Baker) conducted a water quality monitoring program at the request of CPAI to satisfy North Slope Borough zoning stipulations. The program targeted water bodies adjacent to the CD3 and CD4 gravel facilities. Three sampling lakes were identified: M9313 near CD3, and L9323 and L9324 located north and south of CD4, respectively. An overview of the three study lakes relative to Alpine facilities is presented in Figure 1-1.

The water quality monitoring program included in situ sampling of temperature, dissolved oxygen (DO), salinity, and specific conductance. Turbidity was measured ex situ from collected water samples. Additional water samples were collected for laboratory analysis of dissolved hydrocarbons and metals. Two separate sampling events were performed; in July following spring breakup, and in August prior to freeze-up.

This CD3 & CD4 Alpine Lakes Water Quality Monitoring Report presents the field investigation procedures, sampling and analytical methods used, and resulting water quality data and analyses. Laboratory analyses identified targeted constituent concentrations well below state and national recommended water quality criteria and standards.



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OVERVIEW

CD3 & CD4 WATER QUALITY SAMPLE LAKES

FIGURE 1-1

(SHEET 1 OF 1)

2.0 Field Methods

Field investigations were conducted at each lake on July 16 and August 8, 2007. Maritime Helicopters provided access to Lake M9313 while Lakes L9323 and L9324 were accessed via the CD4 access road and pad. Each predefined sampling location was identified and confirmed using a hand-held global positioning system (GPS) unit referenced to the North American Datum of 1983 (NAD83).

In situ water quality data and analytical sample collection was performed by a two person team, each in an inflatable kayak, with an attached support raft for transport of the sampling equipment. In situ water quality instruments were provided by TTT Environmental. Analytical sample bottles and storage coolers were provided by Analytica International, Inc. (Analytica). Field surveys were also conducted to identify possible inflow and outflow sources.

All safety precautions, as outlined in the CD3 and CD4 Alpine Lakes Water Quality Sampling proposal, were followed. A travel plan was submitted to Alpine Security in advance of each sampling event. Personnel were equipped with personal flotation devices and a CPAI-provided radio. Measures were taken to avoid animal interaction during all field activities.

Field sampling methods were based on USGS (2006), Ward and Harr (1990), and U.S. Army Corps of Engineers (1987) methods. Assumptions used in this study were that each lake was hydraulically isolated, having no overland inflow or outflow, and that lakes were well-mixed lacking significant stratification. Historic North Slope lake water quality data suggests that wind-induced mixing results in a homogeneous distribution of dissolved constituents throughout the open water season in hydraulically isolated lakes (Moulton 2004). Hydraulic isolation was confirmed with aerial and ground observations of lakes. Well-mixed conditions were confirmed with in situ measurements prior to analytic sample collection. Methods pertaining to sample collection, storage, and transport for laboratory analysis were supplemented with instructions provided by Analytica.

2.1 Sample Location Selection

The sampling locations for Lake M9313 (Figure 2-1) and Lakes L9323 and L9324 (Figure 2-2) are identified in the referenced figures. Lake bathymetry, provided by Larry Moulton, was used to select a single sampling location at each lake (Appendix A). Site selection was based on

maximum depth and relative proximity to gravel facilities. Specific locations were confirmed with depth soundings.

The major assumption of this water quality study is that data collected at specific stations are representative of conditions throughout the water body. Past in situ monitoring of lakes near Alpine facilities (L9313, L9312 and L9310) indicates that hydraulically isolated lakes are well-mixed during open water conditions. The likelihood of homogeneous conditions, which can be verified with in situ measurements, supports the use of single point sampling.

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LAKE M9313
CD3 & CD4 WATER QUALITY SAMPLING LOCATIONS

FIGURE 2-1

(SHEET 1 OF 1)

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LAKES L9323 & L9324
CD3 & CD4 WATER QUALITY
SAMPLING LOCATIONS

FIGURE 2-2
(SHEET 1 OF 1)

2.2 On Site Water Quality Parameters

In situ water quality was measured at three-foot intervals throughout the water column. Turbidity of three replicate water samples from each lake was measured ex situ. A tabulation of equipment (meters) and associated parameters is presented in Table 2-1.

Table 2-1 On Site Water Quality Parameters

Meter	Parameter	In/ex situ	Units
YSI 30	Temperature	In situ	°C
	Conductivity		µS/cm
	Specific Conductance (SC)		µS/cm
	Salinity		ppt
Hach HQ-40d LDO	Dissolved oxygen (DO)		mg/L
			%
Hach 2100P Turbidometer	Turbidity	Ex situ	NTU

2.2.1 Instrument Calibration

All meters were calibrated according to the manufacturer's specifications. A summary of calibration procedures is presented below.

Daily: Prior to sampling, a calibration check was performed on the Turbidometer and the YSI 30 using calibration solutions provided by the manufacturer. Meters were recalibrated as per manufacturers' instructions if readings were incorrect. The calibration check was again performed at the end of the day. According to the Hach representative (TTT Environmental), daily calibration of the HQ-40d LDO meter is not required.

Prior To and Following Each Sampling Event: Meters were returned to the manufacturers' representative for complete maintenance servicing performed according to the manufacturers' specifications.

2.3 Laboratory Sample Collection and Analytical Analysis

2.3.1 Sample Collection

Prior to analytic sample collection, in situ sampling was performed to confirm well-mixed water quality constituents within the water column at the sample location. Because no oxycline or thermocline was apparent (Table 3-1 and Table 3-2), a single point sample was collected. In the event of lake stratification, multiple samples would have been collected throughout the water column and combined for laboratory analysis. Samples were collected from mid-depth of the water column using a 500mL stainless steel bomb sampler during the July event. The bomb sampler was given a thorough native-water rinse at each lake prior to sampling to minimize cross contamination of samples.

The bomb sampler was lost in transit to Alpine during the August sampling event. Surface sample collection was performed and deemed adequate given the observed homogenous in situ measurements. Sample vials provided by Analytica were stored in the provided cooler before, during, and after sample collection to maintain adequate storage temperatures.

Field samples were transported to Analytica within two days of collection. The procedures for transport and transfer are described in Appendices B and C as part of the analysis reports submitted by Analytica.

2.3.2 Analytical Analysis

Method 625 – Base/Neutrals and Acids

This method, developed by the U.S. Environmental Protection Agency (EPA), was employed to test for organic compounds present in the study lakes. Samples spiked with three surrogates (flurobiphenyl, terphenyl, and nitrobenzene) are serially extracted at a pH greater than 11 and again at a pH less than 2. The extract is analyzed through a gas chromatographic/mass spectrometer (GC/MS). Qualitative parameters are identified using the retention time and relative abundance of three characteristic masses (m/z). Quantitative analysis is performed using internal standard techniques with a single characteristic m/z.

ADEC AK101 – Gasoline Range Organics (GRO)

This method, developed by the Alaska Department of Environmental Conservation (ADEC), is based on a purge-and-trap extraction gas chromatography (GC) procedure for the detection of volatile fractions such as gasoline. Other nonpetroleum compounds of similar characteristics may be detected with this method. The GC is temperature programmed to facilitate separation of organic compounds detected by a flame ionization detector (FID). Quantification is based on FID response. The recommended bromofluorobenzene surrogate was used.

ADEC AK102 – Diesel Range Organics (DRO)

This method, developed by ADEC, is based on a solvent extraction, gas chromatography (GC) procedure for the detection of semi-volatile petroleum products such as diesels. Other nonpetroleum compounds of similar characteristics may be detected with this method. Samples spiked with a surrogate (o-Terphenyl) are extracted with methylene chloride. The GC is temperature programmed to facilitate separation of organic compounds detected by a flame ionization detector (FID). Quantification is based on FID response compared to a diesel calibration standard.

ADEC AK103 – Residual Range Organics (RRO)

This method, developed by ADEC, was originally designed to measure lubricating or motor oils and other heavy petroleum products in soils. The ADEC *Underground Storage Tanks Procedures Manual* (ADEC 2002) identifies the method as adequate for determining such compounds in solution. The method is an extension of ADEC AK102, employing solvent extractions and gas chromatographs (GC) to identify heavier residual range organics (RRO). Quantification is based on FID response compared to a residuals calibration standard.

SW6010B-ICP-RCRA – Trace Metals

This method, developed by the EPA Office of Solid Waste, employs inductively coupled plasma-atomic emission spectroscopy (ICP-AES) to determine trace elements, including metals, in solution. The Resource Conservation Recovery Act (RCRA) mandates metals testing in public water via the SW6010B method. Elements tested for include arsenic, cadmium, chromium and

lead. Quantities are determined from intensities of dispersed element-specific emission spectra lines.

SW7470A – Mercury in Liquid Waste

This EPA method employs a cold-vapor atomic adsorption procedure approved for determining mercury concentration in liquid wastes. The basis of this method is the radiation adsorption characteristics of vaporized mercury. Any mercury within the sample is reduced to the elemental state and aerated from solution. Adsorption is measured as a function of mercury concentration.

Method 1664 – N-Hexane Extractable Materials – Total Petroleum Hydrocarbons (TPH)

Method 1664, developed by the EPA, was used to test for N-Hexane extractable materials (HEM; Oil and Grease) and silica gel treated N-Hexane extractable material (SGT-HEM). Extractable materials that may be determined with this method are relatively non-volatile hydrocarbons, vegetable oils, animal fats, waxes, soaps, greases, and related materials. Though some crude oils and heavy fuel oils contain materials not suited for this test, it is the recommended method for testing of Total Petroleum Hydrocarbons (TPH). The method is based on extraction and gravimetric procedures, including sample acidification, isolation, desiccation, and weighing of HEM and SGT-HEM isolates.

Method 602 and Method 8021B – Aromatic Volatile Organic Compounds (VOC)

Methods 602 and 8021B quantify aromatic VOCs via gas chromatography (GC) and photoionization detection (PID). These methods, developed by the EPA, were used to test trip blanks. Method 8021B captures a broad range of halogenated VOCs as well as aromatics, and was used to test the July trip blanks. Method 602 captures only aromatic VOCs and was used to test the August trip blanks. VOCs are purged from the liquid phase to the vapor phase and captured via a sorbent trap. Aromatics are desorbed onto a gas chromatograph column. The GC separates the aromatics via temperature gradients which are then detected with a PID.

3.0 Results

3.1 Field Conditions

On July 16, maximum daily temperature and wind velocities were approximately 62ºF and 5 to 10 miles per hour (mph). On August 8, maximum daily temperatures approached 57ºF with winds of 5 to 15 mph. No surface sheen was observed on any lake during either of the sampling events.

3.2 On Site Water Quality Results

Measured water quality results from the July and August sampling events are tabulated in Table 3-1 and Table 3-2. A summary and comparison of the resulting values are described below.

Table 3-1 July 16, 2007 On Site Water Quality Results

Location Time	Depth (ft)	Turibidity NTU	Depth (ft)	Temp (^{0}C)	Conductivity (µS/cm)	Specific Conductance (µS/cm)	DO (mg/L)	DO (Percent Saturation)	Salinity (ppt)
M9313 10:25 a.m.	24.0	1.66	Surface	11.8	536	717	10.15	94.2	0.4
			3.0	11.8	536	717	10.13	94.2	0.4
			6.0	11.8	536	717	10.12	94.1	0.4
			9.0	11.8	536	717	10.11	94.0	0.4
			12.0	11.8	536	717	10.09	93.7	0.4
			15.0	11.8	536	717	10.06	93.5	0.4
			18.0	11.8	536	717	10.01	93.0	0.4
			21.0	11.8	536	717	9.92	92.1	0.4
			24.0	11.7	535	717	0.17	1.6	0.4
L9323 4:05 p.m.	19.1	1.58	Surface	14.0	75.6	95.9	9.97	97.0	0.0
			4.0	13.9	75.7	96.0	9.95	96.9	0.0
			7.0	13.9	75.7	96.0	9.94	96.8	0.0
			10.0	13.9	75.7	96.0	9.92	96.5	0.0
			13.0	13.8	75.6	96.1	9.83	95.5	0.0
			16.0	13.7	75.3	96.1	9.73	94.3	0.0
			19.0	13.2	91.0	117.4	0.13	1.3	0.1
L9324 5:40 p.m.	10.2	8.64	Surface	14.6	57.0	71.1	9.74	96.1	0.0
			4.0	14.5	56.8	71.1	9.72	95.6	0.0
			7.0	14.2	56.7	71.4	9.64	94.5	0.0
			10.0	14.0	56.6	71.6	9.49	92.8	0.0

Notes:
(1) Sample depth is measured from the water surface.
(2) Turbidity was measured using a Hach-2100P Turbidometer
(3) Salinity, conductivity, specific conductance, and temperature were measured using a YSI-30 meter
(4) Dissolved oxygen measurements were obtained using a Hach HQ40d LDO meter

Table 3-2 August 8, 2007 On Site Water Quality Results

Location Time	Depth (ft)	Turibidity NTU	Depth (ft)	Temp (^{o}C)	Conductivity (µS/cm)	Specific Conductance (µS/cm)	DO (mg/L)	DO (Percent Saturation)	Salinity (ppt)
M9313 2:00 p.m.	24..3	1.00	Surface	8.9	524	757	10.90	98.7	0.4
			3.0	8.9	524	757	10.90	98.7	0.4
			6.0	8.9	524	756	10.88	98.5	0.4
			9.0	8.9	523	756	10.87	98.4	0.4
			12.0	8.9	523	757	10.87	98.4	0.4
			15.0	8.8	523	757	10.87	98.3	0.4
			18.0	8.8	522	757	10.87	98.2	0.4
			21.0	8.7	521	757	10.85	97.8	0.4
			24.0	8.6	520	757	10.83	97.5	0.4
L9323 6:00 p.m.	20.1	1.13	Surface	10.2	72.3	100.7	10.92	102.3	0.0
			3.0	10.2	72.3	100.7	10.89	102.0	0.0
			6.0	10.2	72.3	100.7	10.86	101.8	0.0
			9.0	10.2	72.3	100.7	10.81	101.3	0.0
			12.0	10.2	72.3	100.8	10.76	100.8	0.0
			15.0	10.2	72.2	100.7	10.70	100.2	0.0
			18.0	10.2	72.2	100.7	10.49	98.3	0.0
			20.0	10.0	78.2	109.6	0.13	1.2	0.1
L9324 7:30 p.m.	9.8	2.71	Surface	10.0	61.2	85.7	11.27	104.7	0.0
			3.0	10.0	61.2	85.6	11.27	104.7	0.0
			6.0	9.9	61.0	85.6	11.28	104.5	0.0
			9.0	9.5	60.2	85.6	11.26	103.4	0.0

Notes:
(1) Sample depth is measured from the water surface.
(2) Turbidity was measured using a Hach-2100P Turbidometer
(3) Salinity, conductivity, specific conductance, and temperature were measured using a YSI-30 meter
(4) Dissolved oxygen measurements were obtained using a Hach HQ40d LDO meter

3.2.1 Specific Conductance

Specific conductance values varied little between July and August samplings. The average specific conductance measured in July was 717 µS/cm in M9313, 96 µS/cm in L9323, and 71 µS/cm in L9324. In August, the average specific conductance was 757 µS/cm in M9313, 108 µS/cm in L9323, and 87 µS/cm in L9324. Lakes M9313, L9323, and L9324 averages increased by 6%, 13%, and 23% respectively. A small increase in specific conductance was observed at the greatest depth in Lake L9323. Values varied by 22 % over three feet of depth (July) and 9% over two feet of depth (August).

3.2.2 Dissolved Oxygen

Overall, DO values varied little between lakes. Dissolved oxygen (DO) slightly increased between July and August. In July, the overall average DO was measured at 9.92 milligrams per liter [mg/L] (94.7 %-saturation) while in August the overall average DO was measured at 10.92 mg/L (100.4%). A 100% saturation level is based on standard temperature and pressure conditions. Variation from standard values can result in DO concentrations greater than 100%.

At the greatest depth in Lakes M9313 (July) and L9323 (July and August) a significant drop in dissolved oxygen was observed. This is the result of sampling in lake sediment or within the diffusive boundary layer adjacent to the sediment surface. No significant oxycline or thermocline was apparent within the sampled water columns.

3.2.3 Salinity

Salinity remained consistent between July and August, with the greatest values occurring in Lake M9313 at 0.4 parts per thousand (ppt). Lakes L9323 and L9324 had no notable salinity. No variation in salinity occurred with depth.

3.3 Analytica – Laboratory Findings

Water quality results from laboratory analyses of samples collected in July are tabulated in Table 3-3 through Table 3-5. Results from the August sampling event are tabulated in Table 3-6 through Table 3-8. Analytical results provided by Analytica are presented in Appendix B (July) and Appendix C (August). A summary and comparison of the resulting values are described below.

All of the targeted compounds and metals were non-detectable (ND) in all lakes, for both sampling events, except for low levels of barium and chromium. Barium was detected in all lakes in July and August. Measured concentrations ranged from 0.051 mg/L to 0.25 mg/L; well below the water quality standard of 2 mg/L identified by the EPA (EPA 2006) and adopted in the Alaska Water Quality Standards (ADEC 2006). Barium concentrations increased in all lakes between sampling events by 0.06 mg/L (M9313), 0.002 mg/L (L9323) and 0.004 mg/L (L9324). Chromium was only detected in Lake L9324 in August at a concentration of 0.013 mg/L. This value is below limits identified in the Alaska Water Quality Standards (0.067 -0.1 mg/L).

Trip blanks are a required quality control element for volatile sampling and analysis, and are one of the most critical aspects of a sampling regime. All trip blanks were negative for aromatic VOCs.

Table 3-3 Lake M9313 July 16, 2007 Laboratory Analysis Results

Lab Sample Number	Test Method	Analysis	Concentration	Units	PQL	MDL	SS Recovery (%)	LCL	UCL
A0707191-03A	ADEC AK103-RRO	Residual Range Organics	ND	mg/L	0.51	0.21	-	-	-
		Squalane	0.023	mg/L	0.0051	0.0021	45	50	150
A0707191-03A	ADEC AK102-DRO	Diesel Range Organics	ND	mg/L	0.10	0.0061	-	-	-
		o-Terphenyl	0.026	mg/L	0.00068	0.0038	50.2	50	120
A0707191-03E	625-Base-Neutrals and Acids by GC/MS - PAH	Acenaphthene	ND	ug/L	5.2	0.47	-	-	-
		Acenaphthylene	ND	ug/L	5.2	0.53	-	-	-
		Anthracene	ND	ug/L	5.2	0.45	-	-	-
		Benzo(a)anthracene	ND	ug/L	5.2	0.35	-	-	-
		Benzo(a)pyrene	ND	ug/L	5.2	0.27	-	-	-
		Benzo(b)fluoranthene	ND	ug/L	5.2	0.30	-	-	-
		Benzo(g,h,i)perylene	ND	ug/L	5.2	0.40	-	-	-
		Benzo(k)fluoranthene	ND	ug/L	5.2	0.39	-	-	-
		Chrysene	ND	ug/L	5.2	0.21	-	-	-
		Dibenzo(a,h)anthracene	ND	ug/L	5.2	0.35	-	-	-
		Fluoranthene	ND	ug/L	5.2	0.53	-	-	-
		Fluorene	ND	ug/L	5.2	0.49	-	-	-
		Indeno(1,2,3-cd)pyrene	ND	ug/L	5.2	0.23	-	-	-
		Naphthalene	ND	ug/L	10	0.64	-	-	-
		Phenanthrene	ND	ug/L	5.2	0.45	-	-	-
		Pyrene	ND	ug/L	5.2	0.41	-	-	-
		2-Fluorobiphenyl	84	ug/L	5.2	0.29	80.7	43	116
		D14-Terphenyl	99	ug/L	5.2	0.12	94.8	33	141
		D5-Nitrobenzene	83	ug/L	5.2	0.21	79.3	35	114
A0707191-03D	SW6010B-ICP-RCRA	Arsenic	ND	mg/L	0.10	0.015	-	-	-
		Barium	0.19	mg/L	0.01	0.00016	-	-	-
		Cadmium	ND	mg/L	0.006	0.00051	-	-	-
		Chromium	ND	mg/L	0.01	0.0018	-	-	-
		Lead	ND	mg/L	0.05	0.011	-	-	-
		Selenium	ND	mg/L	0.10	0.026	-	-	-
		Silver	ND	mg/L	0.015	0.00066	-	-	-
A0707191-03D	SW7470A - Mercury in Liquid Waste by CVAA - Total Hg	Mercury	ND	mg/L	0.0002	0.00005	-	-	-
A0707191-03B	1664 Hexane Extractable Materials - TPH w/SGT	Hexane-Extractable Material	ND	mg/L	5.2	1.5	-	-	-
A0707191-03C	602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzene	1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	-	-	-
		1,3-Dichlorobenzene	ND	ug/L	1.0	0.17	-	-	-
		1,4-Dichlorobenzene	ND	ug/L	1.0	0.21	-	-	-
		Benzene	ND	ug/L	1.0	0.074	-	-	-
		Chlorobenzene	ND	ug/L	1.0	0.19	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.20	-	-	-
		p-Bromofluorobenzene	26	ug/L	0.5	0.12	97.6	80	120
A0707191-03C	ADEC AK101-GRO	Gasoline Range Organics	ND	ug/L	100	21	-	-	-
		p-Bromofluorobenzene	25	ug/L	1.5	0.5	92.8	50	150
Trip Blank	Aromatic VOCs by GC/PID via method 8021B-BTEX	Benzene	ND	ug/L	1.0	0.074	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.200	-	-	-
		p-Bromofluorobenzene	26	ug/L	0.5	0.120	94.9	80	120

Notes:
(1) PQL: Practical Quantification Limit
(2) MDL: Method Detection Limit
(3) SS Recovery: Spiked Sample Recovery (% of original)
(4) LCL: Lower Confidence Limit
(5) UCL: Upper Confidence Limit
(6) *Surrogates* are italicized

Table 3-4 Lake L9323 July 16, 2007 Laboratory Analysis Results

Lab Sample Number	Test Method	Analysis	Concentration	Units	PQL	MDL	SS Recovery (%)	LCL	UCL
A0707191-01A	ADEC AK103-RRO	Residual Range Organics	ND	mg/L	0.51	0.21	-	-	-
		Squalane	0.038	mg/L	0.0051	0.0021	74	50	150
A0707191-01A	ADEC AK102-DRO	Diesel Range Organics	ND	mg/L	0.10	0.0061	-	-	-
		o-Terphenyl	0.034	mg/L	0.00068	0.0038	67.1	50	120
A0707191-01E	625-Base-Neutrals and Acids by GC/MS - PAH	Acenaphthene	ND	ug/L	5.2	0.47	-	-	-
		Acenaphthylene	ND	ug/L	5.2	0.53	-	-	-
		Anthracene	ND	ug/L	5.2	0.45	-	-	-
		Benzo(a)anthracene	ND	ug/L	5.2	0.35	-	-	-
		Benzo(a)pyrene	ND	ug/L	5.2	0.27	-	-	-
		Benzo(b)fluoranthene	ND	ug/L	5.2	0.30	-	-	-
		Benzo(g,h,i)perylene	ND	ug/L	5.2	0.40	-	-	-
		Benzo(k)fluoranthene	ND	ug/L	5.2	0.39	-	-	-
		Chrysene	ND	ug/L	5.2	0.21	-	-	-
		Dibenzo(a,h)anthracene	ND	ug/L	5.2	0.35	-	-	-
		Fluoranthene	ND	ug/L	5.2	0.53	-	-	-
		Fluorene	ND	ug/L	5.2	0.49	-	-	-
		Indeno(1,2,3-cd)pyrene	ND	ug/L	5.2	0.23	-	-	-
		Naphthalene	ND	ug/L	10	0.64	-	-	-
		Phenanthrene	ND	ug/L	5.2	0.45	-	-	-
		Pyrene	ND	ug/L	5.2	0.41	-	-	-
		2-Fluorobiphenyl	69	ug/L	5.2	0.29	66.7	43	116
		D14-Terphenyl	70	ug/L	5.2	0.12	67.7	33	141
		D5-Nitrobenzene	70	ug/L	5.2	0.21	67.6	35	114
A0707191-01D	SW6010B-ICP-RCRA	Arsenic	ND	mg/L	0.10	0.015	-	-	-
		Barium	0.051	mg/L	0.01	0.00016	-	-	-
		Cadmium	ND	mg/L	0.006	0.00051	-	-	-
		Chromium	ND	mg/L	0.01	0.0018	-	-	-
		Lead	ND	mg/L	0.05	0.011	-	-	-
		Selenium	ND	mg/L	0.10	0.026	-	-	-
		Silver	ND	mg/L	0.015	0.00066	-	-	-
A0707191-01D	SW7470A - Mercury in Liquid Waste by CVAA - Total Hg	Mercury	ND	mg/L	0.0002	0.00005	-	-	-
A0707191-01B	1664 Hexane Extractable Materials - TPH w/SGT	Hexane-Extractable Material	ND	mg/L	5.1	1.5	-	-	-
A0707191-01C	602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzene	1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	-	-	-
		1,3-Dichlorobenzene	ND	ug/L	1.0	0.17	-	-	-
		1,4-Dichlorobenzene	ND	ug/L	1.0	0.21	-	-	-
		Benzene	ND	ug/L	1.0	0.074	-	-	-
		Chlorobenzene	ND	ug/L	1.0	0.19	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.20	-	-	-
		p-Bromofluorobenzene	26	ug/L	0.5	0.12	97.4	80	120
A0707191-01C	ADEC AK101-GRO	Gasoline Range Organics	ND	ug/L	100	21	-	-	-
		p-Bromofluorobenzene	26	ug/L	1.5	0.5	94.7	50	150
Trip Blank	Aromatic VOCs by GC/PID via method 8021B-BTEX	Benzene	ND	ug/L	1.0	0.074	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.200	-	-	-
		p-Bromofluorobenzene	26	ug/L	0.5	0.120	94.9	80	120

Notes:
(1) PQL: Practical Quantification Limit
(2) MDL: Method Detection Limit
(3) SS Recovery: Spiked Sample Recovery (% of original)
(4) LCL: Lower Confidence Limit
(5) UCL: Upper Confidence Limit
(6) *Surrogates* are italicized

Table 3-5 Lake L9324 July 16, 2007 Laboratory Analysis Results

Lab Sample Number	Test Method	Analysis	Concentration	Units	PQL	MDL	SS Recovery (%)	LCL	UCL
A0707191-02A	ADEC AK103-RRO	Residual Range Organics	ND	mg/L	0.52	0.21	-	-	-
		Squalane	0.023	mg/L	0.0052	0.0021	44.9	50	150
A0707191-02A	ADEC AK102-DRO	Diesel Range Organics	1.2	mg/L	0.10	0.0062	-	-	-
		o-Terphenyl	0.033	mg/L	0.00069	0.0038	65	50	120
A0707191-02E	625-Base-Neutrals and Acids by GC/MS - PAH	Acenaphthene	ND	ug/L	5.3	0.48	-	-	-
		Acenaphthylene	ND	ug/L	5.3	0.54	-	-	-
		Anthracene	ND	ug/L	5.3	0.46	-	-	-
		Benzo(a)anthracene	ND	ug/L	5.3	0.36	-	-	-
		Benzo(a)pyrene	ND	ug/L	5.3	0.28	-	-	-
		Benzo(b)fluoranthene	ND	ug/L	5.3	0.31	-	-	-
		Benzo(g,h,i)perylene	ND	ug/L	5.3	0.41	-	-	-
		Benzo(k)fluoranthene	ND	ug/L	5.3	0.4	-	-	-
		Chrysene	ND	ug/L	5.3	0.21	-	-	-
		Dibenzo(a,h)anthracene	ND	ug/L	5.3	0.36	-	-	-
		Fluoranthene	ND	ug/L	5.3	0.54	-	-	-
		Fluorene	ND	ug/L	5.3	0.51	-	-	-
		Indeno(1,2,3-cd)pyrene	ND	ug/L	5.3	0.24	-	-	-
		Naphthalene	ND	ug/L	11	0.66	-	-	-
		Phenanthrene	ND	ug/L	5.3	0.46	-	-	-
		Pyrene	ND	ug/L	5.3	0.42	-	-	-
		2-Fluorobiphenyl	95	ug/L	5.3	0.3	89.3	43	116
		D14-Terphenyl	63	ug/L	5.3	0.13	58.8	33	141
		D5-Nitrobenzene	92	ug/L	5.3	0.22	86.3	35	114
A0707191-02D	SW6010B-ICP-RCRA	Arsenic	ND	mg/L	0.10	0.015	-	-	-
		Barium	0.054	mg/L	0.01	0.00016	-	-	-
		Cadmium	ND	mg/L	0.006	0.00051	-	-	-
		Chromium	ND	mg/L	0.01	0.0018	-	-	-
		Lead	ND	mg/L	0.05	0.011	-	-	-
		Selenium	ND	mg/L	0.10	0.026	-	-	-
		Silver	ND	mg/L	0.015	0.00066	-	-	-
A0707191-02D	SW7470A - Mercury in Liquid Waste by CVAA - Total Hg	Mercury	ND	mg/L	0.0002	0.00005	-	-	-
A0707191-02B	1664 Hexane Extractable Materials - TPH w/SGT	Hexane-Extractable Material	ND	mg/L	5.1	1.5	-	-	-
A0707191-02C	602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzene	1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	-	-	-
		1,3-Dichlorobenzene	ND	ug/L	1.0	0.17	-	-	-
		1,4-Dichlorobenzene	ND	ug/L	1.0	0.21	-	-	-
		Benzene	ND	ug/L	1.0	0.074	-	-	-
		Chlorobenzene	ND	ug/L	1.0	0.19	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.20	-	-	-
		p-Bromofluorobenzene	26	ug/L	0.5	0.12	97.9	80	120
A0707191-02C	ADEC AK101-GRO	Gasoline Range Organics	ND	ug/L	100	21	-	-	-
		p-Bromofluorobenzene	26	ug/L	1.5	0.5	95.2	50	150
Trip Blank	Aromatic VOCs by GC/PID via method 8021B-BTEX	Benzene	ND	ug/L	1.0	0.074	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.200	-	-	-
		p-Bromofluorobenzene	26	ug/L	0.5	0.120	94.9	80	120

Notes:
(1) PQL: Practical Quantification Limit
(2) MDL: Method Detection Limit
(3) SS Recovery: Spiked Sample Recovery (% of original)
(4) LCL: Lower Confidence Limit
(5) UCL: Upper Confidence Limit
(6) *Surrogates* are italicized

Table 3-6 Lake M9313 August 8, 2007 Laboratory Analysis Results

Lab Sample Number	Test Method	Analysis	Concentration	Units	PQL	MDL	SS Recovery (%)	LCL	UCL
A0708454-01F	ADEC AK103-RRO	Residual Range Organics	ND	mg/L	0.52	0.21	-	-	-
		Squalane	0.043	mg/L	0.0052	0.0021	83.2	50	150
A0708454-01E	ADEC AK102-DRO	Diesel Range Organics	ND	mg/L	0.1	0.0062	-	-	-
		o-Terphenyl	0.02	mg/L	0.00069	0.0038	38.6	50	120
A0708454-01A	625-Base-Neutrals and Acids by GC/MS - PAH	Acenaphthene	ND	ug/L	4.8	0.43	-	-	-
		Acenaphthylene	ND	ug/L	4.8	0.49	-	-	-
		Anthracene	ND	ug/L	4.8	0.41	-	-	-
		Benzo(a)anthracene	ND	ug/L	4.8	0.32	-	-	-
		Benzo(a)pyrene	ND	ug/L	4.8	0.25	-	-	-
		Benzo(b)fluoranthene	ND	ug/L	4.8	0.27	-	-	-
		Benzo(g,h,i)perylene	ND	ug/L	4.8	0.37	-	-	-
		Benzo(k)fluoranthene	ND	ug/L	4.8	0.36	-	-	-
		Chrysene	ND	ug/L	4.8	0.19	-	-	-
		Dibenzo(a,h)anthracene	ND	ug/L	4.8	0.32	-	-	-
		Fluoranthene	ND	ug/L	4.8	0.48	-	-	-
		Fluorene	ND	ug/L	4.8	0.45	-	-	-
		Indeno(1,2,3-cd)pyrene	ND	ug/L	4.8	0.21	-	-	-
		Naphthalene	ND	ug/L	9.5	0.59	-	-	-
		Phenanthrene	ND	ug/L	4.8	0.41	-	-	-
		Pyrene	ND	ug/L	4.8	0.38	-	-	-
		2-Fluorobiphenyl	55	ug/L	4.8	0.27	57.5	43	116
		D14-Terphenyl	42	ug/L	4.8	0.11	43.7	33	141
		D5-Nitrobenzene	68	ug/L	4.8	0.20	71.9	35	114
A0708454-01D	SW6010B-ICP-RCRA	Arsenic	ND	mg/L	0.100	0.01500	-	-	-
		Barium	0.25	mg/L	0.010	0.00016	-	-	-
		Cadmium	ND	mg/L	0.006	0.00051	-	-	-
		Chromium	ND	mg/L	0.010	0.00180	-	-	-
		Lead	ND	mg/L	0.050	0.01100	-	-	-
		Selenium	ND	mg/L	0.100	0.02600	-	-	-
		Silver	ND	mg/L	0.015	0.00066	-	-	-
A0708454-01D	SW7470A - Mercury in Liquid Waste by CVAA - Total Hg	Mercury	ND	mg/L	0.0002	0.00005	-	-	-
A0708454-01B	1664 Hexane Extractable Materials - TPH w/SGT	Hexane-Extractable Material	ND	mg/L	4.8	1.4	-	-	-
A0708454-01C	602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzene	1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	-	-	-
		1,3-Dichlorobenzene	ND	ug/L	1.0	0.17	-	-	-
		1,4-Dichlorobenzene	ND	ug/L	1.0	0.21	-	-	-
		Benzene	ND	ug/L	1.0	0.074	-	-	-
		Chlorobenzene	ND	ug/L	1.0	0.19	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.20	-	-	-
		p-Bromofluorobenzene	26	ug/L	0.50	0.12	95.1	80	120
A0708454-01C	ADEC AK101-GRO	Gasoline Range Organics	ND	ug/L	100	21	-	-	-
		p-Bromofluorobenzene	25	ug/L	1.5	0.5	93.6	50	150
Trip Blank	602 - Purgeable Aromatics by GC/PID - BTEX	1,2-Dichlorobenzene	ND	ug/L	1.0	0.220	-	-	-
		1,3-Dichlorobenzene	ND	ug/L	1.0	0.170	-	-	-
		1,4-Dichlorobenzene	ND	ug/L	1.0	0.210	-	-	-
		Benzene	ND	ug/L	1.0	0.074	-	-	-
		Chlorobenzene	ND	ug/L	1.0	0.190	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.200	-	-	-
		p-Bromofluorobenzene	ND	ug/L	0.5	0.120	91.7	80	120

Notes:
(1) PQL: Practical Quantification Limit
(2) MDL: Method Detection Limit
(3) SS Recovery: Spiked Sample Recovery (% of original)
(4) LCL: Lower Confidence Limit
(5) UCL: Upper Confidence Limit
(6) *Surrogates* are italicized

Table 3-7 Lake L9323 August 8, 2007 Laboratory Analysis Results

Lab Sample Number	Test Method	Analysis	Concentration	Units	PQL	MDL	SS Recovery (%)	LCL	UCL
A0708454-02F	ADEC AK103-RRO	Residual Range Organics	ND	mg/L	0.52	0.21	-	-	-
		Squalane	0.043	mg/L	0.0052	0.0021	81.8	50	150
A0708454-02E	ADEC AK102-DRO	Diesel Range Organics	ND	mg/L	0.10	0.0062	-	-	-
		o-Terphenyl	0.027	mg/L	0.00069	0.0038	52.1	50	120
A0708454-02A	625-Base-Neutrals and Acids by GC/MS - PAH	Acenaphthene	ND	ug/L	4.8	0.43	-	-	-
		Acenaphthylene	ND	ug/L	4.8	0.49	-	-	-
		Anthracene	ND	ug/L	4.8	0.42	-	-	-
		Benzo(a)anthracene	ND	ug/L	4.8	0.32	-	-	-
		Benzo(a)pyrene	ND	ug/L	4.8	0.25	-	-	-
		Benzo(b)fluoranthene	ND	ug/L	4.8	0.28	-	-	-
		Benzo(g,h,i)perylene	ND	ug/L	4.8	0.37	-	-	-
		Benzo(k)fluoranthene	ND	ug/L	4.8	0.37	-	-	-
		Chrysene	ND	ug/L	4.8	0.19	-	-	-
		Dibenzo(a,h)anthracene	ND	ug/L	4.8	0.32	-	-	-
		Fluoranthene	ND	ug/L	4.8	0.49	-	-	-
		Fluorene	ND	ug/L	4.8	0.46	-	-	-
		Indeno(1,2,3-cd)pyrene	ND	ug/L	4.8	0.22	-	-	-
		Naphthalene	ND	ug/L	9.7	0.60	-	-	-
		Phenanthrene	ND	ug/L	4.8	0.42	-	-	-
		Pyrene	ND	ug/L	4.8	0.38	-	-	-
		2-Fluorobiphenyl	49	ug/L	4.8	0.27	50.8	43	116
		D14-Terphenyl	31	ug/L	4.8	0.11	32.6	33	141
		D5-Nitrobenzene	63	ug/L	4.8	0.20	65.6	35	114
A0708454-02D	SW6010B-ICP-RCRA	Arsenic	ND	mg/L	0.10	0.015	-	-	-
		Barium	0.053	mg/L	0.01	0.00016	-	-	-
		Cadmium	ND	mg/L	0.006	0.00051	-	-	-
		Chromium	ND	mg/L	0.01	0.0018	-	-	-
		Lead	ND	mg/L	0.05	0.011	-	-	-
		Selenium	ND	mg/L	0.10	0.026	-	-	-
		Silver	ND	mg/L	0.015	0.00066	-	-	-
A0708454-02D	SW7470A - Mercury in Liquid Waste by CVAA - Total Hg	Mercury	ND	mg/L	0.0002	0.00005	-	-	-
	1664 Hexane Extractable Materials - TPH w/SGT	Hexane-Extractable Material	ND	mg/L	4.9	1.4	-	-	-
A0708454-02C	602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzene	1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	-	-	-
		1,3-Dichlorobenzene	ND	ug/L	1.0	0.17	-	-	-
		1,4-Dichlorobenzene	ND	ug/L	1.0	0.21	-	-	-
		Benzene	ND	ug/L	1.0	0.074	-	-	-
		Chlorobenzene	ND	ug/L	1.0	0.19	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.20	-	-	-
		p-Bromofluorobenzene	27	ug/L	0.5	0.12	98.9	80	120
A0708454-02C	ADEC AK101-GRO	Gasoline Range Organics	ND	ug/L	100	21	-	-	-
		p-Bromofluorobenzene	25	ug/L	1.5	0.5	93.8	50	150
Trip Blank	602 - Purgeable Aromatics by GC/PID - BTEX	1,2-Dichlorobenzene	ND	ug/L	1.0	0.220	-	-	-
		1,3-Dichlorobenzene	ND	ug/L	1.0	0.170	-	-	-
		1,4-Dichlorobenzene	ND	ug/L	1.0	0.210	-	-	-
		Benzene	ND	ug/L	1.0	0.074	-	-	-
		Chlorobenzene	ND	ug/L	1.0	0.190	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.200	-	-	-
		p-Bromofluorobenzene	ND	ug/L	0.5	0.120	91.7	80	120

Notes:
(1) PQL: Practical Quantification Limit
(2) MDL: Method Detection Limit
(3) SS Recovery: Spiked Sample Recovery (% of original)
(4) LCL: Lower Confidence Limit
(5) UCL: Upper Confidence Limit
(6) *Surrogates* are italicized

Table 3-8 Lake L9324 August 8, 2007 Laboratory Analysis Results

Lab Sample Number	Test Method	Analysis	Concentration	Units	PQL	MDL	SS Recovery (%)	LCL	UCL
A0708454-03F	ADEC AK103-RRO	Residual Range Organics	ND	mg/L	0.52	0.21	-	-	-
		Squalane	0.041	mg/L	0.0052	0.0021	79.2	50	150
A0708454-03E	ADEC AK102-DRO	Diesel Range Organics	0.11	mg/L	0.11	0.0064	-	-	-
		o-Terphenyl	0.029	mg/L	0.00072	0.0039	53.9	50	120
A0708454-03A	625-Base-Neutrals and Acids by GC/MS - PAH	Acenaphthene	ND	ug/L	5.0	0.45	-	-	-
		Acenaphthylene	ND	ug/L	5.0	0.51	-	-	-
		Anthracene	ND	ug/L	5.0	0.44	-	-	-
		Benzo(a)anthracene	ND	ug/L	5.0	0.33	-	-	-
		Benzo(a)pyrene	ND	ug/L	5.0	0.26	-	-	-
		Benzo(b)fluoranthene	ND	ug/L	5.0	0.29	-	-	-
		Benzo(g,h,i)perylene	ND	ug/L	5.0	0.39	-	-	-
		Benzo(k)fluoranthene	ND	ug/L	5.0	0.38	-	-	-
		Chrysene	ND	ug/L	5.0	0.20	-	-	-
		Dibenzo(a,h)anthracene	ND	ug/L	5.0	0.34	-	-	-
		Fluoranthene	ND	ug/L	5.0	0.51	-	-	-
		Fluorene	ND	ug/L	5.0	0.48	-	-	-
		Indeno(1,2,3-cd)pyrene	ND	ug/L	5.0	0.22	-	-	-
		Naphthalene	ND	ug/L	10.0	0.62	-	-	-
		Phenanthrene	ND	ug/L	5.0	0.43	-	-	-
		Pyrene	ND	ug/L	5.0	0.40	-	-	-
		2-Fluorobiphenyl	56	ug/L	5.0	0.28	56.2	43	116
		D14-Terphenyl	33	ug/L	5.0	0.12	33.2	33	141
		D5-Nitrobenzene	70	ug/L	5.0	0.21	70.2	35	114
A0708454-03D	SW6010B-ICP-RCRA	Arsenic	ND	mg/L	0.10	0.015	-	-	-
		Barium	0.058	mg/L	0.01	0.00016	-	-	-
		Cadmium	ND	mg/L	0.006	0.00051	-	-	-
		Chromium	0.013	mg/L	0.01	0.0018	-	-	-
		Lead	ND	mg/L	0.05	0.011	-	-	-
		Selenium	ND	mg/L	0.10	0.026	-	-	-
		Silver	ND	mg/L	0.015	0.00066	-	-	-
A0708454-03D	SW7470A - Mercury in Liquid Waste by CVAA - Total Hg	Mercury	ND	mg/L	0.0002	0.00005	-	-	-
A0708454-03B	1664 Hexane Extractable Materials - TPH w/SGT	Hexane-Extractable Material	ND	mg/L	4.8	1.4	-	-	-
A0708454-03C	602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzene	1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	-	-	-
		1,3-Dichlorobenzene	ND	ug/L	1.0	0.17	-	-	-
		1,4-Dichlorobenzene	ND	ug/L	1.0	0.21	-	-	-
		Benzene	ND	ug/L	1.0	0.074	-	-	-
		Chlorobenzene	ND	ug/L	1.0	0.19	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.20	-	-	-
		p-Bromofluorobenzene	27	ug/L	0.5	0.12	99	80	120
A0708454-03C	ADEC AK101-GRO	Gasoline Range Organics	ND	ug/L	100	21	-	-	-
		p-Bromofluorobenzene	25	ug/L	1.5	0.5	93.1	50	150
Trip Blank	602 - Purgeable Aromatics by GC/PID - BTEX	1,2-Dichlorobenzene	ND	ug/L	1.0	0.220	-	-	-
		1,3-Dichlorobenzene	ND	ug/L	1.0	0.170	-	-	-
		1,4-Dichlorobenzene	ND	ug/L	1.0	0.210	-	-	-
		Benzene	ND	ug/L	1.0	0.074	-	-	-
		Chlorobenzene	ND	ug/L	1.0	0.190	-	-	-
		Ethylbenzene	ND	ug/L	1.0	0.088	-	-	-
		Toluene	ND	ug/L	1.0	0.078	-	-	-
		Xylenes, Total	ND	ug/L	2.0	0.200	-	-	-
		p-Bromofluorobenzene	ND	ug/L	0.5	0.120	91.7	80	120

Notes:
(1) PQL: Practical Quantification Limit
(2) MDL: Method Detection Limit
(3) SS Recovery: Spiked Sample Recovery (% of original)
(4) LCL: Lower Confidence Limit
(5) UCL: Upper Confidence Limit
(6) *Surrogates* are italicized

4.0 Discussion

In situ water quality parameters varied little, both with depth and time, in the three sampled lakes. Differences in temperature, specific conductance, and dissolved oxygen observed at the deepest sampling in Lake L9323 are the result of sampling at or very near lake sediments. Bacterial activity, geothermal output, chemical oxidation, and dissolution of sediments greatly influence water chemistry within this narrow boundary of the lake. These differences do not suggest the presence of stratification within the lakes. Temporal variations in temperature, specific conductance, and dissolved oxygen are within expected ranges and can be attributed to evaporation, precipitation, wind, and biological activity.

Laboratory analysis of lake water samples yielded no evidence of targeted contaminants at any lake, except for trace heavy metals. Small bubbles were observed by Analytica in vials used for volatile organic analysis of Lake L9323 August samples. Detectable concentrations may be lower than actual in-situ values. Observations at L9324 (July and August) and in L9323 (July) suggest no significant error was introduced and sampling was not repeated.

Barium was identified in all sample lakes at concentrations below federal and state water quality standards. Concentrations increased in all lakes between sampling events: 32% in Lake M9313, 4% in L9323, and 2% in L9323. Barium is not uncommon in arctic waters at concentrations similar to those presented here (Guay and Falkner 1998).

A small concentration of chromium was also observed in samples collected at Lake L9324 in August. This value was 0.003 mg/L above the practical quantification limit of 0.01 mg/L, suggesting a minimum increase of 30%. The measured concentration of chromium was also below state water quality standards.

Water quality data of 16 NPRA lakes in September of 2003 were compared to constituent concentrations presented here (Baker 2003). The 2003 study was limited to RRO, DRO, and a suite of metals and polynuclear aromatic hydrocarbons. Analyses yielded RRO and DRO concentrations below their detection limit. Neither barium nor chromium was included in the metals analysis. Cadmium was found at low concentrations (0.003 mg/L) in two of the 16 lakes. Of the aromatic hydrocarbon analytes, naphthalene was the only constituent found above detection limits.

5.0 References

Alaska Department of Environmental Conservation (ADEC). 2006. Water Quality Standards, 18 AAC 70.

_____. 2002. Underground Storage Tanks Procedures. Division of Spill Prevention and Response, Contaminated Sites Program.

Guay, C.K. and K.K. Falkner. 1998. A survey of dissolved barium in the estuaries of major Arctic rivers and adjacent seas. *Continental Shelf Research* 18:8 859-882.

Michael Baker Jr., Inc. 2003. ASDP Water Resources – 2003 NPRA Lake Monitoring. Prepared for ConocoPhillips Alaska, Inc.

Moulton, L.L. 2004. Monitoring of Water-Source Lakes in the Alpine Development Project: 1992-2003. January 2004. MJM Research. Prepared for ConocoPhillips Alaska, Inc.

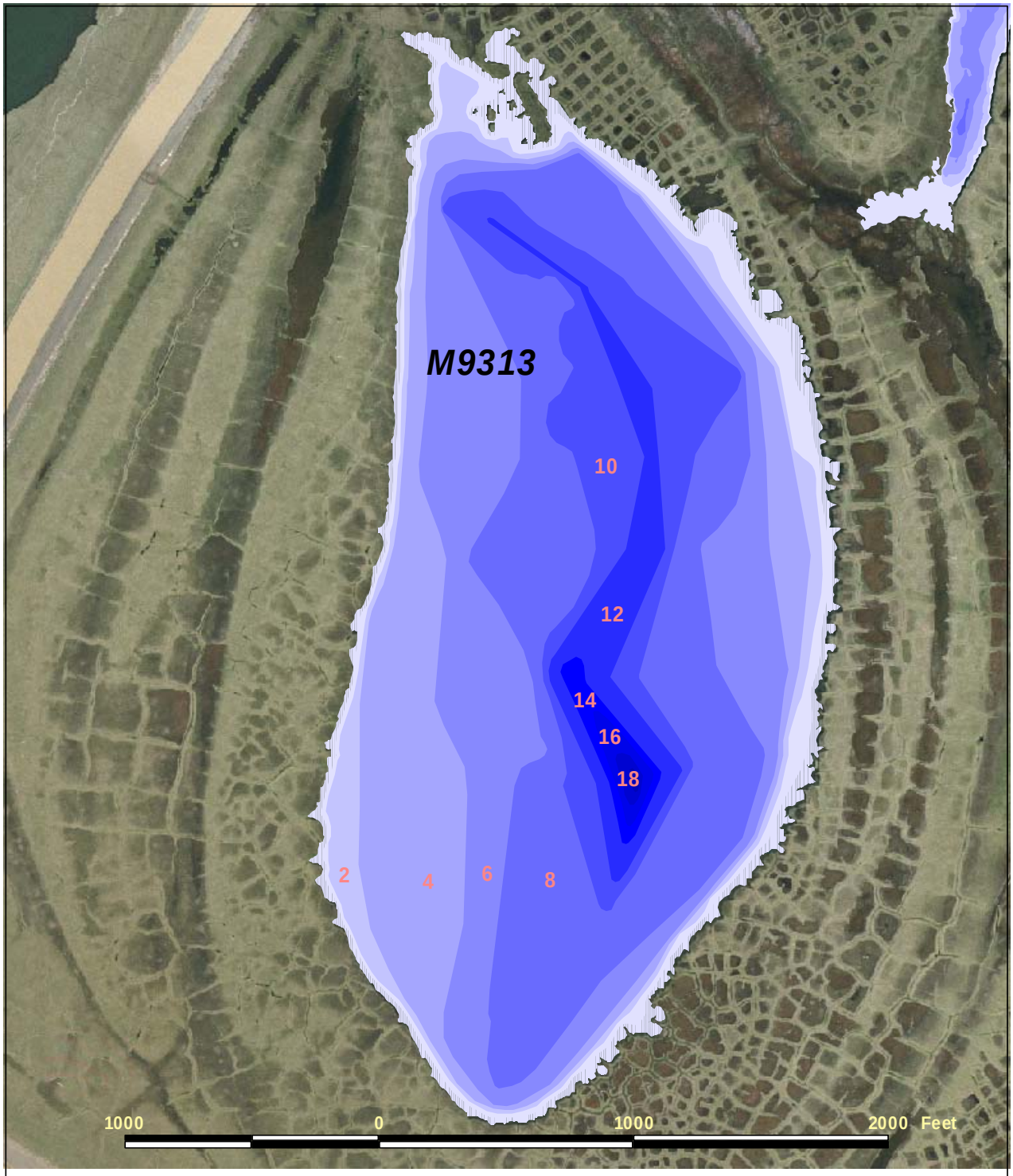
United States Army Corps of Engineers (USACE). 1987. Reservoir Water Quality Analysis. Engineering Manual EM-1110-2-1201.

United States Environmental Protection Agency (EPA). 2006. 2006 Edition of the Drinking Water Standards and Health Advisories. EPA 822-R-06-013.

United States Geological Survey (USGS). 2006. National field manual for the collection of water-quality data. Book 9 Handbooks for Water-Resources Investigations. Chapter A4 Collection of water samples.

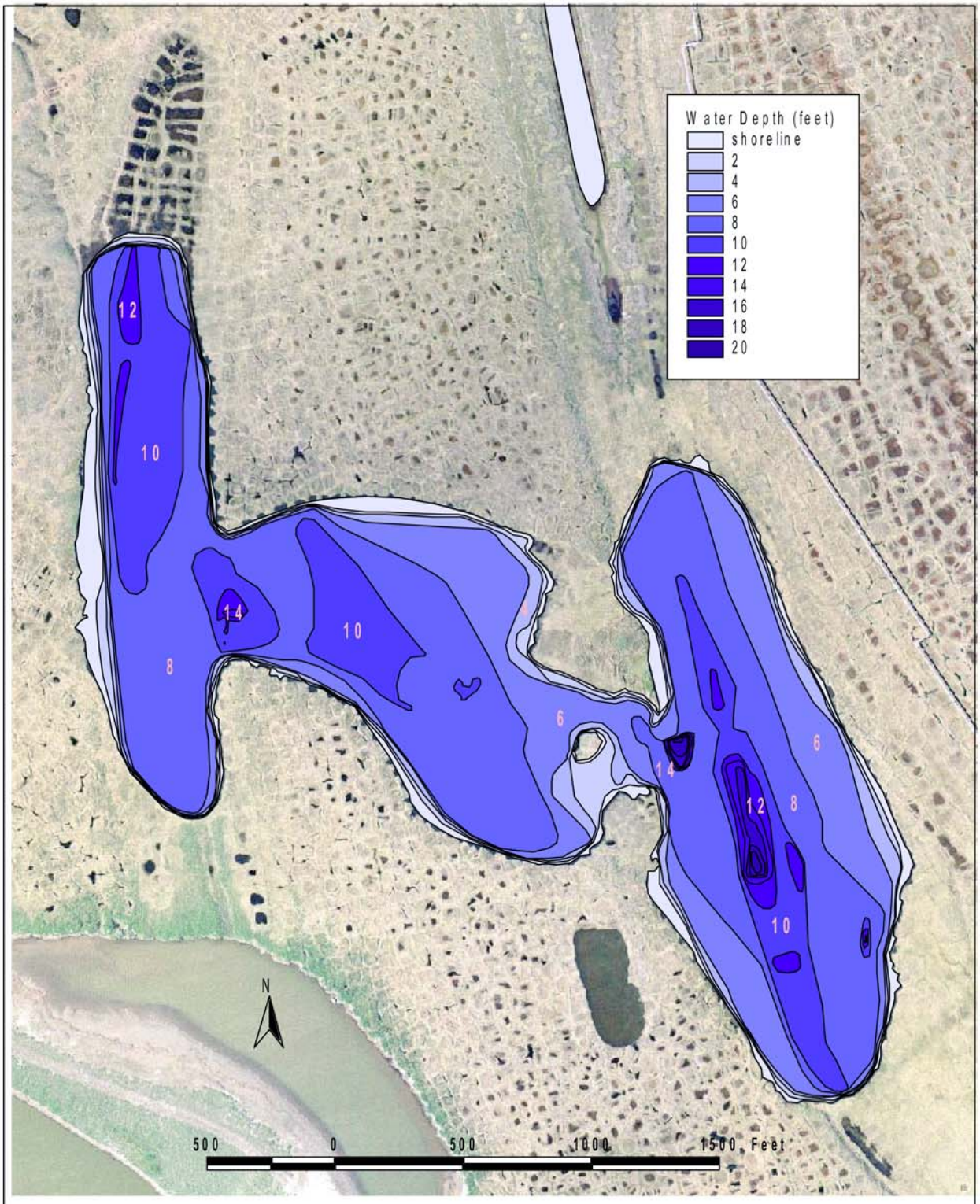
Ward, J.R. and C.A. Harr eds. 1990. Methods for collection and processing surface-water and bed-material samples for physical and chemical analyses. Open-File Report 90-147.

Appendix A Lake Bathymetry



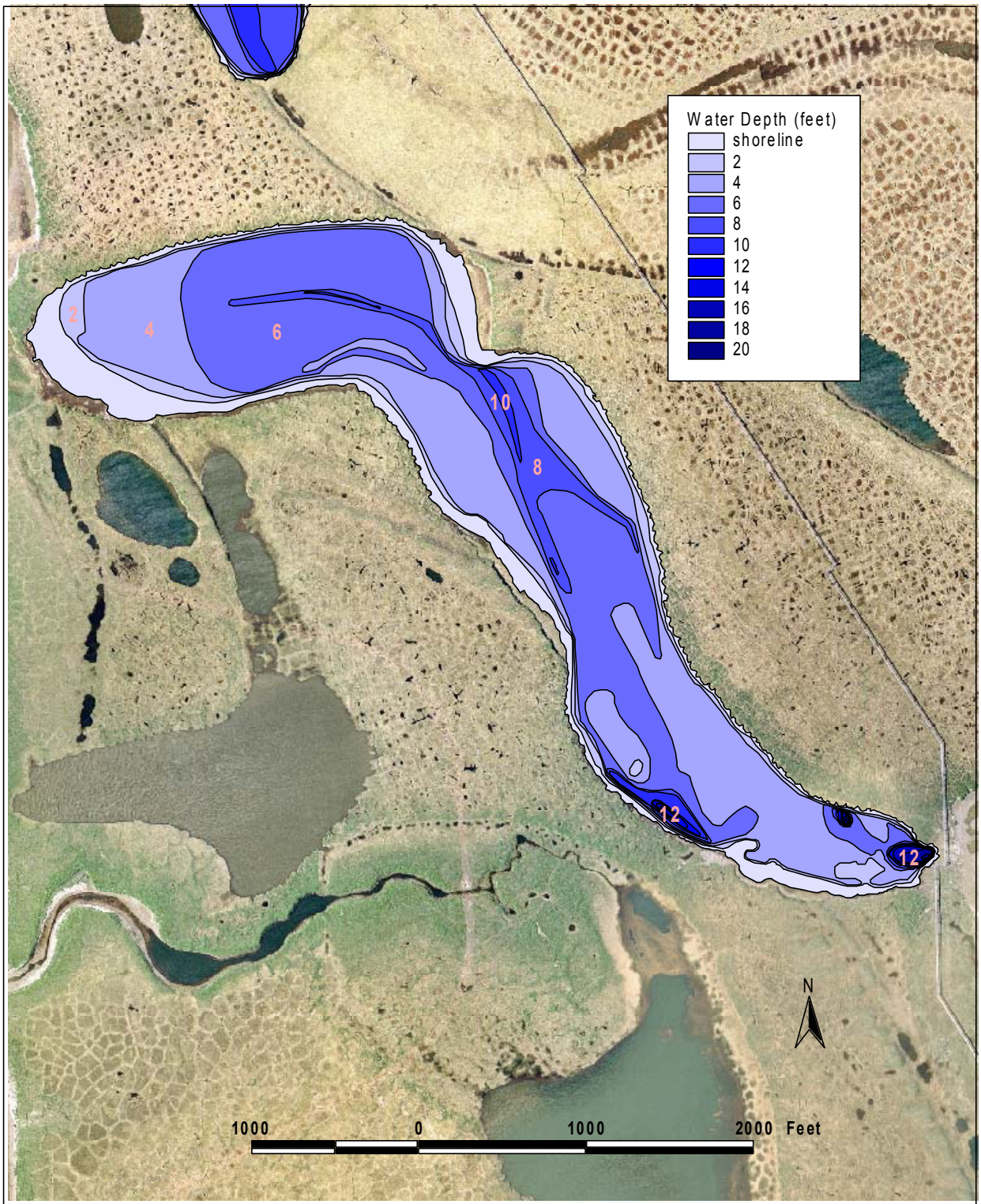
Depth contours of lake M9313 based on transects surveyed on September 1, 2002.
(depths in 2 foot intervals)

(not to be used for navigation or to direct operation of heavy equipment)



Depth contours of lake L9323 based on transects surveyed on August 30, 2002.
(depths in 2 foot intervals)

(not to be used for navigation or to direct use of heavy equipment)



Depth contours of lake L9324 based on transects surveyed on July 15, 2005.
(depths in 2 foot intervals)

(not to be used for navigation or to direct use of heavy equipment)

Appendix B July 16, 2007 Laboratory Water Quality Analysis Results

ANALYTICA
Environmental Laboratories

Analytica International, Inc.
4307 Arctic Blvd.
Anchorage, AK 99503
Phone: 907-258-2155
Fax: 907-258-6634

8/8/2007

Michael Baker Jr Inc
1400 W. Benson Blvd. Ste 200
STE 200
Anchorage, AK 99503
Attn: Marc McBroom

Work Order #: A0707191
Date: 8/8/2007
Work ID: Colville River Study 2007
Date Received: 7/17/2007
Proj #: Colville River Study 2007

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A0707191-01	Lake 9323	A0707191-02	Lake 9324
A0707191-03	Lake 9313	A0707191-04	Trip Blank

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,

K. Plett

Krissy Plett
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

Analytica Alaska Inc.
Work Order: A0707191

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

Methods for the Determination of Metals in Environmental Samples, EPA/600/R-94/111, May 1994.

Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR, Part 136, 7-1-99 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.

USEPA Method 1664, EPA-821-B-94-004b, N-Hexane Extractable Material (HEM) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM) by Extraction and Gravimetry (Oil and Grease and Total Petroleum Hydrocarbons), April 1995.

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

Method AK102 For the Determination of Diesel Range Organics, Revision 3.0, 01/31/96.

Method AK103 For the Determination of Residual Range Organics, Revision 2.0, 01/31/96.

SAMPLE RECEIPT:
Four (4) samples were received on 7/17/2007 12:10:00 PM, at a temperature of 7.2°C, at Analytica-Anchorage. 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, CO 80241, where they were received at a temperature of 3.3°C, in good condition and in order per chain of custody on 7/20/2007.

REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN
A summary of our review is shown below, organized by test:

Test Method: 1664 Hexane Extractable Material - TPH w/SGT - Aqueous

HOLDING TIMES:
Holding times were met for this test.

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
Insufficient sample was provided to perform a matrix spike and matrix spike duplicate. The laboratory prepared an LCS/LCSD to demonstrate method accuracy and precision.

METHOD BLANK OUTLIERS:
There are no method blank outliers.

LCS OUTLIERS:
There are no LCS outliers.

Case Narrative

Analytica Alaska Inc.
Work Order: A0707191
(continued)

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

HOLDING TIMES:
Holding times were met for this test.

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
There were no unusual observations.

INITIAL CALIBRATIONS:
Initial calibrations were within method criteria.

OPENING CONTINUING CALIBRATIONS:
Analytica compares the CCVs against the criteria for 8021 in order to evaluate them technically. The recovery ranges required by Method 602 are much wider, and the CCVs all meet Method 602 requirements. Deviations from Method 8021 are shown below, but these are not pertinent from a regulatory perspective. Data are fully usable. Those compounds shown as falling outside the 8021 specification may be quantified somewhat less accurately than others, but all should meet Method 602 quantification accuracy requirements.

RunDate	Data File	Analyte	Recovery	LCL	UCL
7/26/2007 2:54:00 PM	07072603.D	1,2-Dichlorobenzene	69.9	80	120
7/27/2007 4:33:00 AM	07072625.D	1,2-Dichlorobenzene	76.7	80	120

CLOSING CONTINUING CALIBRATIONS:

RunDate	Data File	Analyte	Recovery	LCL	UCL
7/27/2007 4:33:00 AM	07072625.D	1,2-Dichlorobenzene	76.7	80	120
7/27/2007 6:38:00 PM	07072648.D	1,2-Dichlorobenzene	56.7	80	120
7/27/2007 6:38:00 PM	07072648.D	1,3-Dichlorobenzene	73.2	80	120

INTERNAL STANDARD AREAS:
There were no Internal Standard outliers.

SURROGATE RECOVERIES:
There were no surrogate outliers.

METHOD BLANK OUTLIERS:
There are no method blank outliers.

LCS OUTLIERS:
The LCS and LCSD shown below have one target outside of control windows. This target was not detected in the samples. It is important to point out that this outlier is compared against the Analytica in-house limits, and these recoveries are still in control by Method 602 criteria.

Type	BatchNumber	Analyte	Recovery	LCL	UCL	Status
LCS	T070731003	1,2-Dichlorobenzene	77.5	80	120	Complete
LCSD	T070731003	1,2-Dichlorobenzene	76.8	80	120	Complete

MS/MSD and DUP OUTLIERS:
The MS and MSD shown below have two targets outside of control windows. These targets were not detected in the samples.

Type	Client Sample	LabSample	Analyte	Recovery	LCL	UCL	Parent Spike

Case Narrative

Analytica Alaska Inc.
Work Order: A0707191
(continued)

Type	Client Sample	LabSample	Analyte	Recovery	LCL	UCL	Parent	Spike
MS		A0707191-01C	1,3-Dichlorobenzene	77.3	80	120	0.00	10.0
MS		A0707191-01C	1,2-Dichlorobenzene	63.9	80	120	0.00	10.0
MSD		A0707191-01C	1,3-Dichlorobenzene	77.3	80	120	0.00	10.0
MSD		A0707191-01C	1,2-Dichlorobenzene	56.5	80	120	0.00	10.0

Test Method: 625 - Base-Neutrals and Acids by GC/MS - PAH - Aqueous

HOLDING TIMES:
Holding times were met for this test.

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
There were no unusual observations.

INSTRUMENT PERFORMANCE CHECKS:
Instrument checks were within method criteria.

INITIAL CALIBRATIONS:
Initial calibrations were within method criteria.

OPENING CONTINUING CALIBRATIONS:
Several targets were recovered out of limits in the opening and continuing CCVs shown below. Since these are elevated recoveries, and the targets were not detected in the samples, there is no impact on the data.

RunDate	Data File	Analyte	Recovery	LCL	UCL
7/27/2007 7:42:00 PM	07072703.D	2-Fluorobiphenyl	120.	80	120
7/27/2007 7:42:00 PM	07072703.D	Acenaphthylene	120.	80	120
7/27/2007 7:42:00 PM	07072703.D	Benzo(g,h,i)perylene	150.	80	120
7/27/2007 7:42:00 PM	07072703.D	D5-Nitrobenzene	124.	80	120
7/27/2007 7:42:00 PM	07072703.D	Dibenzo(a,h)anthracene	141.	80	120
7/27/2007 7:42:00 PM	07072703.D	Indeno(1,2,3-cd)pyrene	140.	80	120

CLOSING CONTINUING CALIBRATIONS:

RunDate	Data File	Analyte	Recovery	LCL	UCL
7/28/2007 7:25:00 AM	07072723.D	Benzo(g,h,i)perylene	122.	80	120
7/28/2007 7:25:00 AM	07072723.D	Dibenzo(a,h)anthracene	121.	80	120

INTERNAL STANDARD AREAS:
There were no Internal Standard outliers.

SURROGATE RECOVERIES:
One surrogate was recovered out of limits in the batch MSD. However, the spiked sample is not associated with this project.

METHOD BLANK OUTLIERS:
There are no method blank outliers.

LCS OUTLIERS:
One target was recovered out of limits in the LCS and LCS Duplicate, as shown below. Since these are elevated recoveries, and this target was not detected in the samples, there is no impact on the data.

there is no impact on the data.

Type	BatchNumber	Analyte	Recovery	LCL	UCL	Status
LCS	T070725011	Acenaphthylene	211.	48	133	Complete
LCSD	T070725011	Acenaphthylene	214.	48	133	Complete

MS/MSD and DUP OUTLIERS:
One target was recovered out of limits in the batch MS/MSD. However, the spiked sample is not associated with this project.

Test Method: ADEC AK101 - GRO - Aqueous

HOLDING TIMES:
Holding times were met for this test.

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
There were no unusual observations.

INITIAL CALIBRATIONS:
Initial calibrations were within method criteria.

OPENING CONTINUING CALIBRATIONS:
Opening continuing calibrations were within method criteria.

CLOSING CONTINUING CALIBRATIONS:
Closing continuing calibrations were within method criteria or not applicable.

INTERNAL STANDARD AREAS:
There were no Internal Standard outliers.

SURROGATE RECOVERIES:
There were no surrogate outliers.

METHOD BLANK OUTLIERS:
There are no method blank outliers.

LCS OUTLIERS:
There are no LCS outliers.

MS/MSD and DUP OUTLIERS:
There are no MS/MSD or DUP outliers.

Test Method: ADEC AK102 - DRO - Aqueous

HOLDING TIMES:
Holding times were met for this test.

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
Insufficient sample was provided to perform a matrix spike and matrix spike duplicate. The laboratory prepared an LCS/LCSD to demonstrate method accuracy and precision.

Case Narrative

Analytica Alaska Inc.
Work Order: A0707191
(continued)

INITIAL CALIBRATIONS:
Initial calibrations were within method criteria.

OPENING CONTINUING CALIBRATIONS:
Opening continuing calibrations were within method criteria.

CLOSING CONTINUING CALIBRATIONS:
Opening continuing calibrations were within method criteria.

SURROGATE RECOVERIES:
The surrogate was recovered outside the acceptance limits in the Method Blank, as shown below. This was confirmed by secondary analysis. The LCS, LCSD and the samples all had acceptable recoveries for this surrogate.

Sample	LabID	Surrogate	Recovery	LCL	UCL	
MB	T070724001-MB	o-Terphenyl	42.	60	120	Complete
MB	T070724001-MB	o-Terphenyl	39.	60	120	Rrun

METHOD BLANK OUTLIERS:
There are no method blank outliers.

LCS OUTLIERS:
The target was recovered slightly low in the LCS Duplicate, as shown below. The LCS gave acceptable recovery for the target. Due to insufficient sample volume, re-extraction and re-analysis was not possible.

Type	BatchNumber	Analyte	Recovery	LCL	UCL	Status
LCSD	T070724001	Diesel Range Organics	66.7	75	125	Complete

Test Method: ADEC AK103 - RRO - Aqueous

HOLDING TIMES:
Holding times were met for this test.

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
Insufficient sample was provided to perform a matrix spike and matrix spike duplicate. The laboratory prepared an LCS/LCSD to demonstrate method accuracy and precision.

INITIAL CALIBRATIONS:
Initial calibrations were within method criteria.

OPENING CONTINUING CALIBRATIONS:
Opening continuing calibrations were in control. There were several runs conducted in order to achieve acceptable calibrations for both surrogate and RRO.

CLOSING CONTINUING CALIBRATIONS:
Closing continuing calibrations are not required for this analysis.

SURROGATE RECOVERIES:
The surrogate was recovered out of limits in the samples and was slightly low in one LCS shown below. This was confirmed by secondary analysis.

shown below. This was confirmed by secondary analysis.

Sample	LabID	Surrogate	Recovery	LCL	UCL	
	A0707191-02A	Squalane	44.	50	150	Complete
	A0707191-03A	Squalane	45.	50	150	Complete
LCS	T070724011-LCS	Squalane	59.	60	120	Complete
	A0707191-02A	Squalane	39.	50	150	Rrun
	A0707191-02A	Squalane	47.	50	150	Rrun
	A0707191-03A	Squalane	36.	50	150	Rrun
LCS	T070724011-LCS	Squalane	43.	60	120	Rrun

METHOD BLANK OUTLIERS:
There are no method blank outliers.

LCS OUTLIERS:
There are no LCS outliers.

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

HOLDING TIMES:
Holding times were met for this test.

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
There were no unusual observations.

INITIAL CALIBRATIONS:
Initial calibrations were within method criteria.

OPENING CONTINUING CALIBRATIONS:
Opening continuing calibrations were within method criteria.

CLOSING CONTINUING CALIBRATIONS:
Closing continuing calibrations were within method criteria or not applicable.

INTERNAL STANDARD AREAS:
There were no Internal Standard outliers.

SURROGATE RECOVERIES:
There were no surrogate outliers.

METHOD BLANK OUTLIERS:
There are no method blank outliers.

LCS OUTLIERS:
There are no LCS outliers.

MS/MSD and DUP OUTLIERS:
There are no MS/MSD or DUP outliers.

Test Method: SW6010B - ICP - RCRA - Aqueous

Case Narrative

Analytica Alaska Inc.
Work Order: A0707191
(continued)

HOLDING TIMES:
Holding times were met for this test.

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
There were no unusual obsrvations.

INSTRUMENT PERFORMANCE CHECKS:
Instrument checks were within method criteria.

INITIAL CALIBRATIONS:
Initial calibrations were within method criteria.

OPENING CONTINUING CALIBRATIONS:
Opening continuing calibrations were within method criteria.

CLOSING CONTINUING CALIBRATIONS:
Closing continuing calibrations were within method criteria or not applicable.

METHOD BLANK OUTLIERS:
There are no method blank outliers.

LCS OUTLIERS:
There are no LCS outliers.

MS/MSD and DUP OUTLIERS:
There are no MS/MSD or DUP outliers.

Test Method: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg - Aqueous

HOLDING TIMES:
Holding times were met for this test.

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
There were no unusual obsrvations.

INSTRUMENT PERFORMANCE CHECKS:
Instrument checks were within method criteria.

INITIAL CALIBRATIONS:
Initial calibrations were within method criteria.

OPENING CONTINUING CALIBRATIONS:
Opening continuing calibrations were within method criteria.

CLOSING CONTINUING CALIBRATIONS:
Closing continuing calibrations were within method criteria or not applicable.

METHOD BLANK OUTLIERS:
There are no method blank outliers.

LCS OUTLIERS:

Case Narrative

Analytica Alaska Inc.
Work Order: A0707191
(continued)

LCS OUTLIERS:
There are no LCS outliers.

MS/MSD and DUP OUTLIERS:
There are no MS/MSD or DUP outliers.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9323**

Matrix: Aqueous Collection Date: 7/16/2007 4:30:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-01A Analysis Date: 8/2/2007 2:24:00PM
Prep Date: 7/23/2007 Instrument: GC_E
Analytical Method ID: ADEC AK103 - RRO File Name: 07073164.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070724011
Report Basis: As Received Analyst Initials: MA
Sample prep wt./vol: 975.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**ND**		mg/L	0.51	0.21	4

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
Squalane	111-01-3	**0.038**		mg/L	0.0051	0.0021	0.051	**74.0**	50	150	4

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-01A Analysis Date: 7/24/2007 11:27:31PM
Prep Date: 7/23/2007 Instrument: GC_E
Analytical Method ID: ADEC AK102 - DRO File Name: 07072348.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070724001
Report Basis: As Received Analyst Initials: MAG
Sample prep wt./vol: 975.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**ND**		mg/L	0.10	0.0061	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**0.034**		mg/L	0.00068	0.0038	0.051	**67.1**	50	120	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-01E Analysis Date: 7/28/2007 3:20:00AM
Prep Date: 7/23/2007 Instrument: MS1BNA
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH File Name: 07072716.D
Prep Method ID: LLE Dilution Factor: 1
Prep Batch Number: T070725011
Report Basis: As Received Analyst Initials: SM
Sample prep wt./vol: 960.00 ml Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Acenaphthene	83-32-9	**ND**		ug/L	5.2	0.47	1
Acenaphthylene	208-96-8	**ND**		ug/L	5.2	0.53	
Anthracene	120-12-7	**ND**		ug/L	5.2	0.45	
Benzo(a)anthracene	56-55-3	**ND**		ug/L	5.2	0.35	
Benzo(a)pyrene	50-32-8	**ND**		ug/L	5.2	0.27	
Benzo(b)fluoranthene	205-99-2	**ND**		ug/L	5.2	0.30	
Benzo(g,h,i)perylene	191-24-2	**ND**		ug/L	5.2	0.40	

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9323**

Matrix: Aqueous Collection Date: 7/16/2007 4:30:00PM

Lab Sample Number: A0707191-01E
Prep Date: 7/23/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070725011
Report Basis: As Received
Sample prep wt./vol: 960.00 ml

Analysis Date: 7/28/2007 3:20:00AM
Instrument: MS1BNA
File Name: 07072716.D
Dilution Factor: 1
Analyst Initials: SM
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzo(k)fluoranthene	207-08-9	**ND**		ug/L	5.2	0.39	1
Chrysene	218-01-9	**ND**		ug/L	5.2	0.21	
Dibenzo(a,h)anthracene	53-70-3	**ND**		ug/L	5.2	0.35	
Fluoranthene	206-44-0	**ND**		ug/L	5.2	0.53	
Fluorene	86-73-7	**ND**		ug/L	5.2	0.49	
Indeno(1,2,3-cd)pyrene	193-39-5	**ND**		ug/L	5.2	0.23	
Naphthalene	91-20-3	**ND**		ug/L	10	0.64	
Phenanthrene	85-01-8	**ND**		ug/L	5.2	0.45	
Pyrene	129-00-0	**ND**		ug/L	5.2	0.41	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
2-Fluorobiphenyl	321-60-8	**69**		ug/L	5.2	0.29	100	**66.7**	43	116	1
D14-Terphenyl	92-94-4D	**70**		ug/L	5.2	0.12	100	**67.7**	33	141	
D5-Nitrobenzene	98-95-3D	**70**		ug/L	5.2	0.21	100	**67.6**	35	114	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-01D
Prep Date: 7/25/2007
Analytical Method ID: SW6010B - ICP - RCRA
Prep Method ID: 3010_ICP
Prep Batch Number: T070724028
Report Basis: As Received
Sample prep wt./vol: 50.00 ml

Analysis Date: 7/26/2007 5:42:00PM
Instrument: ICP_2
File Name: E07267A
Dilution Factor: 1
Analyst Initials: rm
Prep Extract Vol: 50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Arsenic	7440-38-2	**ND**		mg/L	0.10	0.015	1
Barium	7440-39-3	**0.051**		mg/L	0.010	0.00016	
Cadmium	7440-43-9	**ND**		mg/L	0.0060	0.00051	
Chromium	7440-47-3	**ND**		mg/L	0.010	0.0018	
Lead	7439-92-1	**ND**		mg/L	0.050	0.011	
Selenium	7784-49-2	**ND**		mg/L	0.10	0.026	
Silver	7440-22-4	**ND**		mg/L	0.015	0.00066	

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9323**

Matrix: Aqueous Collection Date: 7/16/2007 4:30:00PM

Lab Sample Number: A0707191-01D Analysis Date: 7/27/2007 8:06:14PM
Prep Date: 7/27/2007 Instrument: CVAA_1
Analytical Method ID: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg File Name: B070727W.W
Prep Method ID: 7470A Dilution Factor: 1
Prep Batch Number: T070727004
Report Basis: As Received Analyst Initials: CC
Sample prep wt./vol: 30.00 ml Prep Extract Vol: 30.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Mercury	7439-97-6	**ND**		mg/L	0.00020	0.000050	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-01B Analysis Date: 7/24/2007 11:00:00AM
Prep Date: 7/24/2007 Instrument: SCALE
Analytical Method ID: 1664 Hexane Extractable Material - TPH w/SGT File Name:
Prep Method ID: 1664_WG Dilution Factor: 1
Prep Batch Number: T070726007
Report Basis: As Received Analyst Initials: L. Friedman/G. Yates
Sample prep wt./vol: 980.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Hexane-Extractable Material	na	**ND**		mg/L	5.1	1.5	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-01C Analysis Date: 7/27/2007 3:20:00AM
Prep Date: 7/26/2007 Instrument: GC_B
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes File Name: 07072623.D
Prep Method ID: P&TWater Dilution Factor: 1
Prep Batch Number: T070731003
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
1,2-Dichlorobenzene	95-50-1	**ND**		ug/L	1.0	0.22	1
1,3-Dichlorobenzene	541-73-1	**ND**		ug/L	1.0	0.17	
1,4-Dichlorobenzene	106-46-7	**ND**		ug/L	1.0	0.21	
Benzene	71-43-2	**ND**		ug/L	1.0	0.074	
Chlorobenzene	108-90-7	**ND**		ug/L	1.0	0.19	
Ethylbenzene	100-41-4	**ND**		ug/L	1.0	0.088	
Toluene	108-88-3	**ND**		ug/L	1.0	0.078	
Xylenes, Total	1330-20-7	**ND**		ug/L	2.0	0.20	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	0.50	0.12	27	**97.4**	80	120	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9323**

Matrix: Aqueous

Collection Date: 7/16/2007 4:30:00PM

Lab Sample Number: A0707191-01C

Prep Date: 7/26/2007

Analytical Method ID: ADEC AK101 - GRO

Prep Method ID: P&TWater

Prep Batch Number: T070731004

Report Basis: As Received

Sample prep wt./vol: 5.00 ml

Analysis Date: 7/27/2007 3:20:00AM

Instrument: GC_B

File Name: 07072623.D

Dilution Factor: 1

Analyst Initials: RA

Prep Extract Vol: 5.00 ml

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

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	1.5	0.50	27	**94.7**	50	150	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9324**

Matrix: Aqueous Collection Date: 7/16/2007 6:00:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-02A
Prep Date: 7/23/2007
Analytical Method ID: ADEC AK103 - RRO
Prep Method ID: 3510
Prep Batch Number: T070724011
Report Basis: As Received
Sample prep wt./vol: 970.00 ml

Analysis Date: 8/2/2007 3:13:50PM
Instrument: GC_E
File Name: 07073165.D
Dilution Factor: 1
Analyst Initials: MA
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**ND**		mg/L	0.52	0.21	4

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:	
Squalane	111-01-3	**0.023**		mg/L	0.0052	0.0021	0.052	**44.9**	50	150	4	LOW

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-02A
Prep Date: 7/23/2007
Analytical Method ID: ADEC AK102 - DRO
Prep Method ID: 3510
Prep Batch Number: T070724001
Report Basis: As Received
Sample prep wt./vol: 970.00 ml

Analysis Date: 7/25/2007 12:17:57AM
Instrument: GC_E
File Name: 07072349.D
Dilution Factor: 1
Analyst Initials: MAG
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**1.2**		mg/L	0.10	0.0062	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**0.033**		mg/L	0.00069	0.0038	0.052	**65.0**	50	120	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-02E
Prep Date: 7/23/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070725011
Report Basis: As Received
Sample prep wt./vol: 940.00 ml

Analysis Date: 7/28/2007 3:55:00AM
Instrument: MS1BNA
File Name: 07072717.D
Dilution Factor: 1
Analyst Initials: SM
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Acenaphthene	83-32-9	**ND**		ug/L	5.3	0.48	1
Acenaphthylene	208-96-8	**ND**		ug/L	5.3	0.54	
Anthracene	120-12-7	**ND**		ug/L	5.3	0.46	
Benzo(a)anthracene	56-55-3	**ND**		ug/L	5.3	0.36	
Benzo(a)pyrene	50-32-8	**ND**		ug/L	5.3	0.28	
Benzo(b)fluoranthene	205-99-2	**ND**		ug/L	5.3	0.31	
Benzo(g,h,i)perylene	191-24-2	**ND**		ug/L	5.3	0.41	

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9324**

Matrix: Aqueous Collection Date: 7/16/2007 6:00:00PM

Lab Sample Number: A0707191-02E
Prep Date: 7/23/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070725011
Report Basis: As Received
Sample prep wt./vol: 940.00 ml

Analysis Date: 7/28/2007 3:55:00AM
Instrument: MS1BNA
File Name: 07072717.D
Dilution Factor: 1
Analyst Initials: SM
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzo(k)fluoranthene	207-08-9	**ND**		ug/L	5.3	0.40	1
Chrysene	218-01-9	**ND**		ug/L	5.3	0.21	
Dibenzo(a,h)anthracene	53-70-3	**ND**		ug/L	5.3	0.36	
Fluoranthene	206-44-0	**ND**		ug/L	5.3	0.54	
Fluorene	86-73-7	**ND**		ug/L	5.3	0.51	
Indeno(1,2,3-cd)pyrene	193-39-5	**ND**		ug/L	5.3	0.24	
Naphthalene	91-20-3	**ND**		ug/L	11	0.66	
Phenanthrene	85-01-8	**ND**		ug/L	5.3	0.46	
Pyrene	129-00-0	**ND**		ug/L	5.3	0.42	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
2-Fluorobiphenyl	321-60-8	**95**		ug/L	5.3	0.30	110	**89.3**	43	116	1
D14-Terphenyl	92-94-4D	**63**		ug/L	5.3	0.13	110	**58.8**	33	141	
D5-Nitrobenzene	98-95-3D	**92**		ug/L	5.3	0.22	110	**86.3**	35	114	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-02D
Prep Date: 7/25/2007
Analytical Method ID: SW6010B - ICP - RCRA
Prep Method ID: 3010_ICP
Prep Batch Number: T070724028
Report Basis: As Received
Sample prep wt./vol: 50.00 ml

Analysis Date: 7/26/2007 5:47:00PM
Instrument: ICP_2
File Name: E07267A
Dilution Factor: 1
Analyst Initials: rm
Prep Extract Vol: 50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Arsenic	7440-38-2	**ND**		mg/L	0.10	0.015	1
Barium	7440-39-3	**0.054**		mg/L	0.010	0.00016	
Cadmium	7440-43-9	**ND**		mg/L	0.0060	0.00051	
Chromium	7440-47-3	**ND**		mg/L	0.010	0.0018	
Lead	7439-92-1	**ND**		mg/L	0.050	0.011	
Selenium	7784-49-2	**ND**		mg/L	0.10	0.026	
Silver	7440-22-4	**ND**		mg/L	0.015	0.00066	

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9324**

Matrix: Aqueous Collection Date: 7/16/2007 6:00:00PM

Lab Sample Number: A0707191-02D Analysis Date: 7/27/2007 8:09:01PM
Prep Date: 7/27/2007 Instrument: CVAA_1
Analytical Method ID: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg File Name: B070727W.W
Prep Method ID: 7470A Dilution Factor: 1
Prep Batch Number: T070727004
Report Basis: As Received Analyst Initials: CC
Sample prep wt./vol: 30.00 ml Prep Extract Vol: 30.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Mercury	7439-97-6	**ND**		mg/L	0.00020	0.000050	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-02B Analysis Date: 7/24/2007 11:00:00AM
Prep Date: 7/24/2007 Instrument: SCALE
Analytical Method ID: 1664 Hexane Extractable Material - TPH w/SGT File Name:
Prep Method ID: 1664_WG Dilution Factor: 1
Prep Batch Number: T070726007
Report Basis: As Received Analyst Initials: L. Friedman/G. Yates
Sample prep wt./vol: 975.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Hexane-Extractable Material	na	**ND**		mg/L	5.1	1.5	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-02C Analysis Date: 7/27/2007 8:13:00AM
Prep Date: 7/26/2007 Instrument: GC_B
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes File Name: 07072631.D
Prep Method ID: P&TWater Dilution Factor: 1
Prep Batch Number: T070731003
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
1,2-Dichlorobenzene	95-50-1	**ND**		ug/L	1.0	0.22	1
1,3-Dichlorobenzene	541-73-1	**ND**		ug/L	1.0	0.17	
1,4-Dichlorobenzene	106-46-7	**ND**		ug/L	1.0	0.21	
Benzene	71-43-2	**ND**		ug/L	1.0	0.074	
Chlorobenzene	108-90-7	**ND**		ug/L	1.0	0.19	
Ethylbenzene	100-41-4	**ND**		ug/L	1.0	0.088	
Toluene	108-88-3	**ND**		ug/L	1.0	0.078	
Xylenes, Total	1330-20-7	**ND**		ug/L	2.0	0.20	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	0.50	0.12	27	**97.9**	80	120	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9324**

Matrix: Aqueous

Collection Date: 7/16/2007 6:00:00PM

Lab Sample Number: A0707191-02C

Prep Date: 7/26/2007

Analytical Method ID: ADEC AK101 - GRO

Prep Method ID: P&TWater

Prep Batch Number: T070731004

Report Basis: As Received

Sample prep wt./vol: 5.00 ml

Analysis Date: 7/27/2007 8:13:00AM

Instrument: GC_B

File Name: 07072631.D

Dilution Factor: 1

Analyst Initials: RA

Prep Extract Vol: 5.00 ml

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

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	1.5	0.50	27	**95.2**	50	150	1

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9313**

Matrix: Aqueous Collection Date: 7/16/2007 11:00:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-03A Analysis Date: 7/31/2007 6:02:37PM
Prep Date: 7/23/2007 Instrument: GC_E
Analytical Method ID: ADEC AK103 - RRO File Name: 07073111.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070724011
Report Basis: As Received Analyst Initials: MA
Sample prep wt./vol: 975.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**ND**		mg/L	0.51	0.21	3

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:	
Squalane	111-01-3	**0.023**		mg/L	0.0051	0.0021	0.051	**45.0**	50	150	3	LOW

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-03A Analysis Date: 7/27/2007 4:19:36AM
Prep Date: 7/23/2007 Instrument: GC_E
Analytical Method ID: ADEC AK102 - DRO File Name: 07072623.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070724001
Report Basis: As Received Analyst Initials: MA
Sample prep wt./vol: 975.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**ND**		mg/L	0.10	0.0061	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**0.026**		mg/L	0.00068	0.0038	0.051	**50.2**	50	120	2

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-03E Analysis Date: 7/28/2007 4:30:00AM
Prep Date: 7/23/2007 Instrument: MS1BNA
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH File Name: 07072718.D
Prep Method ID: LLE Dilution Factor: 1
Prep Batch Number: T070725011
Report Basis: As Received Analyst Initials: SM
Sample prep wt./vol: 960.00 ml Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Acenaphthene	83-32-9	**ND**		ug/L	5.2	0.47	1
Acenaphthylene	208-96-8	**ND**		ug/L	5.2	0.53	
Anthracene	120-12-7	**ND**		ug/L	5.2	0.45	
Benzo(a)anthracene	56-55-3	**ND**		ug/L	5.2	0.35	
Benzo(a)pyrene	50-32-8	**ND**		ug/L	5.2	0.27	
Benzo(b)fluoranthene	205-99-2	**ND**		ug/L	5.2	0.30	
Benzo(g,h,i)perylene	191-24-2	**ND**		ug/L	5.2	0.40	

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9313**

Matrix: Aqueous Collection Date: 7/16/2007 11:00:00AM

Lab Sample Number: A0707191-03E
Prep Date: 7/23/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070725011
Report Basis: As Received
Sample prep wt./vol: 960.00 ml

Analysis Date: 7/28/2007 4:30:00AM
Instrument: MS1BNA
File Name: 07072718.D
Dilution Factor: 1
Analyst Initials: SM
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzo(k)fluoranthene	207-08-9	**ND**		ug/L	5.2	0.39	1
Chrysene	218-01-9	**ND**		ug/L	5.2	0.21	
Dibenzo(a,h)anthracene	53-70-3	**ND**		ug/L	5.2	0.35	
Fluoranthene	206-44-0	**ND**		ug/L	5.2	0.53	
Fluorene	86-73-7	**ND**		ug/L	5.2	0.49	
Indeno(1,2,3-cd)pyrene	193-39-5	**ND**		ug/L	5.2	0.23	
Naphthalene	91-20-3	**ND**		ug/L	10	0.64	
Phenanthrene	85-01-8	**ND**		ug/L	5.2	0.45	
Pyrene	129-00-0	**ND**		ug/L	5.2	0.41	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
2-Fluorobiphenyl	321-60-8	**84**		ug/L	5.2	0.29	100	**80.7**	43	116	1
D14-Terphenyl	92-94-4D	**99**		ug/L	5.2	0.12	100	**94.8**	33	141	
D5-Nitrobenzene	98-95-3D	**83**		ug/L	5.2	0.21	100	**79.3**	35	114	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-03D
Prep Date: 7/25/2007
Analytical Method ID: SW6010B - ICP - RCRA
Prep Method ID: 3010_ICP
Prep Batch Number: T070724028
Report Basis: As Received
Sample prep wt./vol: 50.00 ml

Analysis Date: 7/26/2007 5:52:00PM
Instrument: ICP_2
File Name: E07267A
Dilution Factor: 1
Analyst Initials: rm
Prep Extract Vol: 50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Arsenic	7440-38-2	**ND**		mg/L	0.10	0.015	1
Barium	7440-39-3	**0.19**		mg/L	0.010	0.00016	
Cadmium	7440-43-9	**ND**		mg/L	0.0060	0.00051	
Chromium	7440-47-3	**ND**		mg/L	0.010	0.0018	
Lead	7439-92-1	**ND**		mg/L	0.050	0.011	
Selenium	7784-49-2	**ND**		mg/L	0.10	0.026	
Silver	7440-22-4	**ND**		mg/L	0.015	0.00066	

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9313**

Matrix: Aqueous Collection Date: 7/16/2007 11:00:00AM

Lab Sample Number: A0707191-03D Analysis Date: 7/27/2007 8:11:30PM
Prep Date: 7/27/2007 Instrument: CVAA_1
Analytical Method ID: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg File Name: B070727W.W
Prep Method ID: 7470A Dilution Factor: 1
Prep Batch Number: T070727004
Report Basis: As Received Analyst Initials: CC
Sample prep wt./vol: 30.00 ml Prep Extract Vol: 30.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Mercury	7439-97-6	**ND**		mg/L	0.00020	0.000050	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-03B Analysis Date: 7/24/2007 11:00:00AM
Prep Date: 7/24/2007 Instrument: SCALE
Analytical Method ID: 1664 Hexane Extractable Material - TPH w/SGT File Name:
Prep Method ID: 1664_WG Dilution Factor: 1
Prep Batch Number: T070726007
Report Basis: As Received Analyst Initials: L. Friedman/G. Yates
Sample prep wt./vol: 970.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Hexane-Extractable Material	na	**ND**		mg/L	5.2	1.5	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-03C Analysis Date: 7/27/2007 8:50:00AM
Prep Date: 7/26/2007 Instrument: GC_B
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes File Name: 07072632.D
Prep Method ID: P&TWater Dilution Factor: 1
Prep Batch Number: T070731003
Report Basis: As Received Analyst Initials: RA
Sample prep wt./vol: 5.00 ml Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
1,2-Dichlorobenzene	95-50-1	**ND**		ug/L	1.0	0.22	1
1,3-Dichlorobenzene	541-73-1	**ND**		ug/L	1.0	0.17	
1,4-Dichlorobenzene	106-46-7	**ND**		ug/L	1.0	0.21	
Benzene	71-43-2	**ND**		ug/L	1.0	0.074	
Chlorobenzene	108-90-7	**ND**		ug/L	1.0	0.19	
Ethylbenzene	100-41-4	**ND**		ug/L	1.0	0.088	
Toluene	108-88-3	**ND**		ug/L	1.0	0.078	
Xylenes, Total	1330-20-7	**ND**		ug/L	2.0	0.20	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	0.50	0.12	27	**97.6**	80	120	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Lake 9313**

Matrix: Aqueous

Collection Date: 7/16/2007 11:00:00AM

Lab Sample Number: A0707191-03C

Prep Date: 7/26/2007

Analytical Method ID: ADEC AK101 - GRO

Prep Method ID: P&TWater

Prep Batch Number: T070731004

Report Basis: As Received

Sample prep wt./vol: 5.00 ml

Analysis Date: 7/27/2007 8:50:00AM

Instrument: GC_B

File Name: 07072632.D

Dilution Factor: 1

Analyst Initials: RA

Prep Extract Vol: 5.00 ml

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

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**25**		ug/L	1.5	0.50	27	**92.8**	50	150	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Trip Blank**

Matrix: Aqueous

Collection Date: 7/18/2007 6:00:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0707191-04A

Prep Date: 7/26/2007

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

Prep Method ID: P&TWater

Prep Batch Number: T070731003

Report Basis: As Received

Sample prep wt./vol: 5.00 ml

Analysis Date: 7/26/2007 9:07:00PM

Instrument: GC_B

File Name: 07072613.D

Dilution Factor: 1

Analyst Initials: RA

Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzene	71-43-2	**ND**		ug/L	1.0	0.074	1
Ethylbenzene	100-41-4	**ND**		ug/L	1.0	0.088	
Toluene	108-88-3	**ND**		ug/L	1.0	0.078	
Xylenes, Total	1330-20-7	**ND**		ug/L	2.0	0.20	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	0.50	0.12	27	**94.9**	80	120	1

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Aqueous Collection Date: 7/23/2007 11:35:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070724011-MB
Prep Date: 7/23/2007
Analytical Method ID: ADEC AK103 - RRO
Prep Method ID: 3510
Prep Batch Number: T070724011
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 8/2/2007 11:55:15AM
Instrument: GC_E
File Name: 07073161.D
Dilution Factor: 1
Analyst Initials: MA
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**ND**		mg/L	0.50	0.20	4

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
Squalane	111-01-3	**0.035**		mg/L	0.0050	0.0020	0.050	**69.1**	50	150	4

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070724001-MB
Prep Date: 7/23/2007
Analytical Method ID: ADEC AK102 - DRO
Prep Method ID: 3510
Prep Batch Number: T070724001
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 7/27/2007 2:40:50AM
Instrument: GC_E
File Name: 07072621.D
Dilution Factor: 1
Analyst Initials: MA
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**ND**		mg/L	0.10	0.0060	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**0.021**		mg/L	0.00067	0.0037	0.050	**42.7**	50	120	2 LOW

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070725011-MB
Prep Date: 7/23/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070725011
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 7/27/2007 9:28:00PM
Instrument: MS1BNA
File Name: 07072706.D
Dilution Factor: 1
Analyst Initials: SM
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Acenaphthene	83-32-9	**ND**		ug/L	5.0	0.45	1
Acenaphthylene	208-96-8	**ND**		ug/L	5.0	0.51	
Anthracene	120-12-7	**ND**		ug/L	5.0	0.44	
Benzo(a)anthracene	56-55-3	**ND**		ug/L	5.0	0.33	
Benzo(a)pyrene	50-32-8	**ND**		ug/L	5.0	0.26	
Benzo(b)fluoranthene	205-99-2	**ND**		ug/L	5.0	0.29	
Benzo(g,h,i)perylene	191-24-2	**ND**		ug/L	5.0	0.39	

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Aqueous Collection Date: 7/23/2007 5:35:00PM

Lab Sample Number: T070725011-MB
Prep Date: 7/23/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070725011
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 7/27/2007 9:28:00PM
Instrument: MS1BNA
File Name: 07072706.D
Dilution Factor: 1
Analyst Initials: SM
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzo(k)fluoranthene	207-08-9	**ND**		ug/L	5.0	0.38	1
Chrysene	218-01-9	**ND**		ug/L	5.0	0.20	
Dibenzo(a,h)anthracene	53-70-3	**ND**		ug/L	5.0	0.34	
Fluoranthene	206-44-0	**ND**		ug/L	5.0	0.51	
Fluorene	86-73-7	**ND**		ug/L	5.0	0.48	
Indeno(1,2,3-cd)pyrene	193-39-5	**ND**		ug/L	5.0	0.22	
Naphthalene	91-20-3	**ND**		ug/L	10	0.62	
Phenanthrene	85-01-8	**ND**		ug/L	5.0	0.43	
Pyrene	129-00-0	**ND**		ug/L	5.0	0.40	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
2-Fluorobiphenyl	321-60-8	**85**		ug/L	5.0	0.28	100	**84.7**	43	116	1
D14-Terphenyl	92-94-4D	**130**		ug/L	5.0	0.12	100	**128**	33	141	
D5-Nitrobenzene	98-95-3D	**87**		ug/L	5.0	0.21	100	**87.0**	35	114	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070724028-MB
Prep Date: 7/25/2007
Analytical Method ID: SW6010B - ICP - RCRA
Prep Method ID: 3010_ICP
Prep Batch Number: T070724028
Report Basis: As Received
Sample prep wt./vol: 50.00 ml

Analysis Date: 7/26/2007 5:27:00PM
Instrument: ICP_2
File Name: E07267A
Dilution Factor: 1
Analyst Initials: rm
Prep Extract Vol: 50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Arsenic	7440-38-2	**ND**		mg/L	0.10	0.015	1
Barium	7440-39-3	**ND**		mg/L	0.010	0.00016	
Cadmium	7440-43-9	**ND**		mg/L	0.0060	0.00051	
Chromium	7440-47-3	**ND**		mg/L	0.010	0.0018	
Lead	7439-92-1	**ND**		mg/L	0.050	0.011	
Selenium	7784-49-2	**ND**		mg/L	0.10	0.026	
Silver	7440-22-4	**ND**		mg/L	0.015	0.00066	

The following test was conducted by: Analytica - Thornton

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Aqueous Collection Date: 7/27/2007 12:00:00AM

Lab Sample Number: T070727004-MB
Prep Date: 7/27/2007
Analytical Method ID: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg
Prep Method ID: 7470A
Prep Batch Number: T070727004
Report Basis: As Received
Sample prep wt./vol: 30.00 ml

Analysis Date: 7/27/2007 7:40:35PM
Instrument: CVAA_1
File Name: B070727W.W
Dilution Factor: 1
Analyst Initials: CC
Prep Extract Vol: 30.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Mercury	7439-97-6	**ND**		mg/L	0.00020	0.000050	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070726007-MB
Prep Date: 7/24/2007
Analytical Method ID: 1664 Hexane Extractable Material - TPH w/SGT
Prep Method ID: 1664_WG
Prep Batch Number: T070726007
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 7/24/2007 11:00:00AM
Instrument: SCALE
File Name:
Dilution Factor: 1
Analyst Initials: L. Friedman/G. Yates
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Hexane-Extractable Material	na	**ND**		mg/L	5.0	1.5	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070731003-MB
Prep Date: 7/26/2007
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes
Prep Method ID: P&TWater
Prep Batch Number: T070731003
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 7/26/2007 7:52:00PM
Instrument: GC_B
File Name: 07072611.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	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	
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	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	0.50	0.12	27	**96.1**	80	120	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Aqueous Collection Date: 7/26/2007 12:00:00AM

Lab Sample Number: T070731004-MB
Prep Date: 7/26/2007
Analytical Method ID: ADEC AK101 - GRO
Prep Method ID: P&TWater
Prep Batch Number: T070731004
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 7/26/2007 7:52:00PM
Instrument: GC_B
File Name: 07072611.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

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

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**25**		ug/L	1.5	0.50	27	**90.9**	50	150	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070731003-MB
Prep Date: 7/26/2007
Analytical Method ID: Aromatic VOCs by GC/PID via method 8021B - BTEX
Prep Method ID: P&TWater
Prep Batch Number: T070731003
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 7/26/2007 7:52:00PM
Instrument: GC_B
File Name: 07072611.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzene	71-43-2	**ND**		ug/L	1.0	0.074	1
Ethylbenzene	100-41-4	**ND**		ug/L	1.0	0.088	
Toluene	108-88-3	**ND**		ug/L	1.0	0.078	
Xylenes, Total	1330-20-7	**ND**		ug/L	2.0	0.20	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	0.50	0.12	27	**96.1**	80	120	1

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0707191

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070724001**

LCS REPORT

Analysis: ADEC AK102 - DRO

MB: T070724001-MB

Prep Date: 7/23/2007

MB Anal. Date: 7/27/2007 2:40:50AM

Units: mg/L

LCS Anal. Date: 7/24/2007 9:46:10PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Diesel Range Organics	ND	1.50	2.00	75.0	75 - 125		

Prep Batch: **T070724011**

LCS/LCSD REPORT

Analysis: ADEC AK103 - RRO

MB: T070724011-MB

Prep Date: 7/23/2007

MB Anal. Date: 8/2/2007 11:55:15AM

Units: mg/L

LCS Anal. Date: 7/31/2007 2:41:32PM LCSD Anal. Date: 7/31/2007 3:31:44PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Residual Range Organics	ND	1.99	2.16	2.00	2.00	99.5	108.0	8.2	60 - 120	20	

FOOTNOTES TO QC REPORT

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

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

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

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

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0707191

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070725011**

LCS/LCSD REPORT

Analysis: 625 - Base-Neutrals and Acids by GC/MS - PAH

MB: T070725011-MB

Prep Date: 7/23/2007

MB Anal. Date: 7/27/2007 9:28:00PM

Units: ug/L

LCS Anal. Date: 7/27/2007 10:03:00PM LCSD Anal. Date: 7/27/2007 10:38:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Naphthalene	ND	46.4	46.7	50.0	50.0	92.8	93.4	0.6	45 - 136	40	
Acenaphthylene	ND	106	107	50.0	50.0	212.0	214.0	0.9	48 - 133	40	high,highdup
Acenaphthene	ND	53.8	53.6	50.0	50.0	107.6	107.2	0.4	48 - 121	40	
Fluorene	ND	54.6	54.5	50.0	50.0	109.2	109.0	0.2	58 - 130	40	
Phenanthrene	ND	57.0	56.3	50.0	50.0	114.0	112.6	1.2	54 - 140	40	
Anthracene	ND	56.6	56.1	50.0	50.0	113.2	112.2	0.9	59 - 131	40	
Fluoranthene	ND	52.1	51.0	50.0	50.0	104.2	102.0	2.1	51 - 140	40	
Pyrene	ND	58.2	58.2	50.0	50.0	116.4	116.4	0.0	46 - 135	40	
Benzo(a)anthracene	ND	57.9	58.0	50.0	50.0	115.8	116.0	0.2	58 - 118	40	
Chrysene	ND	59.3	58.6	50.0	50.0	118.6	117.2	1.2	55 - 139	40	
Benzo(b)fluoranthene	ND	46.4	43.9	50.0	50.0	92.8	87.8	5.5	41 - 133	40	
Benzo(k)fluoranthene	ND	43.9	42.2	50.0	50.0	87.8	84.4	3.9	60 - 160	40	
Benzo(a)pyrene	ND	43.9	42.0	50.0	50.0	87.8	84.0	4.4	40 - 138	40	
Indeno(1,2,3-cd)pyrene	ND	47.7	47.1	50.0	50.0	95.4	94.2	1.3	48 - 125	40	
Dibenzo(a,h)anthracene	ND	33.5	34.5	50.0	50.0	67.0	69.0	2.9	50 - 129	40	
Benzo(g,h,i)perylene	ND	55.9	55.6	50.0	50.0	111.8	111.2	0.5	50 - 125	40	

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 signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0707191

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070727004**

LCS/LCSD REPORT

Analysis: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg

MB: T070727004-MB

Prep Date: 7/27/2007

MB Anal. Date: 7/27/2007 7:40:35PM

Units: mg/L

LCS Anal. Date: 7/27/2007 7:42:40PM LCSD Anal. Date: 7/27/2007 7:50:24PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Mercury	ND	0.00216	0.00208	0.00200	0.0020	108.0	104.0	3.8	80 - 120	20	

Prep Batch: **T070724028**

LCS REPORT

Analysis: SW6010B - ICP - RCRA

MB: T070724028-MB

Prep Date: 7/25/2007

MB Anal. Date: 7/26/2007 5:27:00PM

Units: mg/L

LCS Anal. Date: 7/27/2007 2:57:00PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SPLev	Recov.	Recov Lim	RPDLim	Flag
Arsenic	ND	2.13	2.00	106.5	86 - 116		
Barium	ND	2.03	2.00	101.5	86 - 116		
Cadmium	ND	0.0523	0.0500	104.6	79 - 113		
Chromium	ND	0.207	0.200	103.5	86 - 117		
Lead	ND	0.534	0.500	106.8	83 - 121		
Selenium	ND	2.09	2.00	104.5	87 - 117		
Silver	ND	0.255	0.250	102.0	80 - 127		

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 signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0707191

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070726007**

LCS/LCSD REPORT

Analysis: 1664 Hexane Extractable Material - TPH w/SGT

MB: T070726007-MB

Prep Date: 7/24/2007

MB Anal. Date: 7/24/2007 11:00:00AM

Units: mg/L

LCS Anal. Date: 7/24/2007 11:00:00AM LCSD Anal. Date: 7/24/2007 11:00:00AM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Hexane-Extractable Material	ND	13.4	15.1	20.0	20.0	67.0	75.5	11.9	66 - 114	20	

FOOTNOTES TO QC REPORT

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

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

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

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

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0707191

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070731003**

LCS/LCSD REPORT

Analysis: Aromatic VOCs by GC/PID via method 8021B - BTEX MB: T070731003-MB

Prep Date: 7/26/2007

MB Anal. Date: 7/26/2007 7:52:00PM Units: ug/L

LCS Anal. Date: 7/26/2007 5:23:00PM LCSD Anal. Date: 7/26/2007 6:00:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	9.85	9.81	10.0	10.0	98.5	98.1	0.4	80 - 120	20	
Toluene	ND	9.75	9.68	10.0	10.0	97.5	96.8	0.7	80 - 120	20	
Ethylbenzene	ND	9.83	9.79	10.0	10.0	98.3	97.9	0.4	80 - 120	20	
Xylenes, Total	ND	28.8	28.5	30.0	30.0	96.0	95.0	1.0	80 - 120	20	

Prep Batch: **T070731004**

LCS/LCSD REPORT

Analysis: ADEC AK101 - GRO MB: T070731004-MB

Prep Date: 7/26/2007

MB Anal. Date: 7/26/2007 7:52:00PM Units: ug/L

LCS Anal. Date: 7/26/2007 6:37:00PM LCSD Anal. Date: 7/26/2007 7:14:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Gasoline Range Organics	ND	497	483	500	500	99.4	96.6	2.9	60 - 120	20	

Prep Batch: **T070731003**

LCS/LCSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes MB: T070731003-MB

Prep Date: 7/26/2007

MB Anal. Date: 7/26/2007 7:52:00PM Units: ug/L

LCS Anal. Date: 7/26/2007 5:23:00PM LCSD Anal. Date: 7/26/2007 6:00:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	9.85	9.81	10.0	10.0	98.5	98.1	0.4	80 - 120	20	
Toluene	ND	9.75	9.68	10.0	10.0	97.5	96.8	0.7	80 - 120	20	
Ethylbenzene	ND	9.83	9.79	10.0	10.0	98.3	97.9	0.4	80 - 120	20	
Xylenes, Total	ND	28.8	28.5	30.0	30.0	96.0	95.0	1.0	80 - 120	20	
1,2-Dichlorobenzene	ND	7.75	7.68	10.0	10.0	77.5	76.8	0.9	80 - 120	20	low,lowdup
1,4-Dichlorobenzene	ND	9.83	9.68	10.0	10.0	98.3	96.8	1.5	80 - 120	20	

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0707191

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070731003**

LCS/LCSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes MB: T070731003-MB

Prep Date: 7/26/2007

MB Anal. Date: 7/26/2007 7:52:00PM Units: ug/L

LCS Anal. Date: 7/26/2007 5:23:00PM LCSD Anal. Date: 7/26/2007 6:00:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
1,3-Dichlorobenzene	ND	9.09	8.87	10.0	10.0	90.9	88.7	2.4	80 - 120	20	
Chlorobenzene	ND	9.82	9.69	10.0	10.0	98.2	96.9	1.3	80 - 120	20	

MS/MSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes Parent: A0707191-01C

Prep Date: 7/26/2007

Samp. Anal. Date: 7/27/2007 3:20:00AM Units: ug/L

MS Anal. Date: 7/27/2007 6:23:00AM MSD Anal. Date: 7/27/2007 7:00:00AM Matrix: Aqueous

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	10.4	10.6	10.0	10.0	104.0	106.0	1.9	80 - 120	20	
Toluene	ND	10.2	10.3	10.0	10.0	102.0	103.0	1.0	80 - 120	20	
Ethylbenzene	ND	10.5	10.6	10.0	10.0	105.0	106.0	0.9	80 - 120	20	
Xylenes, Total	ND	30.3	30.5	30.0	30.0	101.0	101.7	0.7	80 - 120	20	
1,2-Dichlorobenzene	ND	6.39	5.65	10.0	10.0	63.9	56.5	12.3	80 - 120	20	*lowMS lowMSD*
1,4-Dichlorobenzene	ND	8.58	8.62	10.0	10.0	85.8	86.2	0.5	80 - 120	20	
1,3-Dichlorobenzene	ND	7.73	7.73	10.0	10.0	77.3	77.3	0.0	80 - 120	20	*lowMS lowMSD*
Chlorobenzene	ND	9.87	10.0	10.0	10.0	98.7	100.0	1.3	80 - 120	20	

FOOTNOTES TO QC REPORT

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

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

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

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

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

SURROGATE RECOVERY SUMMARY REPORT

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **ADEC AK102 - DRO**

Lab Sample #:	A0707191-01A		Dilution:	1	
Analysis Date:	7/24/2007 11:27:31PM		Client Sample:	**Lake 9323**	
Batch Number:	T070724001		Data File:	07072348.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	67	50	120		Complete

Lab Sample #:	A0707191-02A		Dilution:	1	
Analysis Date:	7/25/2007 12:17:57AM		Client Sample:	**Lake 9324**	
Batch Number:	T070724001		Data File:	07072349.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	65	50	120		Complete

Lab Sample #:	A0707191-03A		Dilution:	1	
Analysis Date:	7/25/2007 1:08:29AM		Client Sample:	**Lake 9313**	
Batch Number:	T070724001		Data File:	07072350.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	50	50	120		Rrun

Lab Sample #:	A0707191-03A		Dilution:	1	
Analysis Date:	7/27/2007 4:19:36AM		Client Sample:	**Lake 9313**	
Batch Number:	T070724001		Data File:	07072623.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	50	50	120		Complete

Lab Sample #:	T070724001-MB		Dilution:	1	
Analysis Date:	7/24/2007 8:55:14PM		Client Sample:	**MB**	
Batch Number:	T070724001		Data File:	07072345.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	40	60	120	LOW	Rrun

Lab Sample #:	T070724001-MB		Dilution:	1	
Analysis Date:	7/27/2007 2:40:50AM		Client Sample:	**MB**	
Batch Number:	T070724001		Data File:	07072621.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	43	60	120	LOW	Complete

Lab Sample #:	T070724001-LCS		Dilution:	1	
Analysis Date:	7/24/2007 9:46:10PM		Client Sample:	**LCS**	
Batch Number:	T070724001		Data File:	07072346.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	74	60	120		Complete

Lab Sample #:	T070724001-LCSD		Dilution:	1	
Analysis Date:	7/24/2007 10:36:49PM		Client Sample:	**LCSD**	
Batch Number:	T070724001		Data File:	07072347.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	63	60	120		Rrun

Lab Sample #:	T070724001-LCSD		Dilution:	1	
Analysis Date:	7/27/2007 3:30:08AM		Client Sample:	**LCSD**	
Batch Number:	T070724001		Data File:	07072622.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **ADEC AK102 - DRO**

Lab Sample #:	T070724001-LCSD	Dilution:	1
Analysis Date:	7/27/2007 3:30:08AM	Client Sample:	**LCSD**
Batch Number:	T070724001	Data File:	07072622.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
o-Terphenyl	64	60	120		Complete

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **ADEC AK103 - RRO**

Lab Sample #:	A0707191-01A		Dilution:	1	
Analysis Date:	7/26/2007 4:44:07PM		Client Sample:	**Lake 9323**	
Batch Number:	T070724011		Data File:	07072609.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	40	50	150	LOW	Rrun

Lab Sample #:	A0707191-02A		Dilution:	1	
Analysis Date:	7/26/2007 5:33:43PM		Client Sample:	**Lake 9324**	
Batch Number:	T070724011		Data File:	07072610.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	40	50	150	LOW	Rrun

Lab Sample #:	A0707191-03A		Dilution:	1	
Analysis Date:	7/26/2007 6:23:25PM		Client Sample:	**Lake 9313**	
Batch Number:	T070724011		Data File:	07072611.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	36	50	150	LOW	Rrun

Lab Sample #:	A0707191-01A		Dilution:	1	
Analysis Date:	7/31/2007 4:22:12PM		Client Sample:	**Lake 9323**	
Batch Number:	T070724011		Data File:	07073109.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	46	50	150	LOW	Rrun

Lab Sample #:	A0707191-02A		Dilution:	1	
Analysis Date:	7/31/2007 5:12:23PM		Client Sample:	**Lake 9324**	
Batch Number:	T070724011		Data File:	07073110.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	48	50	150	LOW	Rrun

Lab Sample #:	A0707191-03A		Dilution:	1	
Analysis Date:	7/31/2007 6:02:37PM		Client Sample:	**Lake 9313**	
Batch Number:	T070724011		Data File:	07073111.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	45	50	150	LOW	Complete

Lab Sample #:	A0707191-01A		Dilution:	1	
Analysis Date:	8/2/2007 2:24:00PM		Client Sample:	**Lake 9323**	
Batch Number:	T070724011		Data File:	07073164.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	74	50	150		Complete

Lab Sample #:	A0707191-02A		Dilution:	1	
Analysis Date:	8/2/2007 3:13:50PM		Client Sample:	**Lake 9324**	
Batch Number:	T070724011		Data File:	07073165.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	45	50	150	LOW	Complete

Lab Sample #:	T070724011-MB		Dilution:	1	
Analysis Date:	7/26/2007 2:14:53PM		Client Sample:	**MB**	
Batch Number:	T070724011		Data File:	07072606.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **ADEC AK103 - RRO**

Lab Sample #:	T070724011-MB		Dilution:	1	
Analysis Date:	7/26/2007 2:14:53PM		Client Sample:	**MB**	
Batch Number:	T070724011		Data File:	07072606.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	33	60	120	LOW	Rrun

Lab Sample #:	T070724011-MB		Dilution:	1	
Analysis Date:	7/31/2007 1:51:19PM		Client Sample:	**MB**	
Batch Number:	T070724011		Data File:	07073106.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	39	60	120	LOW	Rrun

Lab Sample #:	T070724011-MB		Dilution:	1	
Analysis Date:	8/2/2007 11:55:15AM		Client Sample:	**MB**	
Batch Number:	T070724011		Data File:	07073161.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	69	60	120		Complete

Lab Sample #:	T070724011-LCS		Dilution:	1	
Analysis Date:	7/26/2007 3:04:38PM		Client Sample:	**LCS**	
Batch Number:	T070724011		Data File:	07072607.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	44	60	120	LOW	Rrun

Lab Sample #:	T070724011-LCS		Dilution:	1	
Analysis Date:	7/31/2007 2:41:32PM		Client Sample:	**LCS**	
Batch Number:	T070724011		Data File:	07073107.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	47	60	120	LOW	Complete

Lab Sample #:	T070724011-LCSD		Dilution:	1	
Analysis Date:	7/26/2007 3:54:17PM		Client Sample:	**LCSD**	
Batch Number:	T070724011		Data File:	07072608.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	42	60	120	LOW	Rrun

Lab Sample #:	T070724011-LCSD		Dilution:	1	
Analysis Date:	8/2/2007 1:34:19PM		Client Sample:	**LCSD**	
Batch Number:	T070724011		Data File:	07073163.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	84	60	120		Complete

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

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

Lab Sample #:	A0707191-01C			Dilution:	1
Analysis Date:	7/27/2007 3:20:00AM			Client Sample:	**Lake 9323**
Batch Number:	T070731003			Data File:	07072623.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	97	80	120		Complete

Lab Sample #:	A0707191-02C			Dilution:	1
Analysis Date:	7/27/2007 8:13:00AM			Client Sample:	**Lake 9324**
Batch Number:	T070731003			Data File:	07072631.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	98	80	120		Complete

Lab Sample #:	A0707191-03C			Dilution:	1
Analysis Date:	7/27/2007 8:50:00AM			Client Sample:	**Lake 9313**
Batch Number:	T070731003			Data File:	07072632.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	98	80	120		Complete

Lab Sample #:	T070731003-MB			Dilution:	1
Analysis Date:	7/26/2007 7:52:00PM			Client Sample:	**MB**
Batch Number:	T070731003			Data File:	07072611.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	96	80	120		Complete

Lab Sample #:	T070731003-LCS			Dilution:	1
Analysis Date:	7/26/2007 5:23:00PM			Client Sample:	**LCS**
Batch Number:	T070731003			Data File:	07072607.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	100	80	120		Complete

Lab Sample #:	T070731003-LCSD			Dilution:	1
Analysis Date:	7/26/2007 6:00:00PM			Client Sample:	**LCSD**
Batch Number:	T070731003			Data File:	07072608.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	100	80	120		Complete

Lab Sample #:	A0707191-01C-MS			Dilution:	1
Analysis Date:	7/27/2007 6:23:00AM			Client Sample:	**MS**
Batch Number:	T070731003			Data File:	07072628.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	102	80	120		Complete

Lab Sample #:	A0707191-01C-MSD			Dilution:	1
Analysis Date:	7/27/2007 7:00:00AM			Client Sample:	**MSD**
Batch Number:	T070731003			Data File:	07072629.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	100	80	120		Complete

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **ADEC AK101 - GRO**

Lab Sample #:	A0707191-01C		Dilution:	1	
Analysis Date:	7/27/2007 3:20:00AM		Client Sample:	**Lake 9323**	
Batch Number:	T070731004		Data File:	07072623.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	95	50	150		Complete

Lab Sample #:	A0707191-02C		Dilution:	1	
Analysis Date:	7/27/2007 8:13:00AM		Client Sample:	**Lake 9324**	
Batch Number:	T070731004		Data File:	07072631.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	95	50	150		Complete

Lab Sample #:	A0707191-03C		Dilution:	1	
Analysis Date:	7/27/2007 8:50:00AM		Client Sample:	**Lake 9313**	
Batch Number:	T070731004		Data File:	07072632.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	93	50	150		Complete

Lab Sample #:	T070731004-MB		Dilution:	1	
Analysis Date:	7/26/2007 7:52:00PM		Client Sample:	**MB**	
Batch Number:	T070731004		Data File:	07072611.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	91	60	120		Complete

Lab Sample #:	T070731004-LCS		Dilution:	1	
Analysis Date:	7/26/2007 6:37:00PM		Client Sample:	**LCS**	
Batch Number:	T070731004		Data File:	07072609.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	98	60	120		Complete

Lab Sample #:	T070731004-LCSD		Dilution:	1	
Analysis Date:	7/26/2007 7:14:00PM		Client Sample:	**LCSD**	
Batch Number:	T070731004		Data File:	07072610.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	97	60	120		Complete

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

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

Lab Sample #:	A0707191-04A			Dilution:	1
Analysis Date:	7/26/2007 9:07:00PM			Client Sample:	**Trip Blank**
Batch Number:	T070731003			Data File:	07072613.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	95	80	120		Complete

Lab Sample #:	T070731003-MB			Dilution:	1
Analysis Date:	7/26/2007 7:52:00PM			Client Sample:	**MB**
Batch Number:	T070731003			Data File:	07072611.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	96	80	120		Complete

Lab Sample #:	T070731003-LCS			Dilution:	1
Analysis Date:	7/26/2007 5:23:00PM			Client Sample:	**LCS**
Batch Number:	T070731003			Data File:	07072607.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	100	80	120		Complete

Lab Sample #:	T070731003-LCSD			Dilution:	1
Analysis Date:	7/26/2007 6:00:00PM			Client Sample:	**LCSD**
Batch Number:	T070731003			Data File:	07072608.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	100	80	120		Complete

Lab Sample #:	A0707191-01C-MS			Dilution:	1
Analysis Date:	7/27/2007 6:23:00AM			Client Sample:	**MS**
Batch Number:	T070731003			Data File:	07072628.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	102	80	120		Complete

Lab Sample #:	A0707191-01C-MSD			Dilution:	1
Analysis Date:	7/27/2007 7:00:00AM			Client Sample:	**MSD**
Batch Number:	T070731003			Data File:	07072629.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
p-Bromofluorobenzene	100	80	120		Complete

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **625 - Base-Neutrals and Acids by GC/MS - PAH**

Lab Sample #: J0707127-01F Dilution: 1
Analysis Date: 7/28/2007 12:59:00AM Client Sample: **Batch QC**
Batch Number: T070725011 Data File: 07072712.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	63	43	116		Complete
D14-Terphenyl	41	33	141		Complete
D5-Nitrobenzene	64	35	114		Complete

Lab Sample #: J0707127-01F Dilution: 10
Analysis Date: 7/28/2007 1:34:00AM Client Sample: **Batch QC**
Batch Number: T070725011 Data File: 07072713.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	63	43	116		Rrun
D14-Terphenyl	42	33	141	UNDER QUANT LIMIT	Rrun
D5-Nitrobenzene	64	35	114		Rrun

Lab Sample #: A0707191-01E Dilution: 1
Analysis Date: 7/28/2007 3:20:00AM Client Sample: **Lake 9323**
Batch Number: T070725011 Data File: 07072716.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	67	43	116		Complete
D14-Terphenyl	68	33	141		Complete
D5-Nitrobenzene	68	35	114		Complete

Lab Sample #: A0707191-02E Dilution: 1
Analysis Date: 7/28/2007 3:55:00AM Client Sample: **Lake 9324**
Batch Number: T070725011 Data File: 07072717.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	89	43	116		Complete
D14-Terphenyl	59	33	141		Complete
D5-Nitrobenzene	86	35	114		Complete

Lab Sample #: A0707191-03E Dilution: 1
Analysis Date: 7/28/2007 4:30:00AM Client Sample: **Lake 9313**
Batch Number: T070725011 Data File: 07072718.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	81	43	116		Complete
D14-Terphenyl	95	33	141		Complete
D5-Nitrobenzene	79	35	114		Complete

Lab Sample #: T070725011-MB Dilution: 1
Analysis Date: 7/27/2007 9:28:00PM Client Sample: **MB**
Batch Number: T070725011 Data File: 07072706.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	85	43	116		Complete
D14-Terphenyl	128	33	141		Complete
D5-Nitrobenzene	87	35	114		Complete

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **625 - Base-Neutrals and Acids by GC/MS - PAH**

Lab Sample #: T070725011-LCS Dilution: 1
Analysis Date: 7/27/2007 10:03:00PM Client Sample: **LCS**
Batch Number: T070725011 Data File: 07072707.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	102	43	116		Complete
D14-Terphenyl	119	33	141		Complete
D5-Nitrobenzene	96	35	114		Complete

Lab Sample #: T070725011-LCSD Dilution: 1
Analysis Date: 7/27/2007 10:38:00PM Client Sample: **LCSD**
Batch Number: T070725011 Data File: 07072708.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	100	43	116		Complete
D14-Terphenyl	122	33	141		Complete
D5-Nitrobenzene	96	35	114		Complete

Lab Sample #: J0707127-01F-MS Dilution: 1
Analysis Date: 7/28/2007 2:09:00AM Client Sample: **MS**
Batch Number: T070725011 Data File: 07072714.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	90	43	116		Complete
D14-Terphenyl	34	33	141		Complete
D5-Nitrobenzene	86	35	114		Complete

Lab Sample #: J0707127-01F-MSD Dilution: 1
Analysis Date: 7/28/2007 2:44:00AM Client Sample: **MSD**
Batch Number: T070725011 Data File: 07072715.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	86	43	116		Complete
D14-Terphenyl	33	33	141		Complete
D5-Nitrobenzene	84	35	114		Complete

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **75,535** **Lab Project Number:** **A0707191**

Prep Date: 7/23/2007

Lab Method Blank Id: T070724001-MB
Prep Batch ID: T070724001
Method: ADEC AK102 - DRO

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
T070724001-LCSD	LCSD	07072622.D	7/27/2007 3:30:08AM
A0707191-03A	Lake 9313	07072623.D	7/27/2007 4:19:36AM
T070724001-LCS	LCS	07072346.D	7/24/2007 9:46:10PM
A0707191-01A	Lake 9323	07072348.D	7/24/2007 11:27:31PM
A0707191-02A	Lake 9324	07072349.D	7/25/2007 12:17:57AM

Prep Date: 7/23/2007

Lab Method Blank Id: T070724011-MB
Prep Batch ID: T070724011
Method: ADEC AK103 - RRO

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
T070724011-LCSD	LCSD	07073163.D	8/2/2007 1:34:19PM
A0707191-01A	Lake 9323	07073164.D	8/2/2007 2:24:00PM
A0707191-02A	Lake 9324	07073165.D	8/2/2007 3:13:50PM
T070724011-LCS	LCS	07073107.D	7/31/2007 2:41:32PM
T070724011-LCSD	LCSD	07073108.D	7/31/2007 3:31:44PM
A0707191-03A	Lake 9313	07073111.D	7/31/2007 6:02:37PM

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **75,535** **Lab Project Number:** **A0707191**

Prep Date: 7/25/2007

Lab Method Blank Id: T070724028-MB
Prep Batch ID: T070724028
Method: SW6010B - ICP - RCRA

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
B0707053-03B-MSD	MSD	E07277A	7/27/2007 5:12:00PM
T070724028-LCS	LCS	E07277A	7/27/2007 2:57:00PM
T070724028-LCSD	LCSD	E07277A	7/27/2007 3:02:00PM
B0707053-03B-MS	MS	E07277A	7/27/2007 5:07:00PM
B0707053-03B	Batch QC	E07267A	7/26/2007 6:17:00PM
B0707053-03B-DUP	DUP	E07267A	7/26/2007 6:22:00PM
B0707053-03B-PDS	PDS	E07267A	7/26/2007 6:37:00PM
A0707191-01D	Lake 9323	E07267A	7/26/2007 5:42:00PM
A0707191-02D	Lake 9324	E07267A	7/26/2007 5:47:00PM
A0707191-03D	Lake 9313	E07267A	7/26/2007 5:52:00PM

Prep Date: 7/23/2007

Lab Method Blank Id: T070725011-MB
Prep Batch ID: T070725011
Method: 625 - Base-Neutrals and Acids by GC/MS - PAH

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A0707191-02E	Lake 9324	07072717.D	7/28/2007 3:55:00AM
A0707191-03E	Lake 9313	07072718.D	7/28/2007 4:30:00AM
J0707127-01F-MS	MS	07072714.D	7/28/2007 2:09:00AM
J0707127-01F-MSD	MSD	07072715.D	7/28/2007 2:44:00AM
A0707191-01E	Lake 9323	07072716.D	7/28/2007 3:20:00AM
T070725011-LCS	LCS	07072707.D	7/27/2007 10:03:00PM
T070725011-LCSD	LCSD	07072708.D	7/27/2007 10:38:00PM
J0707127-01F	Batch QC	07072712.D	7/28/2007 12:59:00AM

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **75,535** **Lab Project Number:** **A0707191**

Prep Date: 7/24/2007

Lab Method Blank Id: T070726007-MB
Prep Batch ID: T070726007
Method: 1664 Hexane Extractable Material - TPH w/SGT

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
T070726007-LCS	LCS		7/24/2007 11:00:00AM
T070726007-LCSD	LCSD		7/24/2007 11:00:00AM
A0707191-01B	Lake 9323		7/24/2007 11:00:00AM
A0707191-02B	Lake 9324		7/24/2007 11:00:00AM
A0707191-03B	Lake 9313		7/24/2007 11:00:00AM

Prep Date: 7/27/2007

Lab Method Blank Id: T070727004-MB
Prep Batch ID: T070727004
Method: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
F0707178-01D-PDS	PDS	B070727W.WKS	7/27/2007 8:04:04PM
F0707178-01D-DUP	DUP	B070727W.WKS	7/27/2007 7:56:04PM
F0707178-01D-MS	MS	B070727W.WKS	7/27/2007 7:59:40PM
F0707178-01D-MSD	MSD	B070727W.WKS	7/27/2007 8:01:48PM
F0707178-01D	Batch QC	B070727W.WKS	7/27/2007 7:53:48PM
T070727004-LCS	LCS	B070727W.WKS	7/27/2007 7:42:40PM
T070727004-LCSD	LCSD	B070727W.WKS	7/27/2007 7:50:24PM
A0707191-01D	Lake 9323	B070727W.WKS	7/27/2007 8:06:14PM
A0707191-02D	Lake 9324	B070727W.WKS	7/27/2007 8:09:01PM
A0707191-03D	Lake 9313	B070727W.WKS	7/27/2007 8:11:30PM

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **75,535** **Lab Project Number:** **A0707191**

Prep Date: 7/26/2007

Lab Method Blank Id: T070731003-MB
Prep Batch ID: T070731003
Method: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A0707191-01C-MSD	MSD	07072629.D	7/27/2007 7:00:00AM
A0707191-02C	Lake 9324	07072631.D	7/27/2007 8:13:00AM
A0707191-03C	Lake 9313	07072632.D	7/27/2007 8:50:00AM
A0707191-01C-MS	MS	07072628.D	7/27/2007 6:23:00AM
A0707191-01C-MS	MS	07072628.D	7/27/2007 6:23:00AM
A0707191-01C-MSD	MSD	07072629.D	7/27/2007 7:00:00AM
T070731003-LCSD	LCSD	07072608.D	7/26/2007 6:00:00PM
A0707191-04A	Trip Blank	07072613.D	7/26/2007 9:07:00PM
A0707191-01C	Lake 9323	07072623.D	7/27/2007 3:20:00AM
T070731003-LCS	LCS	07072607.D	7/26/2007 5:23:00PM
T070731003-LCS	LCS	07072607.D	7/26/2007 5:23:00PM
T070731003-LCSD	LCSD	07072608.D	7/26/2007 6:00:00PM

Prep Date: 7/26/2007

Lab Method Blank Id: T070731004-MB
Prep Batch ID: T070731004
Method: ADEC AK101 - GRO

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A0707191-02C	Lake 9324	07072631.D	7/27/2007 8:13:00AM
A0707191-03C	Lake 9313	07072632.D	7/27/2007 8:50:00AM
T070731004-LCS	LCS	07072609.D	7/26/2007 6:37:00PM
T070731004-LCSD	LCSD	07072610.D	7/26/2007 7:14:00PM
A0707191-01C	Lake 9323	07072623.D	7/27/2007 3:20:00AM

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

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

Workorder (SDG): A0707191

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

REPORTING CONVENTIONS FOR THIS REPORT

A0707191

TestPkgName	Basis	# Sig Figs	Reporting Limit
1664/1664 (Aqueous) - TPH w/SGT	As Received	2	Report to PQL
6010B/3010A (Aqueous) - RCRA	As Received	2	Report to PQL
602 (Aqueous) - BTEX & Chlorobenzenes	As Received	2	Report to PQL
625 (Aqueous) - PAH	As Received	2	Report to MDL, J qual below PQL
7470A/7470A (Aqueous) - Total Hg	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
AK102/3510C (Aqueous) - DRO	As Received	2	Report to PQL
AK103/3510C (Aqueous) - RRO	As Received	2	Report to PQL

Analytica Chain of Custody Form

12189 Pennsylvania Street
Thornton, CO 80241
303-469-8868
303-469-5254

4307 Arctic Blvd.
Anchorage, AK 99503
907-258-2155
907-258-6634

5438 Shaune Drive
Juneau, AK 99801
907-780-6668
907-780-6670

475 Hall St.
Fairbanks, AK 99701
907-456-3116
907-456-3125

Chain of Custody No: _____

Sampling Event ID: 7,481

Client Name & Address: Michael Baker Jr Inc	**Project Name:** Colville River Study 2007	**Report To:** Mr. Marc McBroom, Michael Baker Jr Inc
	Public Water System ID#:	**Invoice To:** Mr. Marc McBroom, Michael Baker Jr Inc
	PWS Results to STATE: YES NO	
Contact Person:	Data Deliverables: Level2 w/ Batch QC	P. O. or Contract No: Colville River Study 2007
Phone No:	EDD: None	**To be Completed by Analytica**
Fax No:	Requested TAT:	LGN: A0707191 Quote No: A07050028
E-mail:	Results Due Date:	Lab Notes:
Special Instructions:		

Lab Bottle Order No:

Sample Description	Date Sampled	Time Sampled	Matrix	No. of Containers	1664/1664 (Aqueous) - TPH w/SGT	AK101/5030B (Aqueous) - GRO	AK102/ AK103 (Aqueous) - DRO RRO	TAqH (Total Aqueous Aromatic Hydrocarbons)	Total RCRA 8 Metals - Water	8021/5030B (Aqueous) - BTEX							Comments
LAKE 9323	7/16/07	1630	Aqueous		X	X	X	X	X								
LAKE 9324	~~7/16/07~~	1800	Aqueous		X	X	X	X	X								
Trip Blank			Aqueous							X							
LAKE 9313	7/16/07	1100	AQUEOUS		X	X	X	X	X								

Collected/Relinquished by:	Date	Time	Received By:	Date	Time
Relinquished By:	Date 7/17/07	Time 1205	Received By:	Date 7/17/07	Time 12:10
Relinquished By:	Date 7/18/07	Time 12:00	Received By:	Date	Time

Name of Sampler: (printed)
WENDY L. SHAW

To be Completed by Analytica

Chain-of-Custody Seal: Intact Broken Absent

Location Rcvd/Temp on Arrival:

THO_____C JUN_____C ANC 7.2 C FAI_____C

Thermometer ID#_____ Measurement Method: Temp Blank Other

Shipping Method/Tracking Number:

ANALYTICA

Cooler Receipt Form

Client: Michael Baker Jr Inc **Client Code:** 030185 **Order #:** A0707191
Project: Colville River Study 2007

Cooler ID: 1

A. Preliminary Examination Phase: **Date cooler opened:** 7/17/2007 **Cooler opened by:** mw **Signature:** MW

1. **Was airbill Attached?** N/A **Airbill #:** **Carrier Name:** Client
2. **Custody Seals?** N/A **How many?** 0 **Location:** **Seal Name:**
3. **Seals intact?** N/A
4. **COC Attached?** Yes **Properly Completed?** Yes **Signed by AEL employee?** Yes
5. **Project Identification from custody paper:** Coville River Study 2007
6. **Preservative:** **Temperature:** 7.2

Designated person initial here to acknowledge receipt: MW **Date:** 7/17/07

COMMENTS:

B. Log-In Phase: **Samples Log-in Date:** 7/18/2007 **Log-in By:** mw

1. **Packing Type:**
2. **Were samples in separate bags?** Yes
3. **Were containers intact?** Yes **Labels agree with COC?** Yes
4. **Number of bottles received:** 41 **Number of samples received:** 4
5. **Correct containers used?** Yes **Correct preservatives added?** N/A
6. **Sufficient sample volume?** N/A
7. **Bubbles in VOA samples?** N/A
8. **Was Project manager called and status discussed?** No
9. **Was anyone called?** No **Who was called?** _____ **By whom?** _____ **Date:** _____

COMMENTS:

Appendix C August 8, 2007 Laboratory Water Quality Analysis Results

Analytica International, Inc.
4307 Arctic Blvd.
Anchorage, AK 99503
Phone: 907-258-2155
Fax: 907-258-6634

ANALYTICA
Environmental Laboratories

9/25/2007

Michael Baker Jr Inc
1400 W. Benson Blvd. Ste 200
STE 200
Anchorage, AK 99503
Attn: Marc McBroom

Work Order #: A0708454
Date: 9/25/2007
Work ID: Colville River Study 2007
Date Received: 8/29/2007
Proj #: Colville River Study 2007

Sample Identification

Lab Sample Number	Client Description	Lab Sample Number	Client Description
A0708454-01	M9313	A0708454-02	L9323
A0708454-03	L9324	A0708454-04	Trip Blank

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,

K. Plett

Krissy Plett
Project Manager

"The Science of Analysis, The Art of Service"

Case Narrative

Analytica Alaska Inc.
Work Order: A0708454

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, 7-1-99 Edition.

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

USEPA Method 1664, EPA-821-B-94-004b, N-Hexane Extractable Material (HEM) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM) by Extraction and Gravimetry (Oil and Grease and Total Petroleum Hydrocarbons), April 1995.

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

Method AK102 For the Determination of Diesel Range Organics, Revision 3.0, 01/31/96.

Method AK103 For the Determination of Residual Range Organics, Revision 2.0, 01/31/96.

SAMPLE RECEIPT:
Four samples were received on 8/29/2007 1:38:00 PM at Analytica-Anchorage. The samples were received at a temperature of 5.2°C in oder per Chain of Custody.

Comments:
Sample L9323 had 5mm bubbles in all VOA vials.

The samples were transferred for analysis to Analytica Environmental Laboratories (AEL); 12189 Pennsylvania St. Thornton, CO 80241 where they were received at a temperature of 3.5°C in good condition and in order per chain of custody.

REVIEW FOR COMPLIANCE WITH ANALYTICA QA PLAN
A summary of our review is shown below, organized by test:

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:

Test Method: 602 - Purgeable Aromatics by GC/PID - BTEX - Aqueous
Test Method: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes - Aqueous
Test Method: ADEC AK101 - GRO - Aqueous
Test Method: SW6010B - ICP - RCRA - Aqueous
Test Method: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg - Aqueous

Test Method: 1664 Hexane Extractable Material - TPH w/SGT - Aqueous

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
Insufficient sample was provided to perform a matrix spike and matrix spike duplicate. The laboratory prepared an LCS/LCSD to demonstrate method accuracy and precision.

Case Narrative

Analytica Alaska Inc.
Work Order: A0708454
(continued)

Test Method: 625 - Base-Neutrals and Acids by GC/MS - PAH - Aqueous

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
Insufficient sample was provided to perform a matrix spike and matrix spike duplicate. The laboratory prepared an LCS/LCSD to demonstrate method accuracy and precision.

OPENING CONTINUING CALIBRATIONS:
Analytica compares the CCVs against the criteria for 8270 in order to evaluate them technically. The recovery ranges required by Method 625 are much wider, and the CCVS all meet Method 625 requirements. Deviations from Method 8270 are shown below, but these are not pertinent from a regulatory perspective. Data are fully usable. Those compounds shown as falling outside the 8270 specification may be quantified somewhat less accurately than others, but all should meet Method 625 quantification accuracy requirements.

RunDate	Data File	Analyte	Recovery	LCL	UCL
9/20/2007 1:34:00 PM	07092004.D	Acenaphthylene	66.1	80	120
9/20/2007 1:34:00 PM	07092004.D	Benzo(g,h,i)perylene	135.	80	120
9/20/2007 1:34:00 PM	07092004.D	D14-Terphenyl	79.3	80	120
9/20/2007 1:34:00 PM	07092004.D	Dibenzo(a,h)anthracene	144.	80	120
9/20/2007 1:34:00 PM	07092004.D	Indeno(1,2,3-cd)pyrene	130.	80	120
9/20/2007 1:34:00 PM	07092004.D	Pyrene	74.5	80	120

SURROGATE RECOVERIES:
The sample shown below has one surrogate outside of control windows. The LCS and method blank do not show this effect, and this is considered likely to be due to sample matrix.

Sample	LabID	Surrogate	Recovery	LCL	UCL	
L9323	A0708454-02A	D14-Terphenyl	32.	33	141	Complete

LCS OUTLIERS:
The LCS and LCSD shown below have a number of targets outside of control windows. None of these targets were detected in the sample. It is important to point out that all of these outliers are against the Analytica in-house limits, and these recoveries are still in control by Method 625 criteria (see Table 6 of Method 625 for details).

Type	BatchNumber	Analyte	Recovery	LCL	UCL	Status
LCS	T070905022	Acenaphthylene	43.2	48	133	Complete
LCS	T070905022	Dibenzo(a,h)anthracene	158.	50	129	Complete
LCS	T070905022	Benzo(g,h,i)perylene	128.	50	125	Complete
LCSD	T070905022	Dibenzo(a,h)anthracene	148.	50	129	Complete
LCSD	T070905022	Acenaphthylene	47.1	48	133	Complete

Test Method: ADEC AK102 - DRO - Aqueous

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
Insufficient sample was provided to perform a matrix spike and matrix spike duplicate. The laboratory prepared an LCS/LCSD to demonstrate method accuracy and precision.

SURROGATE RECOVERIES:
The sample shown below has the surrogate outside of control windows. This result was confirmed by reanalysis. The method blank also had slightly low surrogate recovery.

confirmed by reanalysis. The method blank also had slightly low surrogate recovery. There was insufficient sample for re-extraction and re-analysis.

Sample	LabID	Surrogate	Recovery	LCL	UCL	
M9313	A0708454-01E	o-Terphenyl	38.	50	120	Complete
MB	T070907004-MB	o-Terphenyl	52.	60	120	Complete

Test Method: ADEC AK103 - RRO - Aqueous

SAMPLE PREPARATION ISSUES AND OBSERVATIONS:
Insufficient sample was provided to perform a matrix spike and matrix spike duplicate. The laboratory prepared an LCS/LCSD to demonstrate method accuracy and precision.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **M9313**

Matrix: Aqueous Collection Date: 8/28/2007 2:00:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-01F Analysis Date: 9/11/2007 1:54:50AM
Prep Date: 9/4/2007 Instrument: GC_E
Analytical Method ID: ADEC AK103 - RRO File Name: 07091019.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070907005
Report Basis: As Received Analyst Initials: MA
Sample prep wt./vol: 960.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**ND**		mg/L	0.52	0.21	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
Squalane	111-01-3	**0.043**		mg/L	0.0052	0.0021	0.052	**83.2**	50	150	2

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-01E Analysis Date: 9/10/2007 4:02:39PM
Prep Date: 9/4/2007 Instrument: GC_E
Analytical Method ID: ADEC AK102 - DRO File Name: 07091007.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070907004
Report Basis: As Received Analyst Initials: MA
Sample prep wt./vol: 960.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**ND**		mg/L	0.10	0.0062	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**0.020**		mg/L	0.00069	0.0038	0.052	**38.6**	50	120	2 LOW

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-01A Analysis Date: 9/20/2007 7:16:00PM
Prep Date: 8/31/2007 Instrument: MS1BNA
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH File Name: 07092013.D
Prep Method ID: LLE Dilution Factor: 1
Prep Batch Number: T070905022
Report Basis: As Received Analyst Initials: sm
Sample prep wt./vol: 1,050.00 ml Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Acenaphthene	83-32-9	**ND**		ug/L	4.8	0.43	1
Acenaphthylene	208-96-8	**ND**		ug/L	4.8	0.49	
Anthracene	120-12-7	**ND**		ug/L	4.8	0.41	
Benzo(a)anthracene	56-55-3	**ND**		ug/L	4.8	0.32	
Benzo(a)pyrene	50-32-8	**ND**		ug/L	4.8	0.25	
Benzo(b)fluoranthene	205-99-2	**ND**		ug/L	4.8	0.27	
Benzo(g,h,i)perylene	191-24-2	**ND**		ug/L	4.8	0.37	

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **M9313**

Matrix: Aqueous Collection Date: 8/28/2007 2:00:00PM

Lab Sample Number: A0708454-01A
Prep Date: 8/31/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070905022
Report Basis: As Received
Sample prep wt./vol: 1,050.00 ml

Analysis Date: 9/20/2007 7:16:00PM
Instrument: MS1BNA
File Name: 07092013.D
Dilution Factor: 1
Analyst Initials: sm
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzo(k)fluoranthene	207-08-9	**ND**		ug/L	4.8	0.36	1
Chrysene	218-01-9	**ND**		ug/L	4.8	0.19	
Dibenzo(a,h)anthracene	53-70-3	**ND**		ug/L	4.8	0.32	
Fluoranthene	206-44-0	**ND**		ug/L	4.8	0.48	
Fluorene	86-73-7	**ND**		ug/L	4.8	0.45	
Indeno(1,2,3-cd)pyrene	193-39-5	**ND**		ug/L	4.8	0.21	
Naphthalene	91-20-3	**ND**		ug/L	9.5	0.59	
Phenanthrene	85-01-8	**ND**		ug/L	4.8	0.41	
Pyrene	129-00-0	**ND**		ug/L	4.8	0.38	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
2-Fluorobiphenyl	321-60-8	**55**		ug/L	4.8	0.27	95	**57.5**	43	116	1
D14-Terphenyl	92-94-4D	**42**		ug/L	4.8	0.11	95	**43.7**	33	141	
D5-Nitrobenzene	98-95-3D	**68**		ug/L	4.8	0.20	95	**71.9**	35	114	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-01D
Prep Date: 9/10/2007
Analytical Method ID: SW6010B - ICP - RCRA
Prep Method ID: 3010_ICP
Prep Batch Number: T070910011
Report Basis: As Received
Sample prep wt./vol: 50.00 ml

Analysis Date: 9/11/2007 12:18:00PM
Instrument: ICP_2
File Name: E09117A
Dilution Factor: 1
Analyst Initials: rm
Prep Extract Vol: 50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Arsenic	7440-38-2	**ND**		mg/L	0.10	0.015	1
Barium	7440-39-3	**0.25**		mg/L	0.010	0.00016	
Cadmium	7440-43-9	**ND**		mg/L	0.0060	0.00051	
Chromium	7440-47-3	**ND**		mg/L	0.010	0.0018	
Lead	7439-92-1	**ND**		mg/L	0.050	0.011	
Selenium	7784-49-2	**ND**		mg/L	0.10	0.026	
Silver	7440-22-4	**ND**		mg/L	0.015	0.00066	

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **M9313**

Matrix: Aqueous Collection Date: 8/28/2007 2:00:00PM

Lab Sample Number: A0708454-01D
Prep Date: 9/14/2007
Analytical Method ID: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg
Prep Method ID: 7470A
Prep Batch Number: T070914007
Report Basis: As Received
Sample prep wt./vol: 30.00 ml

Analysis Date: 9/14/2007 5:37:58PM
Instrument: CVAA_1
File Name: B070914W.W
Dilution Factor: 1
Analyst Initials: DL
Prep Extract Vol: 30.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Mercury	7439-97-6	**ND**		mg/L	0.00020	0.000050	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-01B
Prep Date: 9/11/2007
Analytical Method ID: 1664 Hexane Extractable Material - TPH w/SGT
Prep Method ID: 1664_WG
Prep Batch Number: T070911025
Report Basis: As Received
Sample prep wt./vol: 1,040.00 ml

Analysis Date: 9/11/2007 11:00:00AM
Instrument: SCALE
File Name:
Dilution Factor: 1
Analyst Initials: L. Friedman/G. Yates
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Hexane-Extractable Material	na	**ND**		mg/L	4.8	1.4	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-01C
Prep Date: 9/10/2007
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes
Prep Method ID: P&TWater
Prep Batch Number: T070919008
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 8:42:00AM
Instrument: GC_B
File Name: 07091026.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	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	
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	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	0.50	0.12	27	**95.1**	80	120	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **M9313**

Matrix: Aqueous

Collection Date: 8/28/2007 2:00:00PM

Lab Sample Number: A0708454-01C

Prep Date: 9/10/2007

Analytical Method ID: ADEC AK101 - GRO

Prep Method ID: P&TWater

Prep Batch Number: T070919007

Report Basis: As Received

Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 8:42:00AM

Instrument: GC_B

File Name: 07091026.D

Dilution Factor: 1

Analyst Initials: RA

Prep Extract Vol: 5.00 ml

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

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**25**		ug/L	1.5	0.50	27	**93.6**	50	150	1

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **L9323**

Matrix: Aqueous Collection Date: 8/28/2007 6:00:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-02F Analysis Date: 9/11/2007 2:43:58AM
Prep Date: 9/4/2007 Instrument: GC_E
Analytical Method ID: ADEC AK103 - RRO File Name: 07091020.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070907005
Report Basis: As Received Analyst Initials: MA
Sample prep wt./vol: 960.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**ND**		mg/L	0.52	0.21	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
Squalane	111-01-3	**0.043**		mg/L	0.0052	0.0021	0.052	**81.8**	50	150	2

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-02E Analysis Date: 9/8/2007 2:39:08AM
Prep Date: 9/4/2007 Instrument: GC_E
Analytical Method ID: ADEC AK102 - DRO File Name: 07090715.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070907004
Report Basis: As Received Analyst Initials: MAG
Sample prep wt./vol: 960.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**ND**		mg/L	0.10	0.0062	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**0.027**		mg/L	0.00069	0.0038	0.052	**52.1**	50	120	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-02A Analysis Date: 9/20/2007 7:53:00PM
Prep Date: 8/31/2007 Instrument: MS1BNA
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH File Name: 07092014.D
Prep Method ID: LLE Dilution Factor: 1
Prep Batch Number: T070905022
Report Basis: As Received Analyst Initials: sm
Sample prep wt./vol: 1,035.00 ml Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Acenaphthene	83-32-9	**ND**		ug/L	4.8	0.43	1
Acenaphthylene	208-96-8	**ND**		ug/L	4.8	0.49	
Anthracene	120-12-7	**ND**		ug/L	4.8	0.42	
Benzo(a)anthracene	56-55-3	**ND**		ug/L	4.8	0.32	
Benzo(a)pyrene	50-32-8	**ND**		ug/L	4.8	0.25	
Benzo(b)fluoranthene	205-99-2	**ND**		ug/L	4.8	0.28	
Benzo(g,h,i)perylene	191-24-2	**ND**		ug/L	4.8	0.37	

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **L9323**

Matrix: Aqueous Collection Date: 8/28/2007 6:00:00PM

Lab Sample Number: A0708454-02A
Prep Date: 8/31/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070905022
Report Basis: As Received
Sample prep wt./vol: 1,035.00 ml

Analysis Date: 9/20/2007 7:53:00PM
Instrument: MS1BNA
File Name: 07092014.D
Dilution Factor: 1
Analyst Initials: sm
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzo(k)fluoranthene	207-08-9	**ND**		ug/L	4.8	0.37	1
Chrysene	218-01-9	**ND**		ug/L	4.8	0.19	
Dibenzo(a,h)anthracene	53-70-3	**ND**		ug/L	4.8	0.32	
Fluoranthene	206-44-0	**ND**		ug/L	4.8	0.49	
Fluorene	86-73-7	**ND**		ug/L	4.8	0.46	
Indeno(1,2,3-cd)pyrene	193-39-5	**ND**		ug/L	4.8	0.22	
Naphthalene	91-20-3	**ND**		ug/L	9.7	0.60	
Phenanthrene	85-01-8	**ND**		ug/L	4.8	0.42	
Pyrene	129-00-0	**ND**		ug/L	4.8	0.38	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:	
2-Fluorobiphenyl	321-60-8	**49**		ug/L	4.8	0.27	97	**50.8**	43	116	1	
D14-Terphenyl	92-94-4D	**31**		ug/L	4.8	0.11	97	**32.6**	33	141		LOW
D5-Nitrobenzene	98-95-3D	**63**		ug/L	4.8	0.20	97	**65.6**	35	114		

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-02D
Prep Date: 9/10/2007
Analytical Method ID: SW6010B - ICP - RCRA
Prep Method ID: 3010_ICP
Prep Batch Number: T070910011
Report Basis: As Received
Sample prep wt./vol: 50.00 ml

Analysis Date: 9/11/2007 12:23:00PM
Instrument: ICP_2
File Name: E09117A
Dilution Factor: 1
Analyst Initials: rm
Prep Extract Vol: 50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Arsenic	7440-38-2	**ND**		mg/L	0.10	0.015	1
Barium	7440-39-3	**0.053**		mg/L	0.010	0.00016	
Cadmium	7440-43-9	**ND**		mg/L	0.0060	0.00051	
Chromium	7440-47-3	**ND**		mg/L	0.010	0.0018	
Lead	7439-92-1	**ND**		mg/L	0.050	0.011	
Selenium	7784-49-2	**ND**		mg/L	0.10	0.026	
Silver	7440-22-4	**ND**		mg/L	0.015	0.00066	

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **L9323**

Matrix: Aqueous Collection Date: 8/28/2007 6:00:00PM

Lab Sample Number: A0708454-02D
Prep Date: 9/14/2007
Analytical Method ID: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg
Prep Method ID: 7470A
Prep Batch Number: T070914007
Report Basis: As Received
Sample prep wt./vol: 30.00 ml

Analysis Date: 9/14/2007 5:45:10PM
Instrument: CVAA_1
File Name: B070914W.W
Dilution Factor: 1
Analyst Initials: DL
Prep Extract Vol: 30.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Mercury	7439-97-6	**ND**		mg/L	0.00020	0.000050	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-02B
Prep Date: 9/11/2007
Analytical Method ID: 1664 Hexane Extractable Material - TPH w/SGT
Prep Method ID: 1664_WG
Prep Batch Number: T070911025
Report Basis: As Received
Sample prep wt./vol: 1,030.00 ml

Analysis Date: 9/11/2007 11:00:00AM
Instrument: SCALE
File Name:
Dilution Factor: 1
Analyst Initials: L. Friedman/G. Yates
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Hexane-Extractable Material	na	**ND**		mg/L	4.9	1.4	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-02C
Prep Date: 9/10/2007
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes
Prep Method ID: P&TWater
Prep Batch Number: T070919008
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 9:19:00AM
Instrument: GC_B
File Name: 07091027.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	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	
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	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**27**		ug/L	0.50	0.12	27	**98.9**	80	120	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **L9323**

Matrix: Aqueous

Collection Date: 8/28/2007 6:00:00PM

Lab Sample Number: A0708454-02C

Prep Date: 9/10/2007

Analytical Method ID: ADEC AK101 - GRO

Prep Method ID: P&TWater

Prep Batch Number: T070919007

Report Basis: As Received

Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 9:19:00AM

Instrument: GC_B

File Name: 07091027.D

Dilution Factor: 1

Analyst Initials: RA

Prep Extract Vol: 5.00 ml

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

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**25**		ug/L	1.5	0.50	27	**93.8**	50	150	1

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **L9324**

Matrix: Aqueous Collection Date: 8/28/2007 7:30:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-03F Analysis Date: 9/11/2007 3:33:13AM
Prep Date: 9/4/2007 Instrument: GC_E
Analytical Method ID: ADEC AK103 - RRO File Name: 07091021.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070907005
Report Basis: As Received Analyst Initials: MA
Sample prep wt./vol: 960.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**ND**		mg/L	0.52	0.21	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
Squalane	111-01-3	**0.041**		mg/L	0.0052	0.0021	0.052	**79.2**	50	150	2

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-03E Analysis Date: 9/8/2007 3:28:03AM
Prep Date: 9/4/2007 Instrument: GC_E
Analytical Method ID: ADEC AK102 - DRO File Name: 07090716.D
Prep Method ID: 3510 Dilution Factor: 1
Prep Batch Number: T070907004
Report Basis: As Received Analyst Initials: MAG
Sample prep wt./vol: 930.00 ml Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**0.11**		mg/L	0.11	0.0064	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**0.029**		mg/L	0.00072	0.0039	0.054	**53.9**	50	120	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-03A Analysis Date: 9/20/2007 8:31:00PM
Prep Date: 8/31/2007 Instrument: MS1BNA
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH File Name: 07092015.D
Prep Method ID: LLE Dilution Factor: 1
Prep Batch Number: T070905022
Report Basis: As Received Analyst Initials: sm
Sample prep wt./vol: 1,000.00 ml Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Acenaphthene	83-32-9	**ND**		ug/L	5.0	0.45	1
Acenaphthylene	208-96-8	**ND**		ug/L	5.0	0.51	
Anthracene	120-12-7	**ND**		ug/L	5.0	0.44	
Benzo(a)anthracene	56-55-3	**ND**		ug/L	5.0	0.33	
Benzo(a)pyrene	50-32-8	**ND**		ug/L	5.0	0.26	
Benzo(b)fluoranthene	205-99-2	**ND**		ug/L	5.0	0.29	
Benzo(g,h,i)perylene	191-24-2	**ND**		ug/L	5.0	0.39	

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **L9324**

Matrix: Aqueous Collection Date: 8/28/2007 7:30:00PM

Lab Sample Number: A0708454-03A
Prep Date: 8/31/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070905022
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 9/20/2007 8:31:00PM
Instrument: MS1BNA
File Name: 07092015.D
Dilution Factor: 1
Analyst Initials: sm
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzo(k)fluoranthene	207-08-9	**ND**		ug/L	5.0	0.38	1
Chrysene	218-01-9	**ND**		ug/L	5.0	0.20	
Dibenzo(a,h)anthracene	53-70-3	**ND**		ug/L	5.0	0.34	
Fluoranthene	206-44-0	**ND**		ug/L	5.0	0.51	
Fluorene	86-73-7	**ND**		ug/L	5.0	0.48	
Indeno(1,2,3-cd)pyrene	193-39-5	**ND**		ug/L	5.0	0.22	
Naphthalene	91-20-3	**ND**		ug/L	10	0.62	
Phenanthrene	85-01-8	**ND**		ug/L	5.0	0.43	
Pyrene	129-00-0	**ND**		ug/L	5.0	0.40	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
2-Fluorobiphenyl	321-60-8	**56**		ug/L	5.0	0.28	100	**56.2**	43	116	1
D14-Terphenyl	92-94-4D	**33**		ug/L	5.0	0.12	100	**33.2**	33	141	
D5-Nitrobenzene	98-95-3D	**70**		ug/L	5.0	0.21	100	**70.2**	35	114	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-03D
Prep Date: 9/10/2007
Analytical Method ID: SW6010B - ICP - RCRA
Prep Method ID: 3010_ICP
Prep Batch Number: T070910011
Report Basis: As Received
Sample prep wt./vol: 50.00 ml

Analysis Date: 9/11/2007 12:28:00PM
Instrument: ICP_2
File Name: E09117A
Dilution Factor: 1
Analyst Initials: rm
Prep Extract Vol: 50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Arsenic	7440-38-2	**ND**		mg/L	0.10	0.015	1
Barium	7440-39-3	**0.058**		mg/L	0.010	0.00016	
Cadmium	7440-43-9	**ND**		mg/L	0.0060	0.00051	
Chromium	7440-47-3	**0.013**		mg/L	0.010	0.0018	
Lead	7439-92-1	**ND**		mg/L	0.050	0.011	
Selenium	7784-49-2	**ND**		mg/L	0.10	0.026	
Silver	7440-22-4	**ND**		mg/L	0.015	0.00066	

The following test was conducted by: Analytica - Thornton

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **L9324**

Matrix: Aqueous Collection Date: 8/28/2007 7:30:00PM

Lab Sample Number: A0708454-03D
Prep Date: 9/14/2007
Analytical Method ID: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg
Prep Method ID: 7470A
Prep Batch Number: T070914007
Report Basis: As Received
Sample prep wt./vol: 30.00 ml

Analysis Date: 9/14/2007 5:47:19PM
Instrument: CVAA_1
File Name: B070914W.W
Dilution Factor: 1
Analyst Initials: DL
Prep Extract Vol: 30.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Mercury	7439-97-6	**ND**		mg/L	0.00020	0.000050	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-03B
Prep Date: 9/11/2007
Analytical Method ID: 1664 Hexane Extractable Material - TPH w/SGT
Prep Method ID: 1664_WG
Prep Batch Number: T070911025
Report Basis: As Received
Sample prep wt./vol: 1,040.00 ml

Analysis Date: 9/11/2007 11:00:00AM
Instrument: SCALE
File Name:
Dilution Factor: 1
Analyst Initials: L. Friedman/G. Yates
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Hexane-Extractable Material	na	**ND**		mg/L	4.8	1.4	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-03C
Prep Date: 9/10/2007
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes
Prep Method ID: P&TWater
Prep Batch Number: T070919008
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 9:56:00AM
Instrument: GC_B
File Name: 07091028.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	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	
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	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**27**		ug/L	0.50	0.12	27	**99.0**	80	120	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **L9324**

Matrix: Aqueous

Collection Date: 8/28/2007 7:30:00PM

Lab Sample Number: A0708454-03C

Prep Date: 9/10/2007

Analytical Method ID: ADEC AK101 - GRO

Prep Method ID: P&TWater

Prep Batch Number: T070919007

Report Basis: As Received

Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 9:56:00AM

Instrument: GC_B

File Name: 07091028.D

Dilution Factor: 1

Analyst Initials: RA

Prep Extract Vol: 5.00 ml

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

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**25**		ug/L	1.5	0.50	27	**93.1**	50	150	1

Detailed Analytical Report

Analytica Alaska Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Client Sample Report

Client Sample Name: **Trip Blank**

Matrix: Aqueous Collection Date: 8/28/2007 2:00:00PM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: A0708454-04A
Prep Date: 9/10/2007
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX
Prep Method ID: P&TWater
Prep Batch Number: T070919008
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 7:28:00AM
Instrument: GC_B
File Name: 07091024.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

Analyte	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	
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	CASNo	Result	Flags	Units	POL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**25**		ug/L	0.50	0.12	27	**91.7**	80	120	1

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Aqueous Collection Date: 9/4/2007 12:00:00AM

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070907005-MB
Prep Date: 9/4/2007
Analytical Method ID: ADEC AK103 - RRO
Prep Method ID: 3510
Prep Batch Number: T070907005
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 9/10/2007 11:26:45PM
Instrument: GC_E
File Name: 07091016.D
Dilution Factor: 1
Analyst Initials: MA
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Residual Range Organics	n/a	**ND**		mg/L	0.50	0.20	2

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
Squalane	111-01-3	**0.050**		mg/L	0.0050	0.0020	0.050	**99.7**	50	150	2

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070907004-MB
Prep Date: 9/4/2007
Analytical Method ID: ADEC AK102 - DRO
Prep Method ID: 3510
Prep Batch Number: T070907004
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 9/7/2007 8:54:22PM
Instrument: GC_E
File Name: 07090708.D
Dilution Factor: 1
Analyst Initials: MAG
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Diesel Range Organics	n/a	**ND**		mg/L	0.10	0.0060	1

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
o-Terphenyl	84-15-1	**0.026**		mg/L	0.00067	0.0037	0.050	**52.3**	50	120	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070905022-MB
Prep Date: 8/31/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070905022
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 9/17/2007 7:02:00PM
Instrument: MS1BNA
File Name: 07091716.D
Dilution Factor: 1
Analyst Initials: sm
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Acenaphthene	83-32-9	**ND**		ug/L	5.0	0.45	1
Acenaphthylene	208-96-8	**ND**		ug/L	5.0	0.51	
Anthracene	120-12-7	**ND**		ug/L	5.0	0.44	
Benzo(a)anthracene	56-55-3	**ND**		ug/L	5.0	0.33	
Benzo(a)pyrene	50-32-8	**ND**		ug/L	5.0	0.26	
Benzo(b)fluoranthene	205-99-2	**ND**		ug/L	5.0	0.29	
Benzo(g,h,i)perylene	191-24-2	**ND**		ug/L	5.0	0.39	

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Aqueous Collection Date: 8/31/2007 12:00:00AM

Lab Sample Number: T070905022-MB
Prep Date: 8/31/2007
Analytical Method ID: 625 - Base-Neutrals and Acids by GC/MS - PAH
Prep Method ID: LLE
Prep Batch Number: T070905022
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 9/17/2007 7:02:00PM
Instrument: MS1BNA
File Name: 07091716.D
Dilution Factor: 1
Analyst Initials: sm
Prep Extract Vol: 2.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Benzo(k)fluoranthene	207-08-9	**ND**		ug/L	5.0	0.38	1
Chrysene	218-01-9	**ND**		ug/L	5.0	0.20	
Dibenzo(a,h)anthracene	53-70-3	**ND**		ug/L	5.0	0.34	
Fluoranthene	206-44-0	**ND**		ug/L	5.0	0.51	
Fluorene	86-73-7	**ND**		ug/L	5.0	0.48	
Indeno(1,2,3-cd)pyrene	193-39-5	**ND**		ug/L	5.0	0.22	
Naphthalene	91-20-3	**ND**		ug/L	10	0.62	
Phenanthrene	85-01-8	**ND**		ug/L	5.0	0.43	
Pyrene	129-00-0	**ND**		ug/L	5.0	0.40	

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
2-Fluorobiphenyl	321-60-8	**54**		ug/L	5.0	0.28	100	**54.0**	43	116	1
D14-Terphenyl	92-94-4D	**140**		ug/L	5.0	0.12	100	**140**	33	141	
D5-Nitrobenzene	98-95-3D	**59**		ug/L	5.0	0.21	100	**58.6**	35	114	

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070910011-MB
Prep Date: 9/10/2007
Analytical Method ID: SW6010B - ICP - RCRA
Prep Method ID: 3010_ICP
Prep Batch Number: T070910011
Report Basis: As Received
Sample prep wt./vol: 50.00 ml

Analysis Date: 9/11/2007 12:03:00PM
Instrument: ICP_2
File Name: E09117A
Dilution Factor: 1
Analyst Initials: rm
Prep Extract Vol: 50.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Arsenic	7440-38-2	**ND**		mg/L	0.10	0.015	1
Barium	7440-39-3	**ND**		mg/L	0.010	0.00016	
Cadmium	7440-43-9	**ND**		mg/L	0.0060	0.00051	
Chromium	7440-47-3	**ND**		mg/L	0.010	0.0018	
Lead	7439-92-1	**ND**		mg/L	0.050	0.011	
Selenium	7784-49-2	**ND**		mg/L	0.10	0.026	
Silver	7440-22-4	**ND**		mg/L	0.015	0.00066	

The following test was conducted by: Analytica - Thornton

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Aqueous Collection Date: 9/14/2007 12:00:00AM

Lab Sample Number: T070914007-MB
Prep Date: 9/14/2007
Analytical Method ID: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg
Prep Method ID: 7470A
Prep Batch Number: T070914007
Report Basis: As Received
Sample prep wt./vol: 30.00 ml

Analysis Date: 9/14/2007 5:16:18PM
Instrument: CVAA_1
File Name: B070914W.W
Dilution Factor: 1
Analyst Initials: DL
Prep Extract Vol: 30.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Mercury	7439-97-6	**ND**		mg/L	0.00020	0.000050	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070911025-MB
Prep Date: 9/11/2007
Analytical Method ID: 1664 Hexane Extractable Material - TPH w/SGT
Prep Method ID: 1664_WG
Prep Batch Number: T070911025
Report Basis: As Received
Sample prep wt./vol: 1,000.00 ml

Analysis Date: 9/11/2007 11:00:00AM
Instrument: SCALE
File Name:
Dilution Factor: 1
Analyst Initials: L. Friedman/G. Yates
Prep Extract Vol: 1.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	MDL	run #:
Hexane-Extractable Material	na	**ND**		mg/L	5.0	1.5	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070919008-MB
Prep Date: 9/10/2007
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes
Prep Method ID: P&TWater
Prep Batch Number: T070919008
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 6:52:00AM
Instrument: GC_B
File Name: 07091023.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	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	
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	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	0.50	0.12	27	**95.0**	80	120	1

The following test was conducted by: Analytica - Thornton

Detailed Analytical Report

Analytica Environmental Laboratories, Inc.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Report Section: Method Blank Report

Client Sample Name: **MB**

Matrix: Aqueous Collection Date: 9/10/2007 12:00:00AM

Lab Sample Number: T070919008-MB
Prep Date: 9/10/2007
Analytical Method ID: 602 - Purgeable Aromatics by GC/PID - BTEX
Prep Method ID: P&TWater
Prep Batch Number: T070919008
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 6:52:00AM
Instrument: GC_B
File Name: 07091023.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

Analyte	CASNo	Result	Flags	Units	PQL	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	
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	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	0.50	0.12	27	**95.0**	80	120	1

The following test was conducted by: Analytica - Thornton

Lab Sample Number: T070919007-MB
Prep Date: 9/10/2007
Analytical Method ID: ADEC AK101 - GRO
Prep Method ID: P&TWater
Prep Batch Number: T070919007
Report Basis: As Received
Sample prep wt./vol: 5.00 ml

Analysis Date: 9/11/2007 6:52:00AM
Instrument: GC_B
File Name: 07091023.D
Dilution Factor: 1
Analyst Initials: RA
Prep Extract Vol: 5.00 ml

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

Surrogate	CASNo	Result	Flags	Units	PQL	MDL	Spike	% Recov	LCL	UCL	run #:
p-Bromofluorobenzene	460-00-4	**26**		ug/L	1.5	0.50	27	**96.5**	50	150	1

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0708454

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070907004**

LCS/LCSD REPORT

Analysis: ADEC AK102 - DRO

MB: T070907004-MB

Prep Date: 9/4/2007

MB Anal. Date: 9/7/2007 8:54:22PM

Units: mg/L

LCS Anal. Date: 9/7/2007 9:43:43PM LCSD Anal. Date: 9/7/2007 10:33:04PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Diesel Range Organics	ND	1.53	1.61	2.00	2.00	76.5	80.5	5.1	75 - 125	20	

Prep Batch: **T070907005**

LCS/LCSD REPORT

Analysis: ADEC AK103 - RRO

MB: T070907005-MB

Prep Date: 9/4/2007

MB Anal. Date: 9/10/2007 11:26:45PM

Units: mg/L

LCS Anal. Date: 9/11/2007 12:16:28AM LCSD Anal. Date: 9/11/2007 1:05:33AM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Residual Range Organics	ND	2.15	2.05	2.00	2.00	107.5	102.5	4.8	60 - 120	20	

FOOTNOTES TO QC REPORT

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

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

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

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

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0708454

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070905022**

LCS/LCSD REPORT

Analysis: 625 - Base-Neutrals and Acids by GC/MS - PAH

MB: T070905022-MB

Prep Date: 8/31/2007

MB Anal. Date: 9/17/2007 7:02:00PM

Units: ug/L

LCS Anal. Date: 9/17/2007 7:38:00PM LCSD Anal. Date: 9/17/2007 8:15:00PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Naphthalene	ND	23.7	27.7	50.0	50.0	47.4	55.4	15.6	45 - 136	40	
Acenaphthylene	ND	21.6	23.6	50.0	50.0	43.2	47.2	8.8	48 - 133	40	low,lowdup
Acenaphthene	ND	30.8	32.9	50.0	50.0	61.6	65.8	6.6	48 - 121	40	
Fluorene	ND	35.0	35.4	50.0	50.0	70.0	70.8	1.1	58 - 130	40	
Phenanthrene	ND	38.6	38.0	50.0	50.0	77.2	76.0	1.6	54 - 140	40	
Anthracene	ND	37.4	36.8	50.0	50.0	74.8	73.6	1.6	59 - 131	40	
Fluoranthene	ND	31.1	29.4	50.0	50.0	62.2	58.8	5.6	51 - 140	40	
Pyrene	ND	53.5	62.0	50.0	50.0	107.0	124.0	14.7	46 - 135	40	
Benzo(a)anthracene	ND	42.6	44.8	50.0	50.0	85.2	89.6	5.0	58 - 118	40	
Chrysene	ND	45.3	47.0	50.0	50.0	90.6	94.0	3.7	55 - 139	40	
Benzo(b)fluoranthene	ND	38.9	39.9	50.0	50.0	77.8	79.8	2.5	41 - 133	40	
Benzo(k)fluoranthene	ND	42.1	43.9	50.0	50.0	84.2	87.8	4.2	60 - 160	40	
Benzo(a)pyrene	ND	43.9	44.2	50.0	50.0	87.8	88.4	0.7	40 - 138	40	
Indeno(1,2,3-cd)pyrene	ND	61.1	58.7	50.0	50.0	122.2	117.4	4.0	48 - 125	40	
Dibenzo(a,h)anthracene	ND	79.1	74.2	50.0	50.0	158.2	148.4	6.4	50 - 129	40	high,highdup
Benzo(g,h,i)perylene	ND	64.2	62.0	50.0	50.0	128.4	124.0	3.5	50 - 125	40	high

FOOTNOTES TO QC REPORT

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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 signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0708454

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070914007**

LCS/LCSD REPORT

Analysis: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg

MB: T070914007-MB

Prep Date: 9/14/2007

MB Anal. Date: 9/14/2007 5:16:18PM

Units: mg/L

LCS Anal. Date: 9/14/2007 5:18:27PM LCSD Anal. Date: 9/14/2007 5:20:31PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Mercury	ND	0.00191	0.00190	0.00200	0.0020	95.5	95.0	0.5	80 - 120	20	

Prep Batch: **T070910011**

SAMPLE DUPLICATE REPORT

Analysis: SW6010B - ICP - RCRA

Base Sample: A0708454-03D

Prep Date: 9/10/2007

Samp. Anal. Date: 9/11/2007 12:28:00PM

Units: mg/L

DUP Anal. Date: 9/11/2007 12:33:00PM

Matrix: Aqueous

Analyte Name	SampResult	DUPRes.	RPD	RPDLim	Flag
Arsenic	ND	ND	0.0	20	
Barium	0.0578	0.0569	1.6	20	
Cadmium	ND	ND	0.0	20	
Chromium	0.0130	ND	0.0	20	
Lead	ND	ND	0.0	20	
Selenium	ND	ND	0.0	20	
Silver	ND	ND	0.0	20	

LCS/LCSD REPORT

Analysis: SW6010B - ICP - RCRA

MB: T070910011-MB

Prep Date: 9/10/2007

MB Anal. Date: 9/11/2007 12:03:00PM

Units: mg/L

LCS Anal. Date: 9/11/2007 12:08:00PM LCSD Anal. Date: 9/11/2007 12:13:00PM

Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Arsenic	ND	2.02	2.04	2.00	2.00	101.0	102.0	1.0	86 - 116	20	
Barium	ND	1.99	2.03	2.00	2.00	99.5	101.5	2.0	86 - 116	20	
Cadmium	ND	0.0411	0.0416	0.0500	0.0500	82.2	83.2	1.2	79 - 113	20	
Chromium	ND	0.210	0.212	0.200	0.200	105.0	106.0	0.9	86 - 117	20	
Lead	ND	0.511	0.525	0.500	0.500	102.2	105.0	2.7	83 - 121	20	
Selenium	ND	2.01	2.05	2.00	2.00	100.5	102.5	2.0	87 - 117	20	

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0708454

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070910011**

LCS/LCSD REPORT

Analysis: SW6010B - ICP - RCRA

MB: T070910011-MB

Prep Date: 9/10/2007

MB Anal. Date: 9/11/2007 12:03:00PM

Units: mg/L

LCS Anal. Date: 9/11/2007 12:08:00PM LCSD Anal. Date: 9/11/2007 12:13:00PM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Silver	ND	0.274	0.277	0.250	0.250	109.6	110.8	1.1	80 - 127	20	

MS/MSD REPORT

Analysis: SW6010B - ICP - RCRA

Parent: A0708454-03D

Prep Date: 9/10/2007

Samp. Anal. Date: 9/11/2007 12:28:00PM

Units: mg/L

MS Anal. Date: 9/11/2007 12:38:00PM MSD Anal. Date: 9/11/2007 12:43:00PM Matrix: Aqueous

Analyte Name	SampResult	MSRes.	MSDRes	SPLev	SPDLev	Recov.	MSD Rec.	RPD	Recov Lim	RPDLim	Flag
Arsenic	ND	2.05	2.04	2.00	2.00	102.5	102.0	0.5	75 - 125	20	
Barium	0.0578	2.12	2.09	2.00	2.00	103.1	101.6	1.4	75 - 125	20	
Cadmium	ND	0.0412	0.0407	0.0500	0.0500	82.4	81.4	1.2	75 - 125	20	
Chromium	0.0130	0.215	0.212	0.200	0.200	101.0	99.5	1.4	75 - 125	20	
Lead	ND	0.517	0.509	0.500	0.500	103.4	101.8	1.6	75 - 125	20	
Selenium	ND	2.06	2.05	2.00	2.00	103.0	102.5	0.5	75 - 125	20	
Silver	ND	0.277	0.277	0.250	0.250	110.8	110.8	0.0	75 - 125	20	

POST DIGESTION SPIKE REPORT

Analysis: SW6010B - ICP - RCRA

Base Sample: A0708454-03D

Prep Date: 9/10/2007

Samp. Anal. Date: 9/11/2007 12:28:00PM

Units: mg/L

PDS Anal. Date: 9/11/2007 12:48:00PM

Matrix: Aqueous

Analyte Name	SampResult	PDSRes.	SPLev	Recov.	Recov Lim	Flag
Arsenic	ND	1.91	2.00	95.5	75 - 116	
Barium	0.0578	1.95	2.00	94.7	75 - 116	
Cadmium	ND	0.0387	0.0500	78.4	75 - 113	
Chromium	0.0130	0.200	0.200	93.3	75 - 117	
Lead	ND	0.486	0.500	97.2	75 - 121	
Selenium	ND	1.94	2.00	96.7	75 - 117	

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0708454

Project: Colville River Study 2007

Project Number:

Prep Batch: **T070910011**

QUALITY CONTROL REPORT

POST DIGESTION SPIKE REPORT

Analysis: SW6010B - ICP - RCRA

Base Sample: A0708454-03D

Prep Date: 9/10/2007

Samp. Anal. Date: 9/11/2007 12:28:00PM

Units: mg/L

PDS Anal. Date: 9/11/2007 12:48:00PM

Matrix: Aqueous

Analyte Name	SampResult	PDSRes.	SPLev	Recov.	Recov Lim	Flag
Silver	ND	0.00522	0.250	1.5	75 - 127	lowPDS

SERIAL DILUTION REPORT

Analysis: SW6010B - ICP - RCRA

Base Sample: A0708454-03D

Prep Date: 9/10/2007

Samp. Anal. Date: 9/11/2007 12:28:00PM

Units: mg/L

SER DIL. Date: 9/11/2007 1:26:00PM

Matrix: Aqueous

Analyte Name	SampResult	PQL.	MDL.	SerialRes.	SerPQL.	RPD	Flag
Arsenic	ND	0.10	0.015	ND	0.50		
Barium	0.0578	0.0100	0.00016	0.0622	0.050	7.3	
Cadmium	ND	0.0060	0.00051	ND	0.030		
Chromium	0.0130	0.0100	0.0018	0.0698	0.050	137.2	Note 4
Lead	ND	0.050	0.011	ND	0.25		
Selenium	ND	0.10	0.026	ND	0.50		
Silver	ND	0.015	0.00066	ND	0.075		

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 signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0708454

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070911025**

LCS/LCSD REPORT

Analysis: 1664 Hexane Extractable Material - TPH w/SGT

MB: T070911025-MB

Prep Date: 9/11/2007

MB Anal. Date: 9/11/2007 11:00:00AM

Units: mg/L

LCS Anal. Date: 9/11/2007 11:00:00AM LCSD Anal. Date: 9/11/2007 11:00:00AM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Hexane-Extractable Material	ND	16.9	15.1	20.0	20.0	84.5	75.5	11.3	66 - 114	20	

FOOTNOTES TO QC REPORT

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

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

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

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

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0708454

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070919007**

LCS/LCSD REPORT

Analysis: ADEC AK101 - GRO MB: T070919007-MB

Prep Date: 9/10/2007

MB Anal. Date: 9/11/2007 6:52:00AM Units: ug/L

LCS Anal. Date: 9/11/2007 5:38:00AM LCSD Anal. Date: 9/11/2007 6:15:00AM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Gasoline Range Organics	ND	452	499	500	500	90.4	99.8	9.9	60 - 120	20	

Prep Batch: **T070919008**

LCS/LCSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX MB: T070919008-MB

Prep Date: 9/10/2007

MB Anal. Date: 9/11/2007 6:52:00AM Units: ug/L

LCS Anal. Date: 9/11/2007 1:55:00AM LCSD Anal. Date: 9/11/2007 2:32:00AM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	12.0	11.9	10.0	10.0	120.0	119.0	0.8	80 - 120	20	
Toluene	ND	11.9	11.5	10.0	10.0	119.0	115.0	3.4	80 - 120	20	
Ethylbenzene	ND	11.4	11.5	10.0	10.0	114.0	115.0	0.9	80 - 120	20	
Xylenes, Total	ND	35.2	34.4	30.0	30.0	117.3	114.7	2.3	80 - 120	20	
1,2-Dichlorobenzene	ND	10.2	9.91	10.0	10.0	102.0	99.1	2.9	80 - 120	20	
1,4-Dichlorobenzene	ND	9.98	9.56	10.0	10.0	99.8	95.6	4.3	80 - 120	20	
1,3-Dichlorobenzene	ND	10.2	9.74	10.0	10.0	102.0	97.4	4.6	80 - 120	20	
Chlorobenzene	ND	11.8	11.1	10.0	10.0	118.0	111.0	6.1	80 - 120	20	

Prep Batch: **T070919008**

LCS/LCSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes MB: T070919008-MB

Prep Date: 9/10/2007

MB Anal. Date: 9/11/2007 6:52:00AM Units: ug/L

LCS Anal. Date: 9/11/2007 1:55:00AM LCSD Anal. Date: 9/11/2007 2:32:00AM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Benzene	ND	12.0	11.9	10.0	10.0	120.0	119.0	0.8	80 - 120	20	
Toluene	ND	11.9	11.5	10.0	10.0	119.0	115.0	3.4	80 - 120	20	

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Tests Run at: Analytica Environmental Laboratories - Thornton, Colorado

Workorder (SDG): A0708454

Project: Colville River Study 2007

Project Number:

QUALITY CONTROL REPORT

Prep Batch: **T070919008**

LCS/LCSD REPORT

Analysis: 602 - Purgeable Aromatics by GC/PID - BTEX & Chlorobenzenes MB: T070919008-MB

Prep Date: 9/10/2007

MB Anal. Date: 9/11/2007 6:52:00AM Units: ug/L

LCS Anal. Date: 9/11/2007 1:55:00AM LCSD Anal. Date: 9/11/2007 2:32:00AM Matrix: Aqueous

Analyte Name	SampResult	LCSRes.	SDRes.	SPLev	SPDLev	Recov.	SD Recov	RPD	Recov Lim	RPDLim	Flag
Ethylbenzene	ND	11.4	11.5	10.0	10.0	114.0	115.0	0.9	80 - 120	20	
Xylenes, Total	ND	35.2	34.4	30.0	30.0	117.3	114.7	2.3	80 - 120	20	
1,2-Dichlorobenzene	ND	10.2	9.91	10.0	10.0	102.0	99.1	2.9	80 - 120	20	
1,4-Dichlorobenzene	ND	9.98	9.56	10.0	10.0	99.8	95.6	4.3	80 - 120	20	
1,3-Dichlorobenzene	ND	10.2	9.74	10.0	10.0	102.0	97.4	4.6	80 - 120	20	
Chlorobenzene	ND	11.8	11.1	10.0	10.0	118.0	111.0	6.1	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.

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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 signifcance. Otherwise it indicates that a matrix bias may exist at the analytical step.

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

SURROGATE RECOVERY SUMMARY REPORT

Test Method: **ADEC AK102 - DRO**

Lab Sample #:	A0708454-01E		Dilution:	1	
Analysis Date:	9/8/2007 1:50:01AM		Client Sample:	**M9313**	
Batch Number:	T070907004		Data File:	07090714.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	46	50	120	LOW	Rrun

Lab Sample #:	A0708454-02E		Dilution:	1	
Analysis Date:	9/8/2007 2:39:08AM		Client Sample:	**L9323**	
Batch Number:	T070907004		Data File:	07090715.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	52	50	120		Complete

Lab Sample #:	A0708454-03E		Dilution:	1	
Analysis Date:	9/8/2007 3:28:03AM		Client Sample:	**L9324**	
Batch Number:	T070907004		Data File:	07090716.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	54	50	120		Complete

Lab Sample #:	A0708454-01E		Dilution:	1	
Analysis Date:	9/10/2007 4:02:39PM		Client Sample:	**M9313**	
Batch Number:	T070907004		Data File:	07091007.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	39	50	120	LOW	Complete

Lab Sample #:	T070907004-MB		Dilution:	1	
Analysis Date:	9/7/2007 8:54:22PM		Client Sample:	**MB**	
Batch Number:	T070907004		Data File:	07090708.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	52	60	120	LOW	Complete

Lab Sample #:	T070907004-LCS		Dilution:	1	
Analysis Date:	9/7/2007 9:43:43PM		Client Sample:	**LCS**	
Batch Number:	T070907004		Data File:	07090709.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	64	60	120		Complete

Lab Sample #:	T070907004-LCSD		Dilution:	1	
Analysis Date:	9/7/2007 10:33:04PM		Client Sample:	**LCSD**	
Batch Number:	T070907004		Data File:	07090710.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
o-Terphenyl	66	60	120		Complete

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **ADEC AK103 - RRO**

Lab Sample #:	A0708454-01F			Dilution:	1
Analysis Date:	9/8/2007 1:15:52PM			Client Sample:	**M9313**
Batch Number:	T070907005			Data File:	07090728.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	95	50	150		Rrun

Lab Sample #:	A0708454-02F			Dilution:	1
Analysis Date:	9/8/2007 2:05:11PM			Client Sample:	**L9323**
Batch Number:	T070907005			Data File:	07090729.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	87	50	150		Rrun

Lab Sample #:	A0708454-03F			Dilution:	1
Analysis Date:	9/8/2007 2:54:30PM			Client Sample:	**L9324**
Batch Number:	T070907005			Data File:	07090730.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	93	50	150		Rrun

Lab Sample #:	A0708454-01F			Dilution:	1
Analysis Date:	9/11/2007 1:54:50AM			Client Sample:	**M9313**
Batch Number:	T070907005			Data File:	07091019.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	83	50	150		Complete

Lab Sample #:	A0708454-02F			Dilution:	1
Analysis Date:	9/11/2007 2:43:58AM			Client Sample:	**L9323**
Batch Number:	T070907005			Data File:	07091020.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	82	50	150		Complete

Lab Sample #:	A0708454-03F			Dilution:	1
Analysis Date:	9/11/2007 3:33:13AM			Client Sample:	**L9324**
Batch Number:	T070907005			Data File:	07091021.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	79	50	150		Complete

Lab Sample #:	T070907005-MB			Dilution:	1
Analysis Date:	9/8/2007 10:48:15AM			Client Sample:	**MB**
Batch Number:	T070907005			Data File:	07090725.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	106	60	120		Rrun

Lab Sample #:	T070907005-MB			Dilution:	1
Analysis Date:	9/10/2007 11:26:45PM			Client Sample:	**MB**
Batch Number:	T070907005			Data File:	07091016.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	100	60	120		Complete

Lab Sample #:	T070907005-LCS			Dilution:	1
Analysis Date:	9/8/2007 11:37:23AM			Client Sample:	**LCS**
Batch Number:	T070907005			Data File:	07090726.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **ADEC AK103 - RRO**

Lab Sample #:	T070907005-LCS		Dilution:	1	
Analysis Date:	9/8/2007 11:37:23AM		Client Sample:	**LCS**	
Batch Number:	T070907005		Data File:	07090726.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	116	60	120		Rrun

Lab Sample #:	T070907005-LCS		Dilution:	1	
Analysis Date:	9/11/2007 12:16:28AM		Client Sample:	**LCS**	
Batch Number:	T070907005		Data File:	07091017.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	112	60	120		Complete

Lab Sample #:	T070907005-LCSD		Dilution:	1	
Analysis Date:	9/8/2007 12:26:38PM		Client Sample:	**LCSD**	
Batch Number:	T070907005		Data File:	07090727.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	112	60	120		Rrun

Lab Sample #:	T070907005-LCSD		Dilution:	1	
Analysis Date:	9/11/2007 1:05:33AM		Client Sample:	**LCSD**	
Batch Number:	T070907005		Data File:	07091018.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
Squalane	101	60	120		Complete

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

Lab Sample #:	A0708454-04A		Dilution:	1	
Analysis Date:	9/11/2007 7:28:00AM		Client Sample:	**Trip Blank**	
Batch Number:	T070919008		Data File:	07091024.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	92	80	120		Complete

Lab Sample #:	T070919008-MB		Dilution:	1	
Analysis Date:	9/11/2007 6:52:00AM		Client Sample:	**MB**	
Batch Number:	T070919008		Data File:	07091023.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	95	80	120		Complete

Lab Sample #:	T070919008-LCS		Dilution:	1	
Analysis Date:	9/11/2007 1:55:00AM		Client Sample:	**LCS**	
Batch Number:	T070919008		Data File:	07091015.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	95	80	120		Complete

Lab Sample #:	T070919008-LCSD		Dilution:	1	
Analysis Date:	9/11/2007 2:32:00AM		Client Sample:	**LCSD**	
Batch Number:	T070919008		Data File:	07091016.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	87	80	120		Complete

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

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

Lab Sample #:	A0708454-01C			Dilution:	1
Analysis Date:	9/11/2007 8:42:00AM			Client Sample:	**M9313**
Batch Number:	T070919008			Data File:	07091026.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	95	80	120		Complete

Lab Sample #:	A0708454-02C			Dilution:	1
Analysis Date:	9/11/2007 9:19:00AM			Client Sample:	**L9323**
Batch Number:	T070919008			Data File:	07091027.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	99	80	120		Complete

Lab Sample #:	A0708454-03C			Dilution:	1
Analysis Date:	9/11/2007 9:56:00AM			Client Sample:	**L9324**
Batch Number:	T070919008			Data File:	07091028.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	99	80	120		Complete

Lab Sample #:	T070919008-MB			Dilution:	1
Analysis Date:	9/11/2007 6:52:00AM			Client Sample:	**MB**
Batch Number:	T070919008			Data File:	07091023.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	95	80	120		Complete

Lab Sample #:	T070919008-LCS			Dilution:	1
Analysis Date:	9/11/2007 1:55:00AM			Client Sample:	**LCS**
Batch Number:	T070919008			Data File:	07091015.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	95	80	120		Complete

Lab Sample #:	T070919008-LCSD			Dilution:	1
Analysis Date:	9/11/2007 2:32:00AM			Client Sample:	**LCSD**
Batch Number:	T070919008			Data File:	07091016.D
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	87	80	120		Complete

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **ADEC AK101 - GRO**

Lab Sample #:	A0708454-01C		Dilution:	1	
Analysis Date:	9/11/2007 8:42:00AM		Client Sample:	**M9313**	
Batch Number:	T070919007		Data File:	07091026.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	94	50	150		Complete

Lab Sample #:	A0708454-02C		Dilution:	1	
Analysis Date:	9/11/2007 9:19:00AM		Client Sample:	**L9323**	
Batch Number:	T070919007		Data File:	07091027.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	94	50	150		Complete

Lab Sample #:	A0708454-03C		Dilution:	1	
Analysis Date:	9/11/2007 9:56:00AM		Client Sample:	**L9324**	
Batch Number:	T070919007		Data File:	07091028.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	93	50	150		Complete

Lab Sample #:	T070919007-MB		Dilution:	1	
Analysis Date:	9/11/2007 6:52:00AM		Client Sample:	**MB**	
Batch Number:	T070919007		Data File:	07091023.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	97	60	120		Complete

Lab Sample #:	T070919007-LCS		Dilution:	1	
Analysis Date:	9/11/2007 5:38:00AM		Client Sample:	**LCS**	
Batch Number:	T070919007		Data File:	07091021.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	99	60	120		Complete

Lab Sample #:	T070919007-LCSD		Dilution:	1	
Analysis Date:	9/11/2007 6:15:00AM		Client Sample:	**LCSD**	
Batch Number:	T070919007		Data File:	07091022.D	
AnalyteName	**SSRecov**	**LCL**	**UCL**	**SSFlag**	**Result Status**
p-Bromofluorobenzene	117	60	120		Complete

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

Test Method: **625 - Base-Neutrals and Acids by GC/MS - PAH**

Lab Sample #: A0708454-01A Dilution: 1
Analysis Date: 9/20/2007 7:16:00PM Client Sample: **M9313**
Batch Number: T070905022 Data File: 07092013.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	58	43	116		Complete
D14-Terphenyl	44	33	141		Complete
D5-Nitrobenzene	72	35	114		Complete

Lab Sample #: A0708454-02A Dilution: 1
Analysis Date: 9/20/2007 7:53:00PM Client Sample: **L9323**
Batch Number: T070905022 Data File: 07092014.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	51	43	116		Complete
D14-Terphenyl	33	33	141		Complete
D5-Nitrobenzene	66	35	114		Complete

Lab Sample #: A0708454-03A Dilution: 1
Analysis Date: 9/20/2007 8:31:00PM Client Sample: **L9324**
Batch Number: T070905022 Data File: 07092015.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	56	43	116		Complete
D14-Terphenyl	33	33	141		Complete
D5-Nitrobenzene	70	35	114		Complete

Lab Sample #: T070905022-MB Dilution: 1
Analysis Date: 9/17/2007 7:02:00PM Client Sample: **MB**
Batch Number: T070905022 Data File: 07091716.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	54	43	116		Complete
D14-Terphenyl	140	33	141		Complete
D5-Nitrobenzene	59	35	114		Complete

Lab Sample #: T070905022-LCS Dilution: 1
Analysis Date: 9/17/2007 7:38:00PM Client Sample: **LCS**
Batch Number: T070905022 Data File: 07091717.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	56	43	116		Complete
D14-Terphenyl	102	33	141		Complete
D5-Nitrobenzene	53	35	114		Complete

Lab Sample #: T070905022-LCSD Dilution: 1
Analysis Date: 9/17/2007 8:15:00PM Client Sample: **LCSD**
Batch Number: T070905022 Data File: 07091718.D

AnalyteName	SSRecov	LCL	UCL	SSFlag	Result Status
2-Fluorobiphenyl	61	43	116		Complete
D14-Terphenyl	93	33	141		Complete
D5-Nitrobenzene	59	35	114		Complete

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **77,702** **Lab Project Number:** **A0708454**

Prep Date: 8/31/2007

Lab Method Blank Id: T070905022-MB
Prep Batch ID: T070905022
Method: 625 - Base-Neutrals and Acids by GC/MS - PAH

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
T070905022-LCS	LCS	07091717.D	9/17/2007 7:38:00PM
T070905022-LCSD	LCSD	07091718.D	9/17/2007 8:15:00PM
A0708454-01A	M9313	07092013.D	9/20/2007 7:16:00PM
A0708454-02A	L9323	07092014.D	9/20/2007 7:53:00PM
A0708454-03A	L9324	07092015.D	9/20/2007 8:31:00PM

Prep Date: 9/4/2007

Lab Method Blank Id: T070907004-MB
Prep Batch ID: T070907004
Method: ADEC AK102 - DRO

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
T070907004-LCS	LCS	07090709.D	9/7/2007 9:43:43PM
T070907004-LCSD	LCSD	07090710.D	9/7/2007 10:33:04PM
A0708454-02E	L9323	07090715.D	9/8/2007 2:39:08AM
A0708454-03E	L9324	07090716.D	9/8/2007 3:28:03AM
A0708454-01E	M9313	07091007.D	9/10/2007 4:02:39PM

Prep Date: 9/4/2007

Lab Method Blank Id: T070907005-MB
Prep Batch ID: T070907005
Method: ADEC AK103 - RRO

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
T070907005-LCS	LCS	07091017.D	9/11/2007 12:16:28AM
T070907005-LCSD	LCSD	07091018.D	9/11/2007 1:05:33AM
A0708454-01F	M9313	07091019.D	9/11/2007 1:54:50AM
A0708454-02F	L9323	07091020.D	9/11/2007 2:43:58AM
A0708454-03F	L9324	07091021.D	9/11/2007 3:33:13AM

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **77,702** **Lab Project Number:** **A0708454**

Prep Date: 9/10/2007

Lab Method Blank Id: T070910011-MB
Prep Batch ID: T070910011
Method: SW6010B - ICP - RCRA

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A0708454-01D	M9313	E09117A	9/11/2007 12:18:00PM
A0708454-02D	L9323	E09117A	9/11/2007 12:23:00PM
A0708454-03D	L9324	E09117A	9/11/2007 12:28:00PM
T070910011-LCS	LCS	E09117A	9/11/2007 12:08:00PM
T070910011-LCSD	LCSD	E09117A	9/11/2007 12:13:00PM
A0708454-03D-DUP	DUP	E09117A	9/11/2007 12:33:00PM
A0708454-03D-MS	MS	E09117A	9/11/2007 12:38:00PM
A0708454-03D-MSD	MSD	E09117A	9/11/2007 12:43:00PM
A0708454-03D-PDS	PDS	E09117A	9/11/2007 12:48:00PM

Prep Date: 9/11/2007

Lab Method Blank Id: T070911025-MB
Prep Batch ID: T070911025
Method: 1664 Hexane Extractable Material - TPH w/SGT

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A0708454-01B	M9313		9/11/2007 11:00:00AM
A0708454-02B	L9323		9/11/2007 11:00:00AM
A0708454-03B	L9324		9/11/2007 11:00:00AM
T070911025-LCS	LCS		9/11/2007 11:00:00AM
T070911025-LCSD	LCSD		9/11/2007 11:00:00AM

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **77,702** **Lab Project Number:** **A0708454**

Prep Date: 9/14/2007

Lab Method Blank Id: T070914007-MB
Prep Batch ID: T070914007
Method: SW7470A - Mercury in Liquid Waste by CVAA - Total Hg

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A0708454-01D	M9313	B070914W.WKS	9/14/2007 5:37:58PM
A0708454-02D	L9323	B070914W.WKS	9/14/2007 5:45:10PM
A0708454-03D	L9324	B070914W.WKS	9/14/2007 5:47:19PM
F0709072-01A	Batch QC	B070914W.WKS	9/14/2007 5:23:19PM
T070914007-LCS	LCS	B070914W.WKS	9/14/2007 5:18:27PM
T070914007-LCSD	LCSD	B070914W.WKS	9/14/2007 5:20:31PM
F0709072-01A-DUP	DUP	B070914W.WKS	9/14/2007 5:26:43PM
F0709072-01A-MS	MS	B070914W.WKS	9/14/2007 5:28:49PM
F0709072-01A-MSD	MSD	B070914W.WKS	9/14/2007 5:30:57PM

Prep Date: 9/10/2007

Lab Method Blank Id: T070919007-MB
Prep Batch ID: T070919007
Method: ADEC AK101 - GRO

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A0708454-01C	M9313	07091026.D	9/11/2007 8:42:00AM
A0708454-02C	L9323	07091027.D	9/11/2007 9:19:00AM
T070919007-LCS	LCS	07091021.D	9/11/2007 5:38:00AM
T070919007-LCSD	LCSD	07091022.D	9/11/2007 6:15:00AM
A0708454-03C	L9324	07091028.D	9/11/2007 9:56:00AM

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

QC BATCH ASSOCIATIONS - BY METHOD BLANK

Lab Project ID: **77,702** **Lab Project Number:** **A0708454**

Prep Date: 9/10/2007

Lab Method Blank Id: T070919008-MB

Prep Batch ID: T070919008

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

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

SampleNum	ClientSampleName	DataFile	AnalysisDate
A0708454-03C	L9324	07091028.D	9/11/2007 9:56:00AM
A0708454-04A	Trip Blank	07091024.D	9/11/2007 7:28:00AM
T070919008-LCS	LCS	07091015.D	9/11/2007 1:55:00AM
T070919008-LCS	LCS	07091015.D	9/11/2007 1:55:00AM
T070919008-LCSD	LCSD	07091016.D	9/11/2007 2:32:00AM
T070919008-LCSD	LCSD	07091016.D	9/11/2007 2:32:00AM
A0708454-02C	L9323	07091027.D	9/11/2007 9:19:00AM
A0708454-01C	M9313	07091026.D	9/11/2007 8:42:00AM

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

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

Workorder (SDG): A0708454

Project: **Colville River Study 2007**

Client: **Michael Baker Jr Inc**

Client Project Number: **Colville River Study 2007**

REPORTING CONVENTIONS FOR THIS REPORT

A0708454

TestPkgName	Basis	# Sig Figs	Reporting Limit
1664/1664 (Aqueous) - TPH w/SGT	As Received	2	Report to PQL
6010B/3010A (Aqueous) - RCRA	As Received	2	Report to PQL
602 (Aqueous) - BTEX	As Received	2	Report to PQL
602 (Aqueous) - BTEX & Chlorobenzenes	As Received	2	Report to PQL
625 (Aqueous) - PAH	As Received	2	Report to MDL, J qual below PQL
7470A/7470A (Aqueous) - Total Hg	As Received	2	Report to PQL
AK101/5030B (Aqueous) - GRO	As Received	2	Report to PQL
AK102/3510C (Aqueous) - DRO	As Received	2	Report to PQL
AK103/3510C (Aqueous) - RRO	As Received	2	Report to PQL

Analytica Chain of Custody Form

12189 Pennsylvania Street
Thornton, CO 80241
303-469-8868
303-469-5254

4307 Arctic Blvd.
Anchorage, AK 99503
907-258-2155
907-258-6634

5438 Shaune Drive
Juneau, AK 99801
907-780-6668
907-780-6670

475 Hall St.
Fairbanks, AK 99701
907-456-3116
907-456-3125

Chain of Custody No: _____

Sampling Event ID: 7,687

Client Name & Address: Michael Baker Jr Inc

Project Name: Colville River Study 2007

Public Water System ID#:

PWS Results to STATE: YES NO

Data Deliverables: Level2 w/ Batch QC

EDD: None

Requested TAT:

Results Due Date:

Report To: Mr. Marc McBroom, Michael Baker Jr Inc

Invoice To: Mr. Marc McBroom, Michael Baker Jr Inc

P. O. or Contract No: Colville River Study 2007

Contact Person:

Phone No:

Fax No:

E-mail:

Special Instructions:

To be Completed by Analytica

LGN: A0708454 Quote No: A07050028

Lab Notes:

Lab Bottle Order No:

Sample Description	Date Sampled	Time Sampled	Matrix	No. of Containers	1664/1664 (Aqueous) - TPH w/SGT	AK101/5030B (Aqueous) - GRO	AK102/ AK103 (Aqueous) - DRO RRO	TAqH (Total Aqueous Aromatic Hydrocarbons)	Total RCRA 8 Metals - Water	602 (Aqueous) - BTEX							Comments
M9313	8/25	14:00	Aqueous		X	X	X	X	X								
L9323	8/28	18:00	Aqueous		X	X	X	X	X								
L9324	8/28	19:30	Aqueous		X	X	X	X	X								
Trip Blank	8/24	14:00	Aqueous							X							

	Date	Time		Date	Time
Collected/Relinquished by:	8/29	1:38	Received By: K. Platt	8/29	13:38
Relinquished By:	8/30/07	12:00	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time

Name of Sampler: (printed)

To be Completed by Analytica

Chain-of-Custody Seal: Intact Broken (Absent)

Location Rcvd/Temp on Arrival: 5.2

THO_____C JUN_____C ANC 7.8 / 7.3 C FAI_____C

Thermometer ID# IR Measurement Method: Temp Blank Other

Shipping Method/Tracking Number: client

Cooler Receipt Form

ANALYTICA

Client: Michael Baker Jr Inc **Client Code:** 030185 **Order #:** A0708454
Project: Colville River Study 2007

Cooler ID: 1

A. Preliminary Examination Phase: **Date cooler opened:** 8/29/2007
Cooler opened by: kp **Signature:** Dan

1. **Was airbill Attached?** N/A **Airbill #:** **Carrier Name:** Client
2. **Custody Seals?** N/A **How many?** 0 **Location:** **Seal Name:**
3. **Seals intact?** N/A
4. **COC Attached?** Yes **Properly Completed?** Yes **Signed by AEL employee?** Yes
5. **Project Identification from custody paper:** Colville River Study
6. **Preservative:** **Temperature:** 5.2 **deg. C**

Designated person initial here to acknowledge receipt: Dan **Date:** 8/30/07

COMMENTS:

B. Log-In Phase: **Samples Log-in Date:** 8/30/2007 **Log-in By:** dc

1. **Packing Type:**
2. **Were samples in separate bags?** Yes
3. **Were containers intact?** Yes **Labels agree with COC?** Yes
4. **Number of bottles received:** 44 **Number of samples received:** 4
5. **Correct containers used?** Yes **Correct preservatives added?** N/A
6. **Sufficient sample volume?** N/A
7. **Bubbles in VOA samples?** N/A
8. **Was Project manager called and status discussed?** No
9. **Was anyone called?** No **Who was called?** _____ **By whom?** _____ **Date:** _____

COMMENTS: