

National Petroleum Reserve – Alaska

2004 Lake Monitoring Program

Submitted to



Submitted by

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1.0 Introduction

This report summarizes hydrologic observations and measurements made during a lake monitoring program conducted in the eastern National Petroleum Reserve – Alaska (NPRA) in Fall 2004 by Michael Baker Jr., Inc. (Baker). The program was performed at the request of ConocoPhillips Alaska, Inc. (CPAI). The program consisted of in situ water quality measurements and analytical sampling at twenty freshwater lakes.

The water withdrawn from North Slope lakes is used for oil field facility operation, camp operation, and in the winter for exploration and construction activities. As exploration continues to move westward in the NPRA, a number of lakes will be permitted for temporary withdrawal as well as for permanent water supply sources.

1.1 Background

Baker conducted a lake monitoring program in 2003 at sixteen lakes located in the eastern NPRA. In situ water quality parameters and analytical samples were collected from three separate locations at each of the sixteen lakes. Sample lakes, selected by Baker and CPAI, were identified based on their relative location to the proposed road alignment connecting the existing Alpine Facilities (CD-1 and CD-2) with the proposed developments, CD-5, CD-6, and CD-7.

The proposed road alignment into the eastern NPRA has changed slightly since completion of the 2003 lake monitoring program. In 2004, Baker was tasked with conducting a monitoring program on the sixteen lakes studied in 2003 as well as four additional lakes. In contrast to the 2003 program, only one sample was collected from each lake. One sample per lake in 2004 was determined to be sufficient based on the consistency of the results at each lake in 2003. The four additional lakes, selected by Baker and CPAI, were identified based on their location in respect to the most current proposed road alignment. The twenty study lakes and the proposed road alignment at the time of the 2004 monitoring program are presented on Figure 1.

1.2 Purpose

The purpose of the 2004 NPRA lake monitoring program was to continue collecting baseline water quality data from NPRA lakes in the vicinity of the proposed road alignment. Data

collected in 2004 will be added to the established database built using 2003 data. Such a database is an invaluable resource in terms of future planning and permitting for water use at NPRA lakes.

2.0 Field Investigation

The investigation consisted of a one-time sampling event conducted over a period of two days, August 20 and 21, 2004. A Baker engineer and engineering technician conducted the fieldwork. Maritime Helicopters provided access to the lakes. All monitoring and sampling was completed from the bank. Monitoring and sampling was conducted at a single location at each lake. The 2004 sample locations at the sixteen lakes studied in 2003 were performed at one of the three locations previously monitored. Monitoring locations from all twenty lakes were selected based on their proximity to the proposed road alignment. Figures 2 through 4 identify the monitoring locations of the northern, central, and southern study area. Each sampling location was recorded using a hand-held global positioning system (GPS) unit referenced to the North American Datum of 1983 (NAD83).

3.0 Field Methods

3.1 Analytical Parameters

Water samples for analytical evaluation were collected prior to in situ monitoring. Analytical samples were collected as grab samples in lab-provided containers. Samples were collected within the water column at a depth that represented approximately one-half the total depth of the water in each sampling location.

Each sampling container was labeled with pertinent sampling information and stored in an ice chest for transport to the analytical laboratory under standard chain-of-custody procedures. Refreezable gel packs were used to cool the samples during storage and shipment.

Samples were submitted to SGS-CT&E Environmental Services Inc. in Anchorage, Alaska for the following analysis:

- Calcium, Magnesium, Sodium, Potassium, Iron, Chloride, Copper, Zinc, Cadmium
- Total Nitrate, Sulfate

- Alkalinity
- Turbidity
- Total Dissolved Solids (TDS)
- Polynuclear Aromatic Hydrocarbons by Selective Ion Monitoring (PAH-SIM)
- Diesel Range Organics (DRO)
- Residual Range Organics (RRO)

One duplicate (quality control) sample was collected and analyzed for every ten samples collected during the monitoring program. Quality control samples were collected at lakes M9914 and L9304. Samples were collected at the same location and immediately after the project lake sample. Quality control samples were submitted to the laboratory with a different name and time as their associated lake. Quality control samples were used to verify the internal accuracy of the analytical program.

3.2 In Situ Parameters

A YSI 556 in situ water quality meter was used to measure the following in situ water parameters:

- Temperature in degrees Celsius ($^{\circ}\text{C}$)
- pH in standard units
- Conductivity in millisiemens per centimeter (mS/cm)
- Salinity in milligrams per liter (%)
- Dissolved Oxygen in milligrams per liter (mg/L)

At each site, in situ monitoring was conducted just off the bank in an area that maximized depth. Readings were made within the water column at a depth that represented approximately one-half the total depth of the water in each sampling location. Every attempt was made to minimize lake substrate disturbance. If lake sediment was inadvertently disturbed, the location of the sample was moved away from the disturbance.

3.2.1 Instrument Calibration

Baker rented the YSI 556 meter from TTT Environmental in Anchorage, Alaska. Prior to the rental, TTT performed a complete maintenance service according to the manufacturer's specifications. The service included multiple-point calibration on all probes using span and zero check solutions, cleaning of all probes, and replacement of the semi-permeable membrane on the dissolved oxygen probe. Field calibrations were performed in the field using calibration solution provided by TTT Environmental. Field calibrations were performed on the morning of August 20, 2004, and the afternoon of August 21, 2004, prior to and after the monitoring event. All calibrations were within manufacturers tolerances.

4.0 Results

Results of the in situ monitoring and analytical sampling of the 2004 NPRA Lake Monitoring Program are summarized in the following tables:

- Table 1 In Situ Water Quality
- Table 2 Analytical Results, Dissolved Metals and Anions
- Table 3 Analytical Results, Alkalinity, Turbidity, TDS, DRO and RRO
- Table 4 Analytical Results, PAH-SIM

Laboratory analytical results are presented in Appendix A.

4.1 In Situ Parameters

4.1.1 Water Temperature

Water temperatures in the study lakes ranged between 11.4° and 15.4°C. The coolest water temperature, 11.4°C, was measured at Lake L9501. The warmest water temperature, 15.4°C, was measured at Lake M0292. Water temperatures in 2004 were significantly warmer than the temperature range recorded in 2003, 3.1° to 5.7°C.

4.1.2 pH

pH in the 20 study lakes ranged between 7.3 and 8.7 with the average pH of 8.0. The lowest pH, 7.3, was measured at Lake M9912. The highest pH, 8.7, was measured at Lake M0024. In 2003, the pH measured at 48 locations ranged from 5.5 to 8.1 and averaged 7.5.

4.1.3 Conductivity

Conductivities in the 20 study lakes ranged from 0.016 to 0.241 mS/cm. Conductivity can be used as a rapid estimate of the amount of dissolved solids in water and the above measurements compare well to the relatively low dissolved solid measurements made by the analytical laboratory. The low conductivities also confirm the low salinity concentrations measured at the lakes. 2003 conductivity values ranged from 0.049 to 0.157 mS/cm.

4.1.4 Salinity

Measurements of salinity in the 20 freshwater lakes were at or near zero percent, with values ranging from 0.0% to 0.1%. Salinity concentrations of 0.1% were measured in eighty percent of the study lakes. In 2003, in situ sampling indicated salinity concentrations of 0.0% at all 48 sampling locations.

4.1.5 Dissolved Oxygen

Each of the study lakes were highly oxygenated as would be expected during the open water months when the water surface is in contact with the atmosphere and the lakes are relatively well mixed due to wind action. Dissolved oxygen (DO) concentrations ranged from 8.65 to 11.01 mg/L. Concentrations of DO in 2003 ranged from 8.68 to 12.30 mg/L, similar to 2004 concentrations.

4.2 Analytical Parameters

4.2.1 Dissolved Metals

The dissolved metals program included laboratory analysis of calcium, magnesium, sodium, potassium, iron, copper, zinc, and cadmium. All metals analyses were completed as dissolved metals with the laboratory filtering the samples. Dissolved metals were analyzed by analytical method SW 6020. In general, 2004 analytical results for dissolved metals compare extremely well with analysis conducted in 2003. A brief summary of the analytical results is described below and results are presented on Table 2.

4.2.1.1 Calcium and Magnesium (Hardness)

Calcium concentrations ranged from 6.3 to 29.2 mg/L and magnesium concentrations ranged from 1.6 to 6.7. Excluding the four additional lakes monitored in 2004 (L9501, M9923, M9925, and MB0401), calcium and magnesium concentrations recorded in 2004 were extremely similar to values reported in 2003. Calcium ranged from 6.3 to 20.0 mg/L in 2004 as compared with 6.1 to 20.0 mg/L in 2003, and magnesium concentrations ranged from 1.6 to 4.3 mg/L in 2004 as compared with 1.6 to 4.2 mg/L in 2003. The total concentration of these two analytes, expressed as calcium carbonate, is often referred to as hardness.

4.2.1.2 Sodium

Sodium concentrations in 2004 ranged from 2.4 to 25.2 mg/L as compared to 2.6 and 17.8 mg/L in 2003. Excluding the two most northern study lakes, lakes L9501 and L9304, concentrations of sodium ranged from 2.4 to 8.0 mg/L and 2.6 to 8.1 mg/L in 2004 and 2003, respectively.

4.2.1.3 Potassium

Excluding lakes M9924, M9925, L9304, L9501, and L9821, reported potassium concentrations in 2004 and 2003 were below the laboratories method detection limit (MDL). Concentrations of potassium ranged from 1.2 to 1.4 mg/L in 2004 and 1.0 to 1.2 mg/L in 2003.

4.2.1.4 Iron, Copper, Zinc, and Cadmium

Iron, copper, zinc, and cadmium concentrations were found to be below the MDL in all the lakes monitored during the 2004 program. In 2003, cadmium was detected 0.001 mg/L above the MDL at location No. 1 in Lake L9821 and location No. 2 Lake L9824.

4.2.2 Anions

The Anions program included laboratory analysis using the method EPA 300 for chloride, sulfate, and total nitrate. A brief summary of the analytical results is described below and results are presented on Table 2.

4.2.2.1 Chloride

Chloride concentrations ranged from 5.9 mg/L to 73.1 mg/L. Excluding the four additional lakes monitored in 2004, chloride concentrations in 2004 were similar to those reported in 2003 with ranges of 5.9 to 41.7 mg/L and 6.4 to 38.0 mg/L in 2004 and 2003, respectively.

4.2.2.2 Sulfate and Total Nitrate

Concentrations of sulfate in 2004 compared well with reported values in 2003. Sulfate ranged from non-detect to 4.2 mg/L in 2004 as compared to non-detect to 2.5 mg/L. The MDL for sulfate in 2004 and 2003 was 0.1 mg/L.

With one exception, total nitrate concentrations were below the MDL of 1.0 mg/L in all the sampling locations monitored in 2004. In 2003, 47 out of 48 samples were reported as non-detect. A total nitrate concentration of 1.52 mg/L was reported at location 3 in Lake M0292. Based on the scope of work, and proximity to the most current proposed road alignment, location 3 at Lake M0292 was not monitored during the 2004-monitoring program.

4.2.3 Alkalinity

Alkalinity can be defined as the capacity of water to react with and neutralize acid. It is expressed in terms of an equivalent amount of calcium carbonate (CaCO_3). Alkalinity levels in the 20 study lakes suggest that the lakes are relatively well buffered. Alkalinities ranged from 24 mg/L to 90 mg/L. Excluding the four additional study lakes added to the 2004 scope of work, results compared well with 2003 alkalinity concentrations with values ranging from 25 to 64 mg/L in 2004 and 23 to 68 mg/L in 2003. Alkalinity samples were analyzed using method SM20 2320B and results are presented on Table 3.

4.2.4 Turbidity and Total Dissolved Solids (TDS)

Water samples were collected in 2004 for the analysis of turbidity by method SM20 2130B. Results ranged from 1.12 to 17.0 Nephelometric Turbidity Unit (NTU), with an average value of 4.42 NTU. Turbidity analysis was not conducted on water samples collected in 2003. In 2004, TDS concentrations ranged from 31 mg/L to 244 mg/L. In 2003, TDS concentrations ranged from less than 50 to 139 mg/L. Excluding the four additional lakes added to the scope of work in 2004, TDS concentrations in 2004 (31 to 128 mg/L) were similar to 2003 results (less than 50 to

139 mg/L). TDS analysis was conducted using analytical method SM 20 2540C. Turbidity and TDS results are presented on Table. 3.

4.2.5 Diesel Range and Residual Range Organics (RRO)

Diesel Range Organics concentrations were below the MDL in 19 of 20 lakes monitored during 2004. A concentration of 0.592 mg/L was recorded in Lake M9914. RRO concentrations were below the MDL in 18 of the 20 lakes monitored during 2004. An RRO concentration of 0.812 mg/L and 0.529 mg/L was reported at lakes M9924 and M9914, respectively. DRO and RRO concentrations were below MDL in all 48 lakes sampled during 2003. The results of DRO and RRO in excess of the MDL for lakes M9914 and M9924 is likely attributed to naturally occurring organic material as the results are only slightly greater than the MDL. Analysis for DRO and RRO was performed using analytical method AK 102/103. Results are presented in Table 3.

4.2.6 Polynuclear Aromatic Hydrocarbons by Selective Ion Monitoring

Polynuclear Aromatic Hydrocarbons (PAH) were analyzed using selective ion monitoring (SIM). PAH-SIM was conducted for the 16 primary aromatic hydrocarbon compounds. With one exception, all target compounds in all 20 lakes were non-detect at their various detection limits during 2004. The single exception was the compound naphthalene, which was found at concentrations of 0.107 micrograms per liter (ug/L) in Lake M9914. Naphthalene is a compound that occurs in the atmosphere as a result of anthropogenic activities. It is also an analyte quantified by both volatile and semi-volatile analysis and thus is prone to cross contamination. Internal laboratory quality control data indicate that the naphthalene detections in the Lake M9914 sample resulted from cross contamination that occurred during the sample extraction process at the lab. Results from the PAH-SIM analysis compare well with 2003 data, as cross contamination at levels near the MDL was an issue in 2003 also. PAH concentrations are presented on Table 4.

5.0 References

Alaska Department of Environmental Conservation (ADEC), 2002. *18 AAC 80. Drinking Water Regulations*. September 21, 2002.

Michael Baker Jr., Inc. 2003. *2003 Lake Monitoring Program in the National Petroleum Reserve–Alaska for the Alpine Satellite Development Plan*. February 4, 2004. Prepared for ConocoPhillips Alaska, Inc. Anchorage, Alaska.

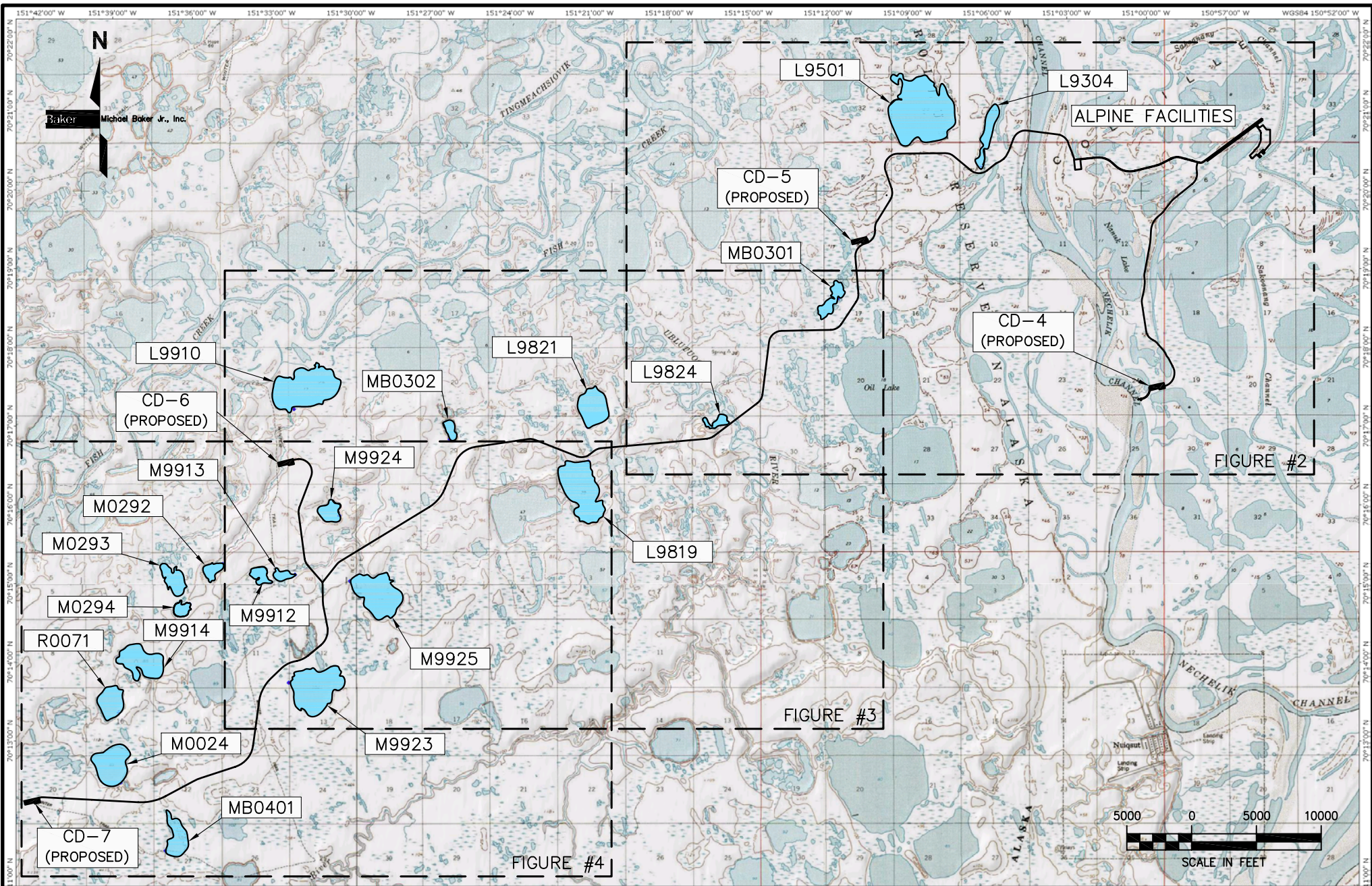
Figures

Figure 1 NPRA 2004 Lake Monitoring Program Site Map

Figure 2 NPRA 2004 Lake Monitoring Northern Study Area

Figure 3 NPRA 2004 Lake Monitoring Central Study Area

Figure 4 NPRA 2004 Lake Monitoring Southern Study Area

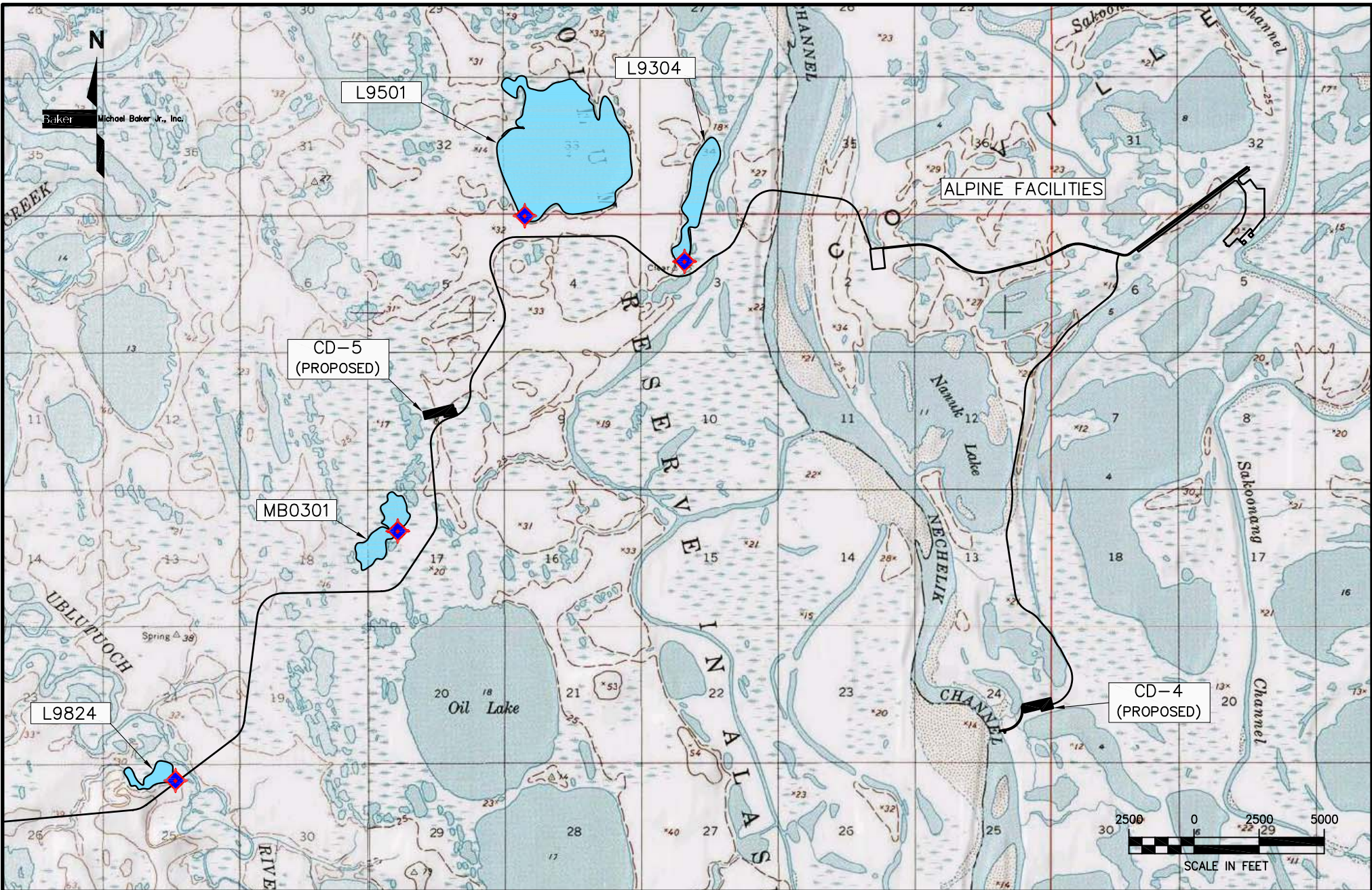


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**2004 NPRA LAKE MONITORING PROGRAM
 SITE MAP**

DATE: 11/22/04	PROJECT: 2004 NPRA LAKE MONITORING
DRAWN: WAP	FILE: 2004 NPRA LAKE MONITORING.dwg
CHECKED: MDC	SCALE: SEE SCALE

FIGURE 1



ConocoPhillips

DATE:	11/22/04	PROJECT:	2004 NPRA LAKE MONITORING
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CHECKED:	MDC	SCALE:	SEE SCALE

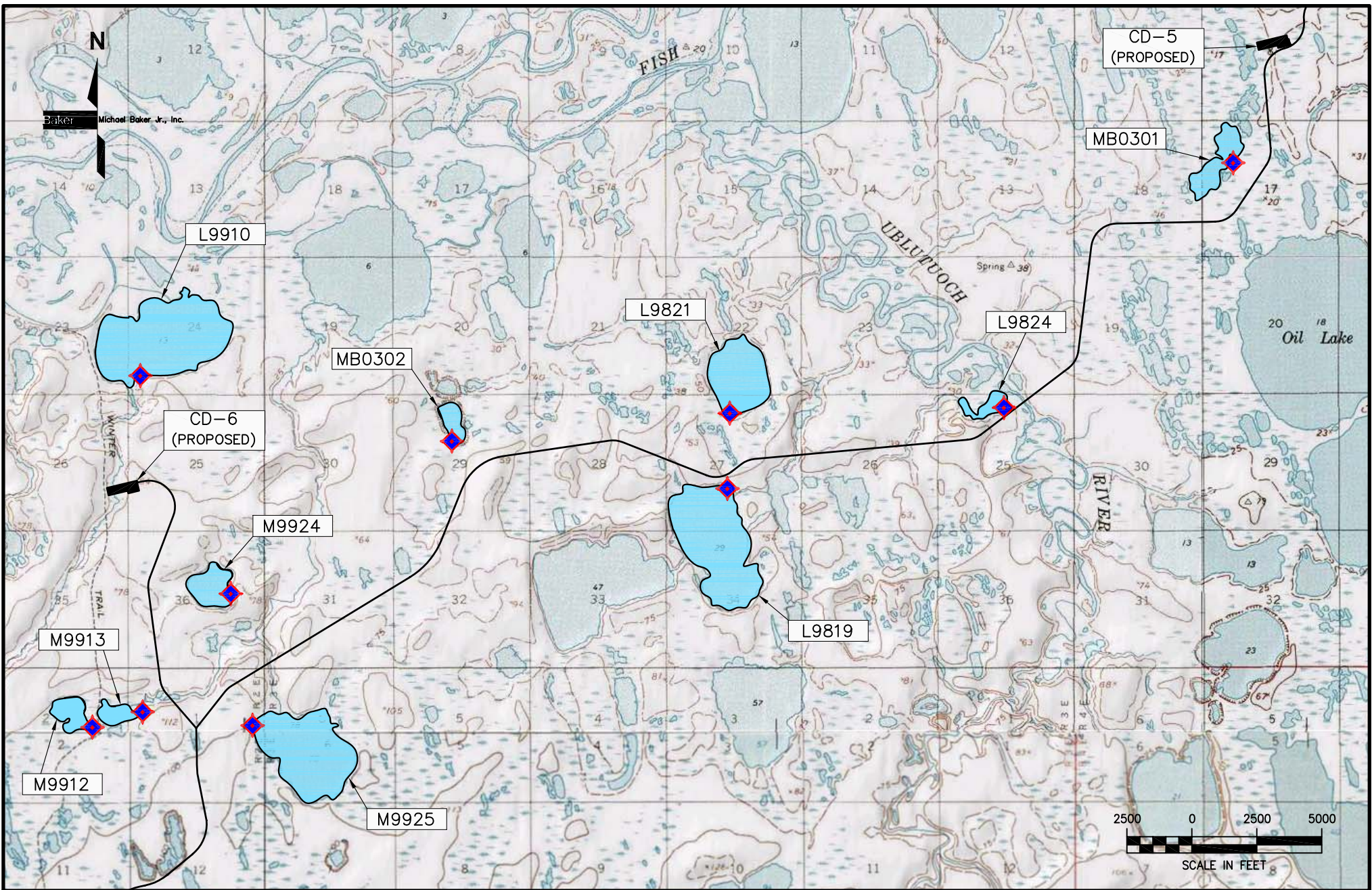
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2004 NPRA LAKE MONITORING PROGRAM
NORTHERN STUDY AREA

◆ - SAMPLING LOCATION

FIGURE 2



DATE:	11/22/04	PROJECT:	2004 NPRA LAKE MONITORING
DRAWN:	WAP	FILE:	2004 NPRA LAKE MONITORING.dwg
CHECKED:	MDC	SCALE:	SEE SCALE

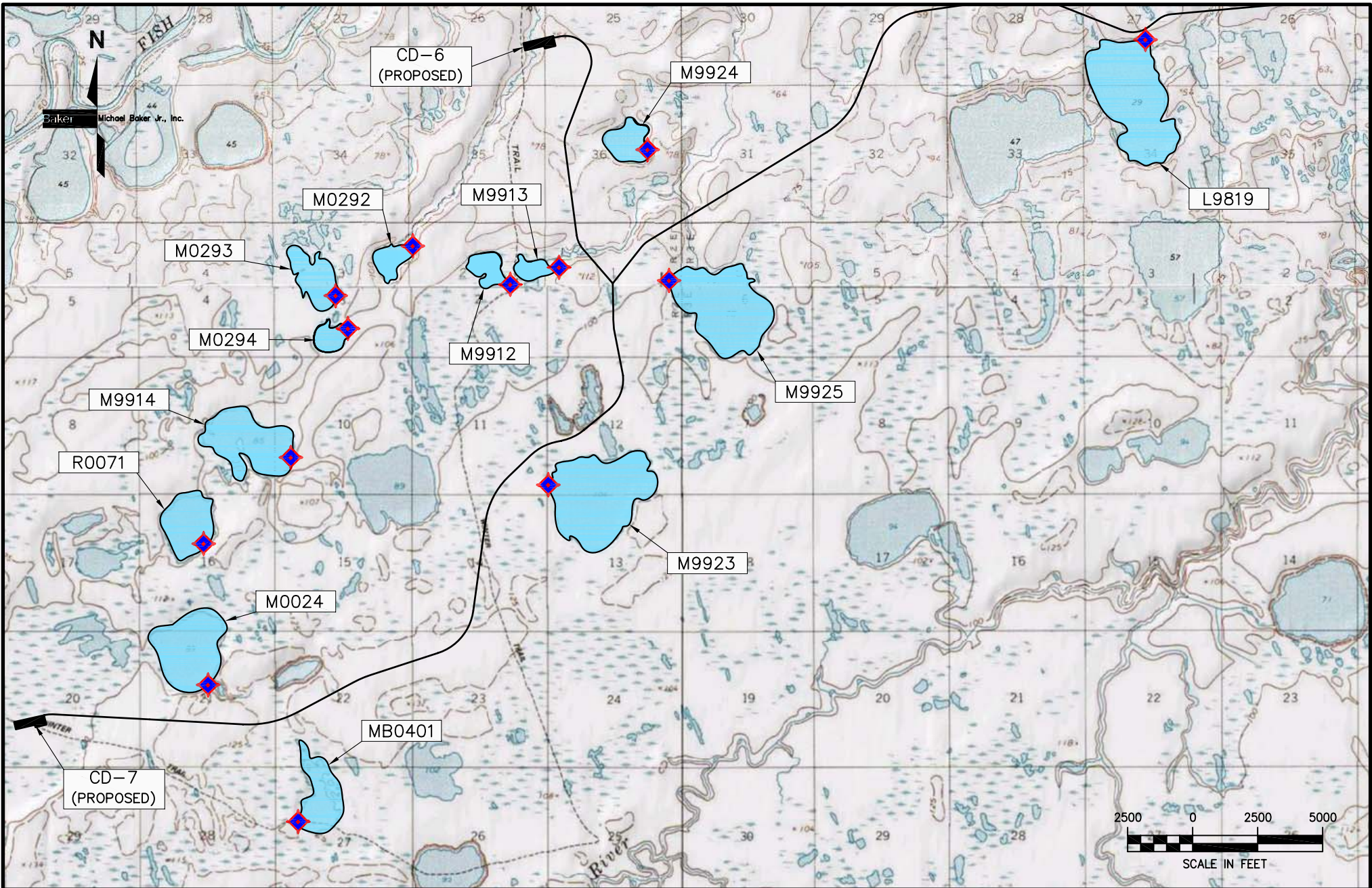


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2004 NPRA LAKE MONITORING PROGRAM
CENTRAL STUDY AREA

◆ - SAMPLING LOCATION

FIGURE 3



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2004 NPRA LAKE MONITORING PROGRAM
SOUTHERN STUDY AREA

◆ - SAMPLING LOCATION

FIGURE 4

DATE:	11/22/04	PROJECT:	2004 NPRA LAKE MONITORING
DRAWN:	WAP	FILE:	2004 NPRA LAKE MONITORING.dwg
CHECKED:	MDC	SCALE:	SEE SCALE

Tables

Table 1 In Situ Water Quality

Table 2 Analytical Results, Dissolved Metals and Anions

Table 3 Analytical Results, Alkalinity, Turbidity, TDS, DRO and RRO

Table 4 Analytical Results, PAH-SIM

NPRA 2004 Lake Monitoring Program

August 2004

Table 1 - In Situ Water Quality

Lake Number	Sample Location	Sample Date	Sample Location Coordinates (NAD83)	Depth at Sample Location (ft)	In Situ Parameters				
					Temp. (°C)	pH	Conductivity (mS/cm)	Salinity (%)	Dissolved Oxygen (mg/L)
L9304	1	9/4/03	70° 20' 17.8" 151° 06' 13.6"	1.0	5.7	6.3	0.153	0.0	11.90
	2	9/4/03	70° 20' 38.7" 151° 05' 51.5"	1.3	5.2	7.4	0.152	0.0	11.53
	3	9/4/03	70° 20' 59.7" 151° 05' 58.4"	1.0	4.7	7.7	0.154	0.0	11.31
	1	8/21/04	70° 20' 17.8" 151° 06' 13.6"	1.0	13	7.8	0.016	0.1	9.54
L9501	1	8/21/04	70° 20' 35.2" 151° 09' 12.7"	Not Recorded	11.4	8.0	0.241	0.2	10.61
MB0301	1	9/4/03	70° 18' 51.8" 151° 11' 38.1"	2.3	4.9	7.9	0.152	0.0	10.58
	2	9/4/03	70° 18' 36.8" 151° 11' 39.2"	1.3	4.8	7.9	0.156	0.0	11.88
	3	9/4/03	70° 18' 28.1" 151° 12' 23.4"	2.0	5.0	7.9	0.157	0.0	10.91
	2	8/21/04	70° 18' 36.8" 151° 11' 39.2"	1.3	12.0	7.8	0.149	0.1	9.82
L9824	1	9/4/03	70° 17' 02.6" 151° 15' 47.9"	2.1	5.2	7.6	0.049	0.0	11.73
	2	9/4/03	70° 17' 04.1" 151° 16' 13.7"	2.1	5.5	7.5	0.051	0.0	11.13
	3	9/4/03	70° 17' 09.1" 151° 16' 40.9"	0.5	5.3	7.2	0.074	0.0	10.18
	1	8/21/04	70° 17' 02.6" 151° 15' 47.9"	2.1	13.3	8.0	0.054	0.0	9.68
L9821	1	9/4/03	70° 17' 11.8" 151° 20' 20.3"	1.4	4.6	7.9	0.143	0.0	11.92
	2	9/4/03	70° 16' 59.0" 151° 21' 05.0"	1.2	4.6	7.9	0.144	0.0	11.80
	3	9/4/03	70° 17' 24.9" 151° 21' 15.2"	1.5	4.9	8.0	0.145	0.0	10.07
	2	8/21/04	70° 16' 59.0" 151° 21' 05.0"	1.2	11.7	7.8	0.145	0.1	9.91

Table 1 - In Situ Water Quality (Continued)

August 2004

Lake Number	Sample Location	Sample Date	Sample Location Coordinates (NAD83)	Depth at Sample Location (ft)	In Situ Parameters				
					Temp. (°C)	pH	Conductivity (mS/cm)	Salinity (%)	Dissolved Oxygen (mg/L)
L9819	1	9/4/03	70° 16' 32.7" 151° 21' 03.0"	0.8	5.3	7.8	0.096	0.0	11.57
	2	9/4/03	70° 15' 50.7" 151° 20' 37.2"	0.9	5.1	7.9	0.096	0.0	12.05
	3	9/4/03	70° 16' 07.4" 151° 21' 56.6"	1.0	5.5	7.9	0.096	0.0	11.05
	1	8/21/04	70° 16' 32.7" 151° 21' 03.0"	0.8	12.4	7.7	0.106	0.1	9.06
MB0302	1	9/4/03	70° 16' 56.9" 151° 26' 10.1"	2.9	5.3	7.6	0.076	0.0	10.92
	2	9/4/03	70° 16' 49.8" 151° 26' 18.0"	0.8	5.4	7.4	0.074	0.0	9.33
	3	9/4/03	70° 17' 01.8" 151° 26' 36.0"	0.9	5.5	7.6	0.072	0.0	10.77
	2	8/20/04	70° 16' 49.8" 151° 26' 18.0"	0.8	14.5	8.1	0.085	0.1	8.86
M9925	1	8/20/04	70° 15' 01.8" 151° 30' 03.0"	Not Recorded	12.8	8.1	0.219	0.1	10.98
M9924	1	9/5/03	70° 16' 00.5" 151° 30' 39.6"	1.9	4.4	8.0	0.144	0.0	10.41
	2	9/5/03	70° 15' 51.3" 151° 30' 27.6"	0.8	3.5	8.0	0.137	0.0	12.15
	3	9/5/03	70° 15' 55.1" 151° 31' 14.9"	0.9	4.1	7.4	0.105	0.0	8.68
	2	8/20/04	70° 15' 51.3" 151° 30' 27.6"	0.8	14.3	8.1	0.155	0.1	11.01
M9923	1	8/20/104	70° 13' 44.1" 151° 32' 22.3"	Not Recorded	14.1	8.1	0.198	0.1	10.44
L9910	1	9/5/03	70° 17' 12.6" 151° 32' 10.2"	1.3	3.5	7.8	0.101	0.0	12.22
	2	9/5/03	70° 17' 35.0" 151° 30' 22.1"	1.3	3.6	7.8	0.110	0.0	12.04
	3	9/5/03	70° 17' 36.6" 151° 32' 11.4"	0.7	3.1	8.1	0.112	0.0	12.11
	1	8/20/04	70° 17' 12.6" 151° 32' 10.2"	1.3	13.9	7.9	0.117	0.1	10.47

Table 1 - In Situ Water Quality (Continued)

August 2004

Lake Number	Sample Location	Sample Date	Sample Location Coordinates (NAD83)	Depth at Sample Location (ft)	In Situ Parameters				
					Temp. (°C)	pH	Conductivity (mS/cm)	Salinity (%)	Dissolved Oxygen (mg/L)
M9913	1	9/5/03	70° 15' 09.8" 151° 32' 41.5"	0.7	3.1	7.7	0.085	0.0	10.78
	2	9/5/03	70° 15' 06.4" 151° 32' 07.4"	1.3	3.9	7.5	0.087	0.0	11.73
	3	9/5/03	70° 15' 02.9" 151° 32' 37.8"	1.1	4.0	7.5	0.092	0.0	10.45
	2	8/20/04	70° 15' 06.4" 151° 32' 07.4"	1.3	15.2	7.6	0.098	0.1	9.88
M9912	1	9/5/03	70° 15' 01.0" 151° 33' 01.8"	1.0	4.5	7.5	0.077	0.0	11.73
	2	9/5/03	70° 15' 12.4" 151° 33' 20.5"	1.1	4.7	7.4	0.076	0.0	11.36
	3	9/5/03	70° 15' 11.1" 151° 33' 50.4"	1.3	4.9	7.3	0.075	0.0	9.12
	1	8/20/04	70° 15' 01.0" 151° 33' 01.8"	1.0	14.9	7.3	0.092	0.1	8.65
M0292	1	9/5/03	70° 15' 14.7" 151° 34' 51.7"	0.8	4.6	5.5	0.083	0.0	12.15
	2	9/5/03	70° 15' 03.5" 151° 35' 08.3"	0.8	4.5	6.9	0.085	0.0	12.10
	3	9/5/03	70° 15' 12.7" 151° 35' 29.5"	1.3	5.2	7.3	0.085	0.0	10.35
	1	8/20/04	70° 15' 14.7" 151° 34' 51.7"	0.8	15.4	8.0	0.083	0.1	10.12
M0293	1	9/5/03	70° 15' 09.8" 151° 36' 27.7"	0.9	3.5	7.5	0.065	0.0	12.24
	2	9/5/03	70° 14' 56.5" 151° 36' 19.4"	1.6	3.4	7.4	0.061	0.0	11.64
	3	9/5/03	70° 15' 04.0" 151° 36' 59.4"	0.9	4.1	7.3	0.065	0.0	10.53
	2	8/20/04	70° 14' 56.5" 151° 36' 19.4"	1.6	13.3	8.0	0.069	0.0	10.75

Table 1 - In Situ Water Quality (Continued)

August 2004

Lake Number	Sample Location	Sample Date	Sample Location Coordinates (NAD83)	Depth at Sample Location (ft)	In Situ Parameters				
					Temp. (°C)	pH	Conductivity (mS/cm)	Salinity (%)	Dissolved Oxygen (mg/L)
M0294	1	9/5/03	70° 14' 44.0" 151° 36' 06.7"	0.8	5.0	7.6	0.057	0.0	12.02
	2	9/5/03	70° 14' 35.4" 151° 36' 19.1"	1.6	5.1	7.4	0.059	0.0	9.51
	3	9/5/03	70° 14' 39.0" 151° 36' 46.7"	1.4	5.4	7.5	0.059	0.0	9.73
	1	8/20/04	70° 14' 44.0" 151° 36' 06.7"	0.8	15.0	8.2	0.068	0.0	8.9
M9914	1	9/5/03	70° 13' 54.2" 151° 37' 10.0"	1.9	4.8	7.5	0.062	0.0	11.86
	2	9/5/03	70° 13' 54.6" 151° 38' 31.8"	0.5	5.5	7.3	0.062	0.0	9.34
	3	9/5/03	70° 14' 12.5" 151° 38' 12.2"	1.9	5.3	7.1	0.059	0.0	11.16
	1	8/20/04	70° 13' 54.2" 151° 37' 10.0"	1.9	15.2	8.1	0.072	0.0	9.68
R0071	1	9/5/03	70° 13' 37.4" 151° 38' 39.6"	0.6	5.3	6.1	0.075	0.0	9.58
	2	9/5/03	70° 13' 30.4" 151° 39' 38.1"	1.1	5.2	6.8	0.076	0.0	8.83
	3	9/5/03	70° 13' 21.5" 151° 38' 47.1"	0.7	4.2	7.3	0.097	0.0	10.66
	3	8/20/04	70° 13' 21.5" 151° 38' 47.1"	0.7	14.2	7.9	0.105	0.1	9.53
M0024	1	9/5/03	70° 12' 51.7" 151° 38' 29.2"	1.1	5.3	7.5	0.077	0.0	12.30
	2	9/5/03	70° 12' 27.9" 151° 38' 42.5"	1.6	4.9	7.5	0.077	0.0	10.60
	3	9/5/03	70° 12' 43.7" 151° 39' 54.3"	1.3	5.4	7.6	0.075	0.0	11.22
	2	8/20/04	70° 12' 27.9" 151° 38' 42.5"	1.6	15.2	8.7	0.081	0.1	9.9
MB0401	1	8/20/04	70° 11' 35.9" 151° 37' 00.7"	Not Recorded	15.0	8.3	0.081	0.1	10.1

Table 2 - Analytical Results, Dissolved Metals and Anions

Lake Number	Sample Location	Sample		Dissolved Metals by SW 6020								Anions by EPA 300		
		Date/Time	Depth (ft)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Iron (mg/L)	Copper (mg/L)	Zinc (mg/L)	Cadmium (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Total Nitrate (mg/L)
L9304	1	9/4/03	1.0	9.3	3.9	17.8	1.1	U (1.0)	U (0.006)	U (0.025)	U (0.002)	37.5	2.5	U (1.0)
	2	9/4/03	1.3	8.0	3.3	15.7	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	37.9	2.4	U (1.0)
	3	9/4/03	1.0	9.3	3.7	17.8	1.0	U (1.0)	U (0.006)	U (0.025)	U (0.002)	38.0	2.5	U (1.0)
	1	8/21/04	1.0	7.9	3.7	20.1	1.2	U (1.0)	U (0.006)	U (0.025)	U (0.002)	41.5	4.2	U (1.0)
	1-Dup	8/21/04	1.0	7.7	3.7	19.6	1.2	U (1.0)	U (0.006)	U (0.025)	U (0.002)	41.7	4.2	U (1.0)
L9501	1	8/21/04	NR	25.5	6.7	25.2	1.4	U(1.0)	U (0.006)	U (0.025)	U (0.002)	73.1	0.5	U (1.0)
MB0301	1	9/4/03	2.3	18.0	4.2	8.1	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	25.2	0.3	U (1.0)
	2	9/4/03	1.3	19.2	4.0	7.3	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	24.8	0.3	U (1.0)
	3	9/4/03	2.0	19.1	4.0	7.4	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	24.7	0.3	U (1.0)
	2	8/21/04	1.3	18.9	4.3	8.0	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	24.6	0.2	U (1.0)
L9824	1	9/4/03	2.1	6.1	1.7	2.7	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	6.4	U (0.1)	U (1.0)
	2	9/4/03	2.1	6.2	1.7	2.6	U (1.0)	U (1.0)	U (0.006)	U (0.025)	0.003	6.4	U (0.1)	U (1.0)
	3	9/4/03	0.5	8.3	2.6	3.8	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	10.0	U (0.1)	U (1.0)
	1	8/21/04	2.1	6.3	1.6	2.4	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	5.9	U (0.1)	U (1.0)
L9821	1	9/4/03	1.4	19.5	3.6	7.3	1.2	U (1.0)	U (0.006)	U (0.025)	0.003	19.4	1.0	U (1.0)
	2	9/4/03	1.2	20.1	3.5	7.1	1.1	U (1.0)	U (0.006)	U (0.025)	U (0.002)	19.3	1.1	U (1.0)
	3	9/4/03	1.5	20.0	3.5	6.8	1.1	U (1.0)	U (0.006)	U (0.025)	U (0.002)	19.3	1.3	U (1.0)
	2	8/21/04	1.2	20.0	3.7	7.5	1.3	U (1.0)	U (0.006)	U (0.025)	U (0.002)	20.3	0.7	U (1.0)

Notes

U = Analyte not detected at detection limit shown in parenthesis

NR = Not recorded

Table 2 - Analytical Results, Dissolved Metals and Anions (Continued)

Lake Number	Sample Location	Sample		Dissolved Metals by SW 6020								Anions by EPA 300		
		Date/Time	Depth (ft)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Iron (mg/L)	Copper (mg/L)	Zinc (mg/L)	Cadmium (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Total Nitrate (mg/L)
L9819	1	9/4/03	0.8	13.4	3.2	4.5	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.9	0.3	U (1.0)
	1 Dup	9/4/03	0.8	12.6	2.9	4.3	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.9	0.3	U (1.0)
	2	9/4/03	0.9	13.3	2.9	4.4	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.8	0.4	U (1.0)
	2 Dup	9/4/03	0.9	12.8	2.9	4.3	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.8	0.3	U (1.0)
	3	9/4/03	1.0	12.5	2.9	4.3	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.9	0.4	U (1.0)
	3 Dup	9/4/03	1.0	11.8	2.9	4.3	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.7	0.3	U (1.0)
	1	8/21/04	0.8	11.5	2.6	3.7	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.0	0.2	U (1.0)
MB0302	1	9/4/03	2.9	6.5	2.0	5.6	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.3	U (0.1)	U (1.0)
	1 Dup	9/4/03	2.9	6.5	2.0	5.6	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.4	U (0.1)	U (1.0)
	2	9/4/03	0.8	7.0	2.2	5.9	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.6	U (0.1)	U (1.0)
	2 Dup	9/4/03	0.8	7.0	2.1	5.8	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.5	U (0.1)	U (1.0)
	3	9/4/03	0.9	6.4	2.1	5.6	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.3	U (0.1)	U (1.0)
	2	8/20/04	0.8	7.8	2.4	6.3	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	16.8	U (0.1)	U (1.0)
M9925	1	8/20/04	NR	29.2	5.4	7.8	1.2	U (1.0)	U (0.006)	U (0.025)	U (0.002)	32.4	1.3	U (1.0)
M9924	1	9/5/03	1.9	13.1	3.0	5.6	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	16.3	0.2	U (1.0)
	2	9/5/03	0.8	17.3	3.7	6.9	1.1	U (1.0)	U (0.006)	U (0.025)	U (0.002)	19.4	0.3	U (1.0)
	3	9/5/03	0.9	16.9	3.6	6.5	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	19.6	0.3	U (1.0)
	2	8/20/04	0.8	19.4	4.1	7.1	1.2	U (1.0)	U (0.006)	U (0.025)	U (0.002)	19.5	0.2	U (1.0)
M9923	1	8/20/04	NR	28.7	4.5	5.0	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	21.0	0.8	U (1.0)

Notes

U = Analyte not detected at detection limit shown in parenthesis

NR = Not recorded

Table 2 - Analytical Results, Dissolved Metals and Anions (Continued)

Lake Number	Sample			Dissolved Metals by SW 6020								Anions by EPA 300		
	Sample Location	Date/Time	Depth (ft)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Iron (mg/L)	Copper (mg/L)	Zinc (mg/L)	Cadmium (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Total Nitrate (mg/L)
L9910	1	9/5/03	1.3	13.2	2.1	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	14.7	0.2	U (1.0)
	2	9/5/03	1.3	17.0	2.1	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.4	0.3	U (1.0)
	3	9/5/03	0.7	15.0	2.0	3.7	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.0	0.3	U (1.0)
	1	8/20/04	1.3	16.2	2.3	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	13.1	0.3	U (1.0)
M9913	1	9/5/03	0.7	10.9	2.6	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.3	0.1	U (1.0)
	2	9/5/03	1.3	10.6	2.6	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.6	U (0.1)	U (1.0)
	3	9/5/03	1.1	8.7	2.2	3.5	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	16.1	U (0.1)	U (1.0)
	2	8/20/04	1.3	11.2	2.7	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.1	U (0.1)	U (1.0)
M9912	1	9/5/03	1.0	8.2	2.2	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.9	U (0.1)	U (1.0)
	2	9/5/03	1.1	8.3	2.2	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.7	U (0.1)	U (1.0)
	3	9/5/03	1.3	8.6	2.4	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.8	U (0.1)	U (1.0)
	1	8/20/04	1.0	9.2	2.5	4.4	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.9	0.1	U (1.0)
M0292	1	9/5/03	0.8	8.6	2.3	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	18.7	U (0.1)	U (1.0)
	2	9/5/03	0.8	8.9	2.2	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	18.4	U (0.1)	U (1.0)
	3	9/5/03	1.3	8.9	2.2	4.1	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	18.0	0.1	1.52
	1	8/20/04	0.8	10.1	2.7	3.9	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.4	0.2	U (1.0)
M0293	1	9/5/03	0.9	6.6	1.7	3.0	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	10.1	U (0.1)	U (1.0)
	2	9/5/03	1.6	6.1	1.6	2.8	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.7	0.1	U (1.0)
	3	9/5/03	0.9	7.2	1.8	3.4	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	10.2	0.1	U (1.0)
	2	8/20/04	1.6	8.4	2.0	3.1	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.3	U (0.1)	U (1.0)

Notes

U = Analyte not detected at detection limit shown in parenthesis

Table 2 - Analytical Results, Dissolved Metals and Anions (Continued)

August 2004

Lake Number	Sample Location	Sample		Dissolved Metals by SW 6020								Anions by EPA 300		
		Date/Time	Depth (ft)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Iron (mg/L)	Copper (mg/L)	Zinc (mg/L)	Cadmium (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Total Nitrate (mg/L)
M0294	1	9/5/03	0.8	7.0	1.7	3.0	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.5	0.1	U (1.0)
	2	9/5/03	1.6	7.2	1.8	3.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.6	0.1	U (1.0)
	3	9/5/03	1.4	7.4	1.8	3.1	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.5	U (0.1)	U (1.0)
	1	8/20/04	0.8	7.7	1.9	3.0	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.0	0.2	U (1.0)
M9914	1	9/5/03	1.9	7.5	1.8	3.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.7	0.1	U (1.0)
	2	9/5/03	0.5	7.2	1.8	3.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.7	0.1	U (1.0)
	3	9/5/03	1.9	7.8	1.8	3.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.8	0.1	U (1.0)
	1	8/20/04	1.9	8.9	2.2	4.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	11.7	U (0.1)	U (1.0)
	1-Dup	8/20/04	1.9	7.9	2.0	3.3	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.5	0.5	U (1.0)
R0071	1	9/5/03	0.6	9.7	2.2	3.6	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	12.1	U (0.1)	U (1.0)
	2	9/5/03	1.1	8.5	2.2	3.6	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	11.5	0.3	U (1.0)
	3	9/5/03	0.7	11.6	2.8	4.1	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	15.2	U (0.1)	U (1.0)
	3	8/20/04	0.7	8.3	2.0	3.4	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	9.4	0.1	U (1.0)
M0024	1	9/5/03	1.1	8.6	2.1	3.9	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	14.5	0.1	U (1.0)
	2	9/5/03	1.6	9.7	2.5	4.1	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	14.8	0.1	U (1.0)
	3	9/5/03	1.3	8.7	2.2	4.0	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	14.5	0.1	U (1.0)
	2	8/20/04	1.6	7.6	1.9	3.2	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	12.7	0.3	U (1.0)
MB0401	1	8/20/04	NR	12.9	3.3	4.3	U (1.0)	U (1.0)	U (0.006)	U (0.025)	U (0.002)	11.8	0.3	U (1.0)

Notes

U = Analyte not detected at detection limit shown in parenthesis

NR = Not recorded

NPRA 2004 Lake Monitoring Program

Table 3 - Analytical Results, Alkalinity, Turbidity, TDS, DRO, RRO

August 2004

Lake Number	Sample Location	Sample		Alkalinity (mg/L)	Turbidity (NTU)	Total Dissolved Solids (mg/L)	Diesel Range Organics (mg/L)	Residual Range Organics (mg/L)
		Date	Depth (ft)					
L9304	1	9/4/03	1.0	35	NR	118	U (0.330)	U (0.549)
	2	9/4/03	1.3	37	NR	120	U (0.316)	U (0.526)
	3	9/4/03	1.0	38	NR	110	U (0.300)	U (0.500)
	1	8/21/04	1.0	28	1.12	96	U(0.309)	U(0.515)
	1-Dup	8/21/04	1.0	28	0.82	99	U(0.313)	U(0.521)
L9501	1	8/21/04	NR	67	2.57	244	U(0.316)	U(0.526)
MB0301	1	9/4/03	2.3	62	NR	135	U (0.316)	U (0.526)
	2	9/4/03	1.3	67	NR	130	U (0.300)	U (0.500)
	3	9/4/03	2.0	68	NR	139	U (0.319)	U (0.532)
	2	8/21/04	1.3	59	2.43	108	U(0.313)	U(0.521)
L9824	1	9/4/03	2.1	24	NR	55	U (0.313)	U (0.521)
	2	9/4/03	2.1	23	NR	65	U (0.309)	U (0.515)
	3	9/4/03	0.5	35	NR	70	U (0.315)	U (0.515)
	1	8/21/04	2.1	25	6.11	31	U(0.309)	U(0.515)
L9821	1	9/4/03	1.4	66	NR	131	U (0.333)	U (0.556)
	2	9/4/03	1.2	66	NR	109	U (0.323)	U (0.538)
	3	9/4/03	1.5	66	NR	133	U (0.326)	U (0.543)
	2	8/21/04	1.2	64	1.81	106	U(0.333)	U(0.556)
L9819	1	9/4/03	0.8	42	NR	101	U (0.300)	U (0.500)
	1 Dup	9/4/03	0.8	42	NR	95	U (0.313)	U (0.521)
	2	9/4/03	0.9	46	NR	96	U (0.330)	U (0.549)
	2 Dup	9/4/03	0.9	46	NR	94	U (0.306)	U (0.510)
	3	9/4/03	1.0	43	NR	74	U (0.345)	U (0.575)
	3 Dup	9/4/03	1.0	43	NR	63	U (0.341)	U (0.568)
	1	8/21/04	0.8	40	3.26	71	U(0.319)	U(0.532)

Notes

U = Analyte not detected at detection limit shown in parenthesis

NR - Not recorded

Table 3 - Analytical Results, Alkalinity, Turbidity, TDS, DRO, RRO (Continued)

August 2004

Lake Number	Sample Location	Sample		Alkalinity (mg/L)	Turbidity (NTU)	Total Dissolved Solids (mg/L)	Diesel Range Organics (mg/L)	Residual Range Organics (mg/L)
		Date	Depth (ft)					
MB0302	1	9/4/03	2.9	23	NR	79	U (0.313)	U (0.521)
	1 Dup	9/4/03	2.9	23	NR	63	U (0.309)	U (0.515)
	2	9/4/03	0.8	23	NR	83	U (0.337)	U (0.562)
	2 Dup	9/4/03	0.8	23	NR	56	U (0.353)	U (0.588)
	3	9/4/03	0.9	24	NR	65	U (0.300)	U (0.500)
	2	8/20/04	0.8	25	9.65	55	U(0.316)	U(0.526)
M9925	1	8/20/04	NR	88	8.43	170	U(0.313)	U(0.521)
M9924	1	9/5/03	1.9	44	NR	96	U (0.326)	U (0.543)
	2	9/5/03	0.8	61	NR	106	U (0.326)	U (0.543)
	3	9/5/03	0.9	61	NR	116	U (0.323)	U (0.538)
	2	8/20/04	0.8	62	1.72	128	U(0.306)	0.812
M9923	1	8/20/04	NR	90	2.88	141	U(0.309)	U(0.515)
L9910	1	9/5/03	1.3	46	NR	81	U (0.353)	U (0.588)
	2	9/5/03	1.3	56	NR	86	U (0.309)	U (0.515)
	3	9/5/03	0.7	60	NR	90	U (0.300)	U (0.500)
	1	8/20/04	1.3	52	17.0	84	U(0.303)	U(0.505)
M9913	1	9/5/03	0.7	38	NR	86	U (0.316)	U (0.526)
	2	9/5/03	1.3	33	NR	69	U (0.316)	U (0.526)
	3	9/5/03	1.1	33	NR	65	U (0.300)	U (0.500)
	2	8/20/04	1.3	34	1.63	61	U(0.306)	U(0.510)
M9912	1	9/5/03	1.0	27	NR	69	U (0.297)	U (0.495)
	2	9/5/03	1.1	27	NR	71	U (0.319)	U (0.532)
	3	9/5/03	1.3	26	NR	U (50)	U (0.309)	U (0.515)
	1	8/20/04	1.0	26	1.60	61	U(0.306)	U(0.510)
M0292	1	9/5/03	0.8	28	NR	76	U (0.316)	U (0.526)
	2	9/5/03	0.8	27	NR	75	U (0.297)	U (0.495)
	3	9/5/03	1.3	30	NR	83	U (0.300)	U (0.500)
	1	8/20/04	0.8	29	8.22	64	U(0.323)	U(0.538)

Notes

U = Analyte not detected at detection limit shown in parenthesis

NR - Not recorded

NPRA 2004 Lake Monitoring Program

Table 3 - Analytical Results, Alkalinity, Turbidity, TDS, DRO, RRO (Continued)

August 2004

Lake Number	Sample Location	Sample		Alkalinity (mg/L)	Turbidity (NTU)	Total Dissolved Solids (mg/L)	Diesel Range Organics (mg/L)	Residual Range Organics (mg/L)
		Date	Depth (ft)					
M0293	1	9/5/03	0.9	30	NR	54	U (0.313)	U (0.521)
	2	9/5/03	1.6	25	NR	U (50)	U (0.323)	U (0.538)
	3	9/5/03	0.9	30	NR	53	U (0.300)	U (0.500)
	2	8/20/04	1.6	28	1.92	38	U(0.316)	U(0.526)
M0294	1	9/5/03	0.8	25	NR	69	U (0.333)	U (0.556)
	2	9/5/03	1.6	27	NR	U (50)	U (0.316)	U (0.526)
	3	9/5/03	1.4	25	NR	58	U (0.306)	U (0.510)
	1	8/20/04	0.8	25	4.38	38	U(0.306)	U(0.510)
M9914	1	9/5/03	1.9	27	NR	61	U (0.316)	U (0.526)
	2	9/5/03	0.5	28	NR	60	U (0.306)	U (0.510)
	3	9/5/03	1.9	28	NR	U (50)	U (0.300)	U (0.500)
	1	8/20/04	1.0	29	8.82	55	0.592	0.529
	1-Dup	8/20/04	1.0	27	1.66	49	U(0.319)	U(0.532)
R0071	1	9/5/03	0.6	34	NR	79	U (0.300)	U (0.500)
	2	9/5/03	1.1	34	NR	65	U (0.300)	U (0.500)
	3	9/5/03	0.7	44	NR	89	U (0.300)	U (0.500)
	3	8/20/04	0.7	27	1.56	51	U(0.309)	U(0.515)
M0024	1	9/5/03	1.1	31	NR	65	U (0.300)	U (0.500)
	2	9/5/03	1.6	32	NR	68	U (0.300)	U (0.500)
	3	9/5/03	1.3	33	NR	59	U (0.300)	U (0.500)
	2	8/20/04	1.6	28	0.79	53	U(0.306)	U(0.510)
MB0401	1	8/20/04	NR	44	8.76	83	U(0.326)	U(0.543)

Notes

U = Analyte not detected at detection limit shown in parenthesis

NR - Not recorded

Table 4 - Analytical Results, PAH-SIM

Lake Number	Sample Location	Sample Date	Detection Limit (ug/L)	Polynuclear Aromatic Hydrocarbons by Selective Ion Monitoring (ug/L)															
				Acenaphthylene	Acenaphthene	Fluorene	Naphthalene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b)Fluoranthene	Benzo(k)fluoranthene	Benzo(a)Pyrene	Indeno(1,2,3-c,d) pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene
L9304	1	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/4/03	0.0495	U	U	U	0.37 ¹	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	1	8/21/04	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	1-Dup	8/21/04	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
L9501	1	8/21/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
MB0301	1	9/4/03	0.0543	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/4/03	0.0500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/4/03	0.0526	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	8/21/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
L9824	1	9/4/03	0.0500	U	U	U	0.25 ¹	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/4/03	0.0562	U	U	U	0.24 ¹	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/4/03	0.0495	U	U	U	0.14 ¹	U	U	U	U	U	U	U	U	U	U	U	U
	1	8/21/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
L9821	1	9/4/03	0.0610	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/4/03	0.0575	U	U	U	0.14 ¹	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	1	8/21/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
L9819	1	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	1 Dup	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/4/03	0.0538	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2 Dup	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/4/03	0.0532	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3 Dup	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1	8/21/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	

Notes

1. Probable cross contamination in extraction procedure. Method blank was non-detect for naphthalene
 2. Probable cross contamination in extraction procedure. Method blank was contaminated with naphthalene
- U = Analyte not detected at detection limit shown in third column

Table 4 - Analytical Results, PAH-SIM (Continued)

Lake Number	Sample Location	Sample Date	Detection Limit (ug/L)	Polynuclear Aromatic Hydrocarbons by Selective Ion Monitoring (ug/L)															
				Acenaphthylene	Acenaphthene	Fluorene	Naphthalene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b)Fluoranthene	Benzo(k)fluoranthene	Benzo(a)Pyrene	Indeno(1,2,3-c,d) pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,l)perylene
MB0302	1	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	1 Dup	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/4/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2 Dup	9/4/03	0.0532	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/4/03	0.0500	U	U	U	0.05	U	U	U	U	U	U	U	U	U	U	U	U
	2	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
M9925	2	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
M9924	1	9/5/03	0.0500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
M9923	1	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
L9910	1	9/5/03	0.0500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0538	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0500	U	U	U	0.76 ²	U	U	U	U	U	U	U	U	U	U	U	U
	1	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
M9913	1	9/5/03	0.0510	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0526	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0521	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
M9912	1	9/5/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0543	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0495	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	1	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

Notes

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- U = Analyte not detected at detection limit shown in third column

Table 4 - Analytical Results, PAH-SIM (Continued)

Lake Number	Sample Location	Sample Date	Detection Limit (ug/L)	Polynuclear Aromatic Hydrocarbons by Selective Ion Monitoring (ug/L)															
				Acenaphthylene	Acenaphthene	Fluorene	Naphthalene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)Anthracene	Chrysene	Benzo(b)Fluoranthene	Benzo(k)fluoranthene	Benzo(a)Pyrene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene
M0292	1	9/5/03	0.0538	U	U	U	0.19 ²	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0500	U	U	U	0.08 ²	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0556	U	U	U	0.15 ²	U	U	U	U	U	U	U	U	U	U	U	U
	1	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
M0293	1	9/5/03	0.0549	U	U	U	0.06 ²	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0521	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0556	U	U	U	0.06 ²	U	U	U	U	U	U	U	U	U	U	U	U
	2	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
M0294	1	9/5/03	0.0510	U	U	U	0.08 ²	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0510	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0505	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	1	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
M9914	1	9/5/03	0.0532	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0515	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	1	8/20/04	0.05 to 0.1	U	U	U	0.107 ²	U	U	U	U	U	U	U	U	U	U	U	U
	1-Dup	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
R0071	1	9/5/03	0.0538	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0500	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	3	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
M0024	1	9/5/03	0.0515	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
	2	9/5/03	0.0495	U	U	U	0.14 ²	U	U	U	U	U	U	U	U	U	U	U	U
	3	9/5/03	0.0500	U	U	U	0.28 ²	U	U	U	U	U	U	U	U	U	U	U	U
	2	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
MB0401	1	8/20/04	0.05 to 0.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

Notes

1. Probable cross contamination in extraction procedure. Method blank was non-detect for naphthalene
2. Probable cross contamination in extraction procedure. Method blank was contaminated with naphthalene

U = Analyte not detected at detection limit shown in third column

Appendix A Laboratory Analytical Data



Laboratory Analysis Report

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.sgsevenvironmental.com>

Mike Cox
Michael Baker Jr., Inc.
4601 Business Pk Blvd., #42
Anchorage, AK 99503

Work Order:	1045416 NPRA Lakes
Client:	Michael Baker Jr., Inc.
Report Date:	September 24, 2004

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Control Manual that outlines this program is available at your request. The laboratory ADEC certification numbers are AK08-03 (DW), UST-005 (CS) and AK00971 (Micro).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS Quality Assurance Program Plan and the National Environmental Laboratory Accreditation Conference.

If you have any questions regarding this report or if we can be of any other assistance, please call your SGS Project Manager a (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- PQL Practical Quantitation Limit (reporting limit).
- U Indicates the analyte was analyzed for but not detected.
- F Indicates an estimated value that falls below PQL, but is greater than the MDL.
- J The quantitation is an estimation.
- B Indicates the analyte is found in a blank associated with the sample.
- * The analyte has exceeded allowable regulatory or control limits.
- GT Greater Than
- D The analyte concentration is the result of a dilution.
- LT Less Than
- ! Surrogate out of control limits.
- Q QC parameter out of acceptance range.
- M A matrix effect was present.
- JL The analyte was positively identified, but the quantitation is a low estimation.
- E The analyte result is high outside of calibrated range.

Note: Soil samples are reported on a dry weight basis unless otherwise specified



SGS Ref.# 1045416001
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M0292
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/20/2004 18:12
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Foster*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.
 EP 300.0 - Detectable amount of chloride and sulfate in the calibration blank; the concentration of these analytes in the sample is 10X greater.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	3910	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	10100	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2660	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.166	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Alkalinity	28.5	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	15.4	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Total Dissolved Solids	63.8	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/05/04		BJA
Turbidity	8.22	0.100	NTU	SM20 2130B	D		08/24/04		KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.323 U	0.323	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Residual Range Organics	0.538 U	0.538	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

5a Androstane <surr>	74.9		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
n-Triacontane-d62 <surr>	84.1		%	AK102/103	E	50-150	08/26/04	08/27/04	JC



SGS Ref.# 1045416001
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M0292
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/20/2004 18:12
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	63.2		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surr/IS>	66.7		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surr/IS>	92.4		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM



SGS Ref.# 1045416002
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID M0293
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/20/2004 18:06
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Released By *Sharon Foster*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.
EP 300.0 - Detectable amount of chloride in the calibration blank; the concentration of chloride in the sample is 10X greater.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	3100	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	8390	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2020	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.100 U	0.100	mg/L	EPA 300.0	B		09/13/04		JJB
Alkalinity	27.5	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	9.26	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Total Dissolved Solids	37.5	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/05/04		BJA
Turbidity	1.92	0.100	NTU	SM20 2130B	D		08/24/04		KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.316 U	0.316	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Residual Range Organics	0.526 U	0.526	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

5a Androstane <surr>	71.1		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
n-Triacontane-d62 <surr>	85.1		%	AK102/103	E	50-150	08/26/04	08/27/04	JC

Polynuclear Aromatics GC/MS



SGS Ref.# 1045416002
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID M0293
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/20/2004 18:06
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	56.6		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surr/IS>	71.2		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surr/IS>	95.3		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM



SGS Ref.# 1045416003
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M9912
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/20/2004 18:12
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Foster*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.
 EP 300.0 - Detectable amount of chloride in the calibration blank; the concentration of this analyte in the sample is 10X greater.
 EP 300.0 - Sample was analyzed past 28 day hold time for sulfate.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	4370	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	9170	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2460	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.132	0.100	mg/L	EPA 300.0	B		09/20/04		JJB
Alkalinity	26.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	15.9	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Total Dissolved Solids	61.3	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/05/04		BJA
Turbidity	1.60	0.100	NTU	SM20 2130B	D		08/24/04		KC

Semivolatile Organic Fuels Department

Residual Range Organics	0.510 U	0.510	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Diesel Range Organics	0.306 U	0.306	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

n-Triacontane-d62 <surr>	83.3		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
5a Androstane <surr>	74.8		%	AK102/103	E	50-150	08/26/04	08/27/04	JC



SGS Ref.# 1045416003
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M9912
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/20/2004 18:12
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Acenaphthylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Naphthalene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surrogate>	74.7		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surrogate>	82.6		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surrogate>	98.8		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM



SGS Ref.# 1045416004
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M9913
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/20/2004 18:13
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Foster*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.
 EP 300.0 - Detectable amount of chloride in the calibration blank; the concentration of this analyte in the sample is 10X greater.
 EP 300.0 - Sample was analyzed past 28 day hold time for sulfate.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	4180	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	11200	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2650	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.100 U	0.100	mg/L	EPA 300.0	B			09/20/04	JJB
Alkalinity	33.5	10.0	mg/L	SM20 2320B	D			08/26/04	KA
Chloride	15.1	0.100	mg/L	EPA 300.0	B			09/04/04	BJA
Total Dissolved Solids	61.3	10.0	mg/L	SM20 2540C	D			08/25/04	KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A			09/05/04	BJA
Turbidity	1.63	0.100	NTU	SM20 2130B	D			08/24/04	KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.306 U	0.306	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Residual Range Organics	0.510 U	0.510	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

5a Androstane <surr>	65.5		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
n-Triacontane-d62 <surr>	90.9		%	AK102/103	E	50-150	08/26/04	08/27/04	JC



SGS Ref.# 1045416004
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID M9913
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/20/2004 18:13
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthylene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.110 U	0.110	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.110 U	0.110	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	76.9		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surr/IS>	86.2		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surr/IS>	100		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM



SGS Ref.# 1045416005
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M0294
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/20/2004 17:55
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shane Poston*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	3020	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	7710	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	1910	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.165	0.100	mg/L	EPA 300.0	B			09/04/04	BJA
Alkalinity	24.5	10.0	mg/L	SM20 2320B	D			08/26/04	KA
Chloride	9.00	0.100	mg/L	EPA 300.0	B			09/04/04	BJA
Total Dissolved Solids	37.5	10.0	mg/L	SM20 2540C	D			08/25/04	KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A			09/05/04	BJA
Turbidity	4.38	0.100	NTU	SM20 2130B	D			08/24/04	KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.306 U	0.306	mg/L	AK102/103	E			08/26/04	08/27/04	JC
Residual Range Organics	0.510 U	0.510	mg/L	AK102/103	E			08/26/04	08/27/04	JC

Surrogates

5a Androstane <surr>	72.1		%	AK102/103	E	50-150		08/26/04	08/27/04	JC
n-Triacontane-d62 <surr>	77.3		%	AK102/103	E	50-150		08/26/04	08/27/04	JC

Polynuclear Aromatics GC/MS

Naphthalene	0.0505 U	0.0505	ug/L	GC/MS SIM	G			08/26/04	09/01/04	KWM
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SGS Ref.# 1045416005
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M0294
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/20/2004 17:55
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Acenaphthylene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.101 U	0.101	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.101 U	0.101	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0505 U	0.0505	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	56.1		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surr/IS>	68.1		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surr/IS>	93		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM

1045416



CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
Laboratory Division

1 CLIENT: Michael Baker PHONE NO: (273-1639) PWSID#: _____
 CONTACT: Mike Cox PROJECT: NPRA Lakes
 REPORTS TO: Mike Cox FAX NO: (273-1699)
 INVOICE TO: 11 QUOTE# _____ P.O. NUMBER: _____

CT&E Reference: _____ PAGE 1 OF 2

No.	CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Matrix	Date	Time	Matrix	Preservatives Used		REMARKS
							Analysis Required	③	
①	AD	M0292	H ₂ O	8/24/04	1812	H ₂ O	X	X	Aluminum Turbidity TDS NO ₃ -TOTAL SO ₄ -CL by 300 Dissolved Metals
②		M0293			1806		X	X	
③		M9912			1812		X	X	
④		M9913			1813		X	X	
⑤		M0294			1755		X	X	
		M80401			1727		X	X	
		LD 001			1750		X	X	
		M0024			1717		X	X	
		M9914			1743		X	X	
		ROOT			1737		X	X	

Shipping Carrier: 7 Temperature C: TS = 3.2
 Shipping Ticket No: _____ Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
 Data Deliverables: _____
 Level I Level II Level III EDD Type: _____
 Requested Turnaround Time and Special Instructions: LAB FILES - METALS

5

Collected/Relinquished By: (1)	Date	Time	Received By:	Time
<u>MBC</u>				
Relinquished By: (2)	Date	Time	Received By:	Time
Relinquished By: (3)	Date	Time	Received By:	Time
Relinquished By: (4)	Date	Time	Received For Laboratory By:	Time
	<u>8/24/04</u>	<u>1230</u>	<u>[Signature]</u>	

with 1045420

CHAIN OF CUSTODY RECORD

1045416



CT&E Environmental Services Inc.
Laboratory Division

1 CLIENT: Michael Baker
 CONTACT: Mike Cox PHONE NO: () 273-1639
 PROJECT: NPRA LAKES PWSID#: _____
 REPORTS TO: Mike Cox FAX NO: () 273-1699
 INVOICE TO: 11 QUOTE# _____
 P.O. NUMBER: _____

CT&E Reference:

No. CONTAINERS
 SAMPLE TYPE
 C = COMP
 G = GRAB

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	REMARKS
②	M0293	8/20/04	1806	H2O	
①	M0292		1812		
④	M9913		1813		
③	M9912		1820		
⑤	M0294		1755		

Preservatives Used
 Analysis Required **③**
 DRO/PERO

4

Collected/Relinquished By: (1)	Date	Time	Received By:
<u>[Signature]</u>			
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:
	8/24/04	1220	<u>[Signature]</u>

Shipping Carrier: Boo/er?
 Shipping Ticket No:
 Data Deliverables:
 Level I Level II Level III EDD Type:
 Requested Turnaround Time and Special Instructions:
 Temperature C: 16.2.1 / C: 5.6
 Chain of Custody Seal: (Circle) **INTACT BROKEN ABSENT**



CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
 Laboratory Division

BY SIGNING THIS FORM YOU ARE CERTIFYING THAT YOU ARE AN EMPLOYEE OF CT&E ENVIRONMENTAL SERVICES INC. AND THAT YOU ARE AUTHORIZED TO SIGN THIS FORM ON BEHALF OF YOUR EMPLOYER.

1 CLIENT: Michael Baker
 CONTACT: Mike Cox PHONE NO: (907) 273-1639
 PROJECT: NPRA LAKE PWSID#:
 REPORTS TO: Mike Cox FAX NO: () 273-1699
 INVOICE TO: Mike Cox QUOTE#
 P.O. NUMBER:

CT&E Reference:

No.	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
C O N T A I N E R S	C = COMP G = GRAB		(3)	
4	GFH		X	H ₂ O
3	M9912		X	1813
5	M0297		X	1820
3	M0293		X	1755
1	M0292		X	1806
			X	1812

PAH-SIM

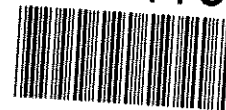
2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX
		8/29/04	1813	H ₂ O
			1820	
			1755	
			1806	
			1812	

5

Collected/Relinquished By: (1) Mede Date _____ Time _____ Received By: _____
 Relinquished By: (2) _____ Date _____ Time _____ Received By: _____
 Relinquished By: (3) _____ Date _____ Time _____ Received By: _____
 Relinquished By: (4) _____ Date 8/29/04 Time 1230 Received For Laboratory By: [Signature]

4 Shipping Carrier: POORWA 10 Temperature C: 18=1.1 / C=34
 Shipping Ticket No: _____ Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
 Data Deliverables: _____ Level I Level II Level III EDD Type:
 Requested Turnaround Time and Special Instructions:



SAMPLE RECEIPT FORM

SGS WO#:

Yes No NA

- Are samples **RUSH**, priority, or w/n 72 hrs. of **hold time**?
- called* If yes have you done e-mail notification?
- Are samples *within* 24 hrs. of **hold time** or due date?
- If yes, have you spoken with Supervisor?
- Archiving bottles - if req., are they properly marked?
- Are there any **problems**? PM Notified? _____
- Were samples preserved correctly and pH verified?
** turbidity past hold time*
- If this is for PWS, provide **PWSID**. _____
- Will courier charges apply?
- Method of payment? _____
- Data package required? (Level: 1 / 2 / 3 / 4)
- Notes: _____
- Is this a DoD project? (USACE, Navy, AFCEE)

Due Date: July 9-2-04
 Received Date: 8-24-04
 Received Time: 1230
 Is date/time conversion necessary? N
 # of hours to AK Local Time: _____

Thermometer ID: 5D

Cooler ID	Temp Blank	Cooler Temp
<u>7</u>	<u>3.2</u> °C	<u>3.9</u> °C
<u>9</u>	<u>2.1</u> °C	<u>5.6</u> °C
<u>10</u>	<u>1.4</u> °C	<u>3.4</u> °C
_____	_____ °C	_____ °C
_____	_____ °C	_____ °C

*Temperature readings include thermometer correction factors

Delivery method (circle all that apply): Client
 Alert Courier / UPS / FedEx / USPS /
 AA Goldstreak / NAC / ERA / PenAir / Carlite
 Lynden / SGS / Other: _____

Airbill # _____
 Additional Sample Remarks: (✓ if applicable)
 _____ Extra Sample Volume?
 _____ Limited Sample Volume?
 Field preserved for volatiles?
 Field-filtered for dissolved?
 Lab-filtered for dissolved?
 _____ Ref Lab required?
 _____ Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

- Yes No
- Is received temperature 4 ± 2°C?
Exceptions: _____ Samples/Analyses Affected: _____
 - _____ Rad Screen performed?
Result: _____
 - _____ Was there an airbill? (Note # above in the right hand column)
 - _____ Was cooler sealed with custody seals?
/ where: _____
 - _____ *na* Were seal(s) intact upon arrival?
 - _____ Was there a COC with cooler?
 - _____ Was the COC filled out properly?
 - _____ Did the COC indicate COE / AFCEE / Navy project?
 - _____ Did the COC and samples correspond?
 - _____ Were all sample packed to prevent breakage?
Packing material: BW
 - _____ Were all samples unbroken and clearly labeled?
 - _____ Were all samples sealed in separate plastic bags?
 - _____ *na* Were all VOCs free of headspace and/or MeOH preserved?
 - _____ Were correct container / sample sizes submitted?
 - _____ Is sample condition good?
 - _____ Was copy of CoC, SRF, and custody seals given to PM to fax?

This section must be filled if problems are found.

Yes No
 _____ Was client notified of problems?
 Individual contacted: _____
 Via: Phone / Fax / Email (circle one)
 Date/Time: _____
 Reason for contact: _____

 Change Order Required? _____
 SGS Contact: _____

Notes: OK TO RUN TURB PAST HOLD PER PM 8/25/04 15:29 MRT

Completed by (sign): [Signature] (print): Jamey Johnson
 Login proof (check one): waived required _____ performed by: _____

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.sgsevenvironmental.com>

Mike Cox
Michael Baker Jr., Inc.
4601 Business Pk Blvd., #42
Anchorage, AK 99503

Work Order: 1045423
NPRA Lakes

Client: Michael Baker Jr., Inc.

Report Date: September 24, 2004

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Control Manual that outlines this program is available at your request. The laboratory ADEC certification numbers are AK08-03 (DW), UST-005 (CS) and AK00971 (Micro).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS Quality Assurance Program Plan and the National Environmental Laboratory Accreditation Conference.

If you have any questions regarding this report or if we can be of any other assistance, please call your SGS Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- PQL Practical Quantitation Limit (reporting limit).
- U Indicates the analyte was analyzed for but not detected.
- F Indicates an estimated value that falls below PQL, but is greater than the MDL.
- J The quantitation is an estimation.
- B Indicates the analyte is found in a blank associated with the sample.
- * The analyte has exceeded allowable regulatory or control limits.
- GT Greater Than
- D The analyte concentration is the result of a dilution.
- LT Less Than
- ! Surrogate out of control limits.
- Q QC parameter out of acceptance range.
- M A matrix effect was present.
- JL The analyte was positively identified, but the quantitation is a low estimation.
- E The analyte result is high outside of calibrated range.

Note: Soil samples are reported on a dry weight basis unless otherwise specified



SGS Ref.# 1045423001
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID L9304
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/21/2004 10:45
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Sharon Foster*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
 EP 300.0 - Detectable amount of chloride and sulfate in the calibration blank; the concentration of these analytes in the sample is 10X greater.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	20100	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	7930	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	3720	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1230	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	4.20	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Alkalinity	28.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	41.5	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Total Dissolved Solids	96.3	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/05/04		BJA
Turbidity	1.12	0.100	NTU	SM20 2130B	D		08/25/04		KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.309 U	0.309	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Residual Range Organics	0.515 U	0.515	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

5a Androstane <surr>	66.6		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
n-Triacontane-d62 <surr>	82.5		%	AK102/103	E	50-150	08/26/04	08/27/04	JC



SGS Ref.# 1045423001
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID L9304
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/21/2004 10:45
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthylene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.105 U	0.105	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.105 U	0.105	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surrogate>	58		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surrogate>	67		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surrogate>	90.6		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM



SGS Ref.# 1045423002
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID LD002
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/21/2004 10:50
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Poston*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
 EP 300.0 - Detectable amount of chloride and sulfate in the calibration blank; the concentration of these analytes in the sample is 10X greater.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	19600	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Dissolved Metals									
Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	7700	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	3660	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1180	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	4.21	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Alkalinity	27.5	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	41.7	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Total Dissolved Solids	98.8	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/05/04		BJA
Turbidity	0.820	0.100	NTU	SM20 2130B	D		08/25/04		KC

Semivolatle Organic Fuels Department

Diesel Range Organics	0.313 U	0.313	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Residual Range Organics	0.521 U	0.521	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

5a Androstane <surr>	70.8		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
n-Triacontane-d62 <surr>	89.1		%	AK102/103	E	50-150	08/26/04	08/27/04	JC



SGS Ref.# 1045423002
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID LD002
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/21/2004 10:50
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthylene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.106 U	0.106	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.106 U	0.106	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	57.2		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surr/IS>	69.9		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surr/IS>	91.2		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM



SGS Ref.# 1045423003
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID L9821
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/21/2004 10:07
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shane Poston*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
 EP 300.0 - Detectable amount of chloride in the calibration blank; the concentration of this analyte in the sample is 10X greater.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	7500	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	20000	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	3740	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1260	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.736	0.100	mg/L	EPA 300.0	B		09/20/04		JJB
Alkalinity	64.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	20.3	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Total Dissolved Solids	106	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/05/04		BJA
Turbidity	1.81	0.100	NTU	SM20 2130B	D		08/25/04		KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.333 U	0.333	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Residual Range Organics	0.556 U	0.556	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

5a Androstane <surr>	82.2		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
n-Triacontane-d62 <surr>	98.2		%	AK102/103	E	50-150	08/26/04	08/27/04	JC

Polynuclear Aromatics GC/MS



SGS Ref.# 1045423003
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID L9821
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/21/2004 10:07
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthylene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.106 U	0.106	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.106 U	0.106	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0532 U	0.0532	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	62.1		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surr/IS>	66.3		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surr/IS>	97.4		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM



SGS Ref.# 1045423004
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID MB0301
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/21/2004 10:27
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Preston*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
 EP 300.0 - Detectable amount of chloride in the calibration blank; the concentration of this analyte in the sample is 10X greater.
 EP 300.0 - Sample was analyzed past 28 day hold time for sulfate.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	7980	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	18900	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	4310	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.168	0.100	mg/L	EPA 300.0			09/20/04		JJB
Alkalinity	59.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	24.6	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Total Dissolved Solids	108	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/05/04		BJA
Turbidity	2.43	0.100	NTU	SM20 2130B	D		08/25/04		KC

Semivolatle Organic Fuels Department

Residual Range Organics	0.521 U	0.521	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Diesel Range Organics	0.313 U	0.313	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

n-Triacontane-d62 <surr>	89.6		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
5a Androstane <surr>	77.2		%	AK102/103	E	50-150	08/26/04	08/27/04	JC



SGS Ref.# 1045423004
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID MB0301
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/21/2004 10:27
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Acenaphthylene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Naphthalene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.103 U	0.103	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.103 U	0.103	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	56.8		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surr/IS>	65.6		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surr/IS>	93.4		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM



SGS Ref.# 1045423005
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID L9824
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/21/2004 10:15
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Released By

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
EP 300.0 - Detectable amount of chloride in the calibration blank; the concentration of chloride in the sample is 10X greater.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	2370	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	6280	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	1640	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.100 U	0.100	mg/L	EPA 300.0	B		09/13/04		JJB
Alkalinity	24.5	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	5.92	0.100	mg/L	EPA 300.0	B		09/04/04		BJA
Total Dissolved Solids	31.3	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/05/04		BJA
Turbidity	6.11	0.100	NTU	SM20 2130B	D		08/25/04		KC

Semivolatile Organic Fuels Department

Residual Range Organics	0.515 U	0.515	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Diesel Range Organics	0.309 U	0.309	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

n-Triacontane-d62 <surr>	83.6		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
5a Androstane <surr>	72.3		%	AK102/103	E	50-150	08/26/04	08/27/04	JC

Polynuclear Aromatics GC/MS



SGS Ref.# 1045423005
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID L9824
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/24/2004 15:34
 Collected Date/Time 08/21/2004 10:15
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthylene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluorene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Phenanthrene	0.103 U	0.103	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo(a)Anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Acenaphthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Dibenzo[a,h]anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[g,h,i]perylene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Fluoranthene	0.103 U	0.103	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Chrysene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[b]Fluoranthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[k]fluoranthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Benzo[a]pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/26/04	09/01/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	66.3		%	GC/MS SIM	G	30-126	08/26/04	09/01/04	KWM
Acenaphthene-d10 <surr/IS>	78.5		%	GC/MS SIM	G	30-128	08/26/04	09/01/04	KWM
Chrysene-d12 <surr/IS>	95.7		%	GC/MS SIM	G	30-138	08/26/04	09/01/04	KWM



SGS Ref.# 1045423006
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID L9501
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/21/2004 10:40
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Released By *Shane Pester*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	25200	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Dissolved Metals									
Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	25500	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	6670	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1370	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.530	0.500	mg/L	EPA 300.0				09/13/04	JJB
Alkalinity	66.5	10.0	mg/L	SM20 2320B	D			08/26/04	KA
Chloride	73.1	0.500	mg/L	EPA 300.0	B			09/13/04	JJB
Total Dissolved Solids	244	10.0	mg/L	SM20 2540C	D			08/25/04	KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A			09/05/04	BJA
Turbidity	2.57	0.100	NTU	SM20 2130B	D			08/25/04	KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.316 U	0.316	mg/L	AK102/103	E		08/26/04	08/27/04	JC
Residual Range Organics	0.526 U	0.526	mg/L	AK102/103	E		08/26/04	08/27/04	JC

Surrogates

n-Triacontane-d62 <surr>	96.1		%	AK102/103	E	50-150	08/26/04	08/27/04	JC
5a Androstane <surr>	87.2		%	AK102/103	E	50-150	08/26/04	08/27/04	JC

Polynuclear Aromatics GC/MS

Acenaphthylene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
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SGS Ref.# 1045423006
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID L9501
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/21/2004 10:40
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Fluorene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Phenanthrene	0.116 U	0.116	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo(a)Anthracene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Acenaphthene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Dibenzo[a,h]anthracene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo[g,h,i]perylene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Anthracene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Fluoranthene	0.116 U	0.116	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Pyrene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Chrysene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo[b]Fluoranthene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo[k]fluoranthene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo[a]pyrene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0581 U	0.0581	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	60.2		%	GC/MS SIM	G	30-126	08/26/04	09/02/04	KWM
Acenaphthene-d10 <surr/IS>	73.6		%	GC/MS SIM	G	30-128	08/26/04	09/02/04	KWM
Chrysene-d12 <surr/IS>	98.6		%	GC/MS SIM	G	30-138	08/26/04	09/02/04	KWM



SGS Ref.# 1045423007
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID L9819
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/21/2004 10:00
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Released By *Shane Foster*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
EP 300.0 - Detectable amount of chloride in the calibration blank; the concentration of this analyte in the sample is 10X greater.
EP 300.0 - Sample was analyzed past 28 day hold time for sulfate.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	3710	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	11500	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2630	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.247	0.100	mg/L	EPA 300.0	B			09/20/04	JJB
Alkalinity	39.5	10.0	mg/L	SM20 2320B	D			08/26/04	KA
Chloride	13.0	0.100	mg/L	EPA 300.0	B			09/04/04	BJA
Total Dissolved Solids	71.3	10.0	mg/L	SM20 2540C	D			08/25/04	KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A			09/05/04	BJA
Turbidity	3.26	0.100	NTU	SM20 2130B	D			08/25/04	KC

Semivolatle Organic Fuels Department

Diesel Range Organics	0.319 U	0.319	mg/L	AK102/103	E			08/26/04	08/27/04	JC
Residual Range Organics	0.532 U	0.532	mg/L	AK102/103	E			08/26/04	08/27/04	JC

Surrogates

5a Androstane <surr>	87.2		%	AK102/103	E	50-150		08/26/04	08/27/04	JC
n-Triacontane-d62 <surr>	94.4		%	AK102/103	E	50-150		08/26/04	08/27/04	JC



SGS Ref.# 1045423007
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID L9819
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/24/2004 15:34
Collected Date/Time 08/21/2004 10:00
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Acenaphthylene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Fluorene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Phenanthrene	0.104 U	0.104	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo(a)Anthracene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Acenaphthene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Dibenzo[a,h]anthracene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo[g,h,i]perylene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Anthracene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Fluoranthene	0.104 U	0.104	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Pyrene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Chrysene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo[b]Fluoranthene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo[k]fluoranthene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Benzo[a]pyrene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/26/04	09/02/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	53.8		%	GC/MS SIM	G	30-126	08/26/04	09/02/04	KWM
Acenaphthene-d10 <surr/IS>	72		%	GC/MS SIM	G	30-128	08/26/04	09/02/04	KWM
Chrysene-d12 <surr/IS>	95.2		%	GC/MS SIM	G	30-138	08/26/04	09/02/04	KWM

1045423



CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
Laboratory Division

1 CLIENT: Michael Baker
 CONTACT: Mike Cox PHONE NO: () 273-1639
 PROJECT: MPRA LAMES PWSID#:
 REPORTS TO: Mike Cox FAX NO: () 273-1699
 INVOICE TO: 11 QUOTE#
 P.O. NUMBER:

CT&E Reference:

No.	SAMPLE TYPE	C = COMP	G = GRAB	CONTAINERS	Preservatives Used	Analysis Required	REMARKS
4	G			4	Deopro	③	
8				8	PAH-SIM		
8				8	AIKANNY/TRIBID/77/DS		
7				7	SQ-CL by 300		
					Dissolve Metals		
					NO ₃ -TOTAL		

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX
DA-I	L9824	8/21/04	1015	H ₂ O
DA-F	L9304	8/21/04	1045	
DA-I	L0002	8/21/04	1050	
DA-I	L9501	8/21/04	1040	

5 Collected/Relinquished By: (1) [Signature] Received By: Cooper Temperature C: 10.8
 Relinquished By: (2) [Signature] Received By: [Signature] Chain of Custody Seal (Circle) INTACT
 Relinquished By: (3) [Signature] Received By: [Signature] Level I Level II Level III EDD Type: INTACT BROKEN ABSENT
 Relinquished By: (4) [Signature] Received For Laboratory By: [Signature] Requested Turnaround Time and Special Instructions: Metals- Filter in LAB

CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
Laboratory Division

- Alaska
 - Michigan
 - West Virginia
 - Maryland
 - New Jersey
 - New Orleans
- www.ctesi.com

1 CLIENT: Michael Baker
 CONTACT: Mike Cox PHONE NO: () 273-1639
 PROJECT: NEPA LAKES PWSID#: _____
 REPORTS TO: Mike Cox FAX NO: () 273-1699
 INVOICE TO: 11 QUOTE# _____
 P.O. NUMBER: _____

CT&E Reference: _____ PAGE _____ OF _____

No.	SAMPLE TYPE	C = COMP	G = GRAB	PRESERVATIVES							REMARKS
				DR/RCO	PAH-SIM	MINIMUM/TURBIDITY	SO ₄ -CL BY 500	Dissolve M/1415	NOS-TOTAL		
4	G			X	X	X	X	X	X	X	
8	G			X	X	X	X	X	X	X	
8	G			X	X	X	X	X	X	X	
4	G			X	X	X	X	X	X	X	

Preservatives Used: _____ Analysis Required: 3

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	Collected/Relinquished By: (1)	Date	Time	Received By:
SDA-1	L9824	8/21/04	1015	H ₂ O	[Signature]			
DA-1	L9304	8/21/04	1045		[Signature]			
2 ↓	L0002	8/21/04	1050		[Signature]			
DA5	L9501	8/21/04	1040		[Signature]			

5

Relinquished By: (2)	Date	Time	Received By:
[Signature]			
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:
	8/24/04	1230	[Signature]

4

Shipping Carrier: Coolera
 Shipping Ticket No: _____
 Temperature C: -1.8
 Chain of Custody Seal: (Circle) C = 5.9
 Data Deliverables: _____
 Level I Level II Level III EDD Type: _____
 Requested Turnaround Time and Special Instructions:
 METALS - FILTER IN LAD
 INTACT BROKEN ABSENT

1045423



CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
Laboratory Division

CT&E Reference: _____ PAGE 1 OF 1

CLIENT: **Michael Baker** PHONE NO: () **273-1639** PWSID#: _____
 CONTACT: **Mike Cox** FAX NO: () **273-1699**
 PROJECT: **NPRA LAKES**
 REPORTS TO: **Mike Cox**
 INVOICE TO: **11** QUOTE# _____ P.O. NUMBER: _____

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	SAMPLE TYPE	No. CONTAINERS	Preservatives Used	Analysis Required	REMARKS
③	A-I 19821	8/21/04	1007	H ₂ O	G	2			
④	A-I MB0301		1027			1			
⑤	500 other 19824		1015			1			
⑥	↓ 19501		1040			1			
⑦	500 19819		1000			1			

Shipping Carrier: **Coolen 6:** Temperature C: **TB=45 / C=59**
 Shipping Ticket No: _____ Chain of Custody Seal: (Circle) **INTACT BROKEN (ABSENT)**
 Data Deliverables: _____
 Level I Level II Level III EDD Type: _____
 Requested Turnaround Time and Special Instructions: **LAS FILTER - METALS**

Collected/Relinquished By: (1) **RED** Date: _____ Time: _____ Received By: _____
 Relinquished By: (2) _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: (3) _____ Date: _____ Time: _____ Received By: _____
 Relinquished By: (4) _____ Date: **8/24/04** Time: **1230** Received For Laboratory By: _____

1045423



CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
Laboratory Division

1 CLIENT: Michael Baker PHONE NO: () 273-1639

CONTACT: Mike Cox PWSID#:

PROJECT: NPRA LAKES

REPORTS TO: Mike Cox FAX NO: () 273-1699

INVOICE TO: Mike Cox QUOTE#

P.O. NUMBER:

CT&E Reference: PAGE 1 OF 1

No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used	Analysis Required					REMARKS
			PAH-SM	TRICHLOR/AQUINOLY/MS	NOS-TOTAL	SOY-CI by 300	Dissolved Metals	
6	G	X	X	X	X	X		
7	G	X	X	X	X	X		
8	G	X	X	X	X	X		
9	G	X	X	X	X	X		
10	G	X	X	X	X	X		

2

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX
3	500000 L9824	8/21/04	1007	H ₂ O
7	L9819		1000	
8	L9501		1040	
9	MB0301		1027	
10	L9819-9824		1015	

5

Collected/Relinquished By: (1) [Signature] Received By: [Signature]

Relinquished By: (2) [Signature] Received By: [Signature]

Relinquished By: (3) [Signature] Received By: [Signature]

Relinquished By: (4) [Signature] Received For Laboratory By: [Signature]

Date: 8/24/04 Time: 1230

4

Shipping Carrier: Cooler 5 Temperature C: 78-57 / C=4.2

Shipping Ticket No:

Data Deliverables: Level I Level II Level III EDD Type: INTACT BROKEN ABSENT

Requested Turnaround Time and Special Instructions: LAB Filter-Metals



SAMPLE RECEIPT FORM

SGS WO#:

Yes No NA

- Are samples **RUSH**, priority, or w/n 72 hrs. of **hold time**? called
- If yes have you done e-mail notification?
- Are samples within 24 hrs. of **hold time** or due date?
- If yes, have you *spoken with Supervisor*?
- Archiving bottles - if req., are they properly marked?
- Are there any **problems**? PM Notified? NA
- Were samples preserved correctly and pH verified?
- * turbidity past hold time
- * Sample ID incorrect on page 3 of COC
- COC says L9819 @ 1015, I think it should be L9824
- If this is for PWS, provide PWSID. L9824
- Will courier charges apply?
- Method of payment? _____
- Data package required? (Level: 1 / 2 / 3 / 4)
- Notes: _____
- Is this a DoD project? (USACE, Navy, AFCEE)

Due Date: JUN 9-2-04
 Received Date: 8-24-04
 Received Time: 1230
 Is date/time conversion necessary? N
 # of hours to AK Local Time: —
 Thermometer ID: 5D

Cooler ID	Temp Blank	Cooler Temp
<u>2</u>	<u>1.8 5.7</u>	<u>5.9 4.2</u>
<u>5</u>	<u>5.7</u>	<u>4.2</u>
<u>6</u>	<u>4.5</u>	<u>5.9</u>
_____	_____	_____
_____	_____	_____

*Temperature readings include thermometer correction factors

Delivery method (circle all that apply): Client
 Alert Courier / UPS / FedEx / USPS /
 AA Goldstreak / NAC / ERA / PenAir / Carlile
 Lynden / SGS / Other: _____

Airbill # _____

Additional Sample Remarks: (if applicable)
 Extra Sample Volume?
 Limited Sample Volume?
 Field preserved for volatiles?
 Field-filtered for dissolved?
 Lab-filtered for dissolved?
 Ref Lab required?
 Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

- | | | | |
|-------------------------------------|-------------------------------------|---|----------------------------------|
| Yes | No | | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is received temperature 4 ± 2°C? | |
| | | Exceptions: _____ | Samples/Analyses Affected: _____ |
| | | _____ | _____ |
| | | _____ | _____ |
| | | _____ | _____ |
| | <input checked="" type="checkbox"/> | Rad Screen performed? | |
| | | Result: _____ | |
| | <input checked="" type="checkbox"/> | Was there an airbill? (Note # above in the right hand column) | |
| | <input checked="" type="checkbox"/> | Was cooler sealed with custody seals? | |
| | | # / where: _____ | |
| | <u>na</u> | Were seal(s) intact upon arrival? | |
| | <input checked="" type="checkbox"/> | Was there a COC with cooler? | |
| | <input checked="" type="checkbox"/> | Was the COC filled out properly? | |
| | <input checked="" type="checkbox"/> | Did the COC indicate COE / AFCEE / Navy project? | |
| | <input checked="" type="checkbox"/> | Did the COC and samples correspond? | |
| | <input checked="" type="checkbox"/> | Were all sample packed to prevent breakage? | |
| | | Packing material: <u>BW</u> | |
| | <input checked="" type="checkbox"/> | Were all samples unbroken and clearly labeled? | |
| | <input checked="" type="checkbox"/> | Were all samples sealed in separate plastic bags? | |
| | <u>na</u> | Were all VOCs free of headspace and/or MeOH preserved? | |
| | <input checked="" type="checkbox"/> | Were correct container / sample sizes submitted? | |
| | <input checked="" type="checkbox"/> | Is sample condition good? | |
| | <input checked="" type="checkbox"/> | Was copy of CoC, SRF, and custody seals given to PM to fax? | |

This section must be filled if problems are found.

Yes No
 _____ Was client notified of problems?
 Individual contacted: _____
 Via: Phone / Fax / Email (circle one)
 Date/Time: _____
 Reason for contact: _____

 Change Order Required? _____
 SGS Contact: _____

Notes: # 5 ID = " L 9824 " @ 10:15 8/21/04 5JA 8-25-04

Completed by (sign): [Signature] (print): James Johnson
 Login proof (check one): waived required _____ performed by: _____



Laboratory Analysis Report

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.sgsevenvironmental.com>

Mike Cox
Michael Baker Jr., Inc.
4601 Business Pk Blvd., #42
Anchorage, AK 99503

Work Order: 1045415
NPRA Lakes
Client: Michael Baker Jr., Inc.
Report Date: September 21, 2004

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Control Manual that outlines this program is available at your request. The laboratory ADEC certification numbers are AK08-03 (DW), UST-005 (CS) and AK00971 (Micro).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS Quality Assurance Program Plan and the National Environmental Laboratory Accreditation Conference.

If you have any questions regarding this report or if we can be of any other assistance, please call your SGS Project Manager a (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- PQL Practical Quantitation Limit (reporting limit).
- U Indicates the analyte was analyzed for but not detected.
- F Indicates an estimated value that falls below PQL, but is greater than the MDL.
- J The quantitation is an estimation.
- B Indicates the analyte is found in a blank associated with the sample.
- * The analyte has exceeded allowable regulatory or control limits.
- GT Greater Than
- D The analyte concentration is the result of a dilution.
- LT Less Than
- ! Surrogate out of control limits.
- Q QC parameter out of acceptance range.
- M A matrix effect was present.
- JL The analyte was positively identified, but the quantitation is a low estimation.
- E The analyte result is high outside of calibrated range.

Note: Soil samples are reported on a dry weight basis unless otherwise specified



SGS Ref.# 1045415001
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M9923
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/21/2004 14:16
 Collected Date/Time 08/20/2004 18:50
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Sharon Poston*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	4950	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	28700	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	4450	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.790	0.100	mg/L	EPA 300.0			09/13/04		JJB
Alkalinity	90.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	21.0	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Total Dissolved Solids	141	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/09/04		JJB
Turbidity	2.88	0.100	NTU	SM20 2130B	D		08/24/04		KC

Semivolatile Organic Fuels Department

Residual Range Organics	0.515 U	0.515	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Diesel Range Organics	0.309 U	0.309	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

5a Androstane <surr>	88.5		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
n-Triacontane-d62 <surr>	106		%	AK102/103	E	50-150	08/25/04	08/26/04	JC

Polynuclear Aromatics GC/MS

Naphthalene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
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SGS Ref.# 1045415001
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID M9923
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/21/2004 14:16
Collected Date/Time 08/20/2004 18:50
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Acenaphthylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]Fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	39.9		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	58.4		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	64		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM



SGS Ref.# 1045415002
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M9924
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/21/2004 14:16
 Collected Date/Time 08/20/2004 19:00
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shane Poston*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.
 RRO - Unknown hydrocarbon with several peaks is present.
 EP 300.0 - The duplicate RPD for sulfate is greater than 20%. Duplicate will be diluted and re run. MB and LFB are within QC requirements. No further action taken

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	7060	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	19400	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	4130	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1200	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.230	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Alkalinity	61.5	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	19.5	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Total Dissolved Solids	128	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/09/04		JJB
Turbidity	1.72	0.100	NTU	SM20 2130B	D		08/24/04		KC

Semivolatle Organic Fuels Department

Diesel Range Organics	0.306 U	0.306	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Residual Range Organics	0.812	0.510	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

n-Triacontane-d62 <surr>	114		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
5a Androstane <surr>	81.6		%	AK102/103	E	50-150	08/25/04	08/26/04	JC



SGS Ref.# 1045415002
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID M9924
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/21/2004 14:16
Collected Date/Time 08/20/2004 19:00
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthylene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.104 U	0.104	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.104 U	0.104	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]Fluoranthene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0521 U	0.0521	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	59.2		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	65.2		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	84.7		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM



SGS Ref.# 1045415003
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M9925
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/21/2004 14:16
 Collected Date/Time 08/20/2004 18:40
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Pistor*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.
 EP 300.0 - The duplicate RPD for sulfate is greater than 20%. Duplicate will be diluted and re run. MB and LFB are within QC requirements. No further action taken

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	7790	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	29200	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	5440	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1220	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	1.26	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Alkalinity	88.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	32.4	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Total Dissolved Solids	170	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/09/04		JJB
Turbidity	8.43	0.100	NTU	SM20 2130B	D		08/24/04		KC

Semivolatile Organic Fuels Department

Residual Range Organics	0.521 U	0.521	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Diesel Range Organics	0.313 U	0.313	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

n-Triacontane-d62 <surr>	85.9		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
5a Androstane <surr>	65.4		%	AK102/103	E	50-150	08/25/04	08/26/04	JC



SGS Ref.# 1045415003
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M9925
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/21/2004 14:16
 Collected Date/Time 08/20/2004 18:40
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Acenaphthylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Naphthalene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]Fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	56		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	62.9		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	89.6		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM



SGS Ref.# 1045415004
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID MB0302
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/21/2004 14:16
 Collected Date/Time 08/20/2004 19:15
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Poston*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.
 EP 300.0 - The duplicate RPD for sulfate is greater than 20%. Duplicate will be diluted and re run. MB and LFB are within QC requirements. No further action taken

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	6300	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	7760	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2410	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.100 U	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Alkalinity	25.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	16.8	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Total Dissolved Solids	55.0	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/09/04		JJB
Turbidity	9.65	0.100	NTU	SM20 2130B	D		08/24/04		KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.316 U	0.316	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Residual Range Organics	0.526 U	0.526	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

n-Triacontane-d62 <surr>	98		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
5a Androstane <surr>	79		%	AK102/103	E	50-150	08/25/04	08/26/04	JC



SGS Ref.# 1045415004
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID MB0302
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/21/2004 14:16
Collected Date/Time 08/20/2004 19:15
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthylene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.110 U	0.110	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.110 U	0.110	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]Fluoranthene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0549 U	0.0549	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	66		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	76.1		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	93.3		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM



SGS Ref.# 1045415005
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID L9910
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/21/2004 14:16
 Collected Date/Time 08/20/2004 19:08
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Poston*

Sample Remarks:

SM 2130 - Sample was received after holding time had expired.
 EP 300.0 - The duplicate RPD for sulfate is greater than 20%. Duplicate will be diluted and re run. MB and LFB are within QC requirements. No further action taken

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	4170	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	16200	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2310	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.316	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Alkalinity	52.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	13.1	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Total Dissolved Solids	83.8	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/09/04		JJB
Turbidity	17.0	0.100	NTU	SM20 2130B	D		08/24/04		KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.303 U	0.303	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Residual Range Organics	0.505 U	0.505	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

5a Androstane <surr>	81.6		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
n-Triacontane-d62 <surr>	98.7		%	AK102/103	E	50-150	08/25/04	08/26/04	JC



SGS Ref.# 1045415005
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID L9910
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/21/2004 14:16
Collected Date/Time 08/20/2004 19:08
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthylene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.103 U	0.103	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.103 U	0.103	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]Fluoranthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	50.4		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	55.8		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	71.8		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM

1045415



CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
Laboratory Division

PAGE 2 OF 2

CT&E Reference:

1 CLIENT: Michael Baker PHONE NO: () 273-1639

CONTACT: Mike Cox PWSID:

PROJECT: NPRA Lakes

REPORTS TO: Mike Cox FAX NO: () 273-1699

INVOICE TO: 11 QUOTE# P.O. NUMBER:

Preservatives Used

Analysis Required

3

NO₃ - Total

SO₄ - CL 6300

Dissolved Metals

Alkalinity/Turbidity/TDS

SAMPLE TYPE

C = COMP

G = GRAB

No. CONTAINERS

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	REMARKS
1	M9923	8/26/04	1850	H ₂ O	
2	M9924		1900		
3	M9925		1870		
4	M50302		1915		
5	L9910		1908		

4 Shipping Carrier: Cooler 70

Shipping Ticket No:

Data Deliverables:

Level I Level II Level III EDD Type:

Requested Turnaround Time and Special Instructions:
LARS Filter-Metals

Temperature of AS-07

Chain of Custody Seal: (Circle) TB = C = 3.9

INTACT BROKEN ABSENT

5 Collected/Relinquished By: (1) [Signature] Time Received By: [Signature]

Relinquished By: (2) [Signature] Time Received By: [Signature]

Relinquished By: (3) [Signature] Time Received By: [Signature]

Relinquished By: (4) [Signature] Time Received For Laboratory By: [Signature]

1045415



CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
Laboratory Division

1 CLIENT: Michael Baker PHONE NO: (273-1699)
 CONTACT: Mike Cox PWSID#:
 PROJECT: NPRA LAKES
 REPORTS TO: Mike Cox FAX NO: (273-1699)
 INVOICE TO: Mike Cox QUOTE#
 P.O. NUMBER:

CT&E Reference:

No.	SAMPLE TYPE C = COMP G = GRAB	CONTAINERS	Matrix	Time	Date	SAMPLE IDENTIFICATION	LAB NO.	PWSID#	Preservatives Used	Analysis Required	REMARKS	PAGE	OF
①	E-F	M9923	1850	1850	8/20/04	M9923	1850	1699					
②		M9924	1900	1900		M9924	1900						
③		M9925	1840	1840		M9925	1840						
④		M130302	1915	1915		M130302	1915						
⑤		19910	1908	1908		19910	1908						

4 Shipping Carrier: Cooler 4;
 Shipping Ticket No:
 Data Deliverables:
 Level I Level II Level III EDD Type:
 Requested Turnaround Time and Special Instructions:
 Temperature C: TB = 60 / C = 423
 Chain of Custody Seal (Circle):
 INTACT BROKEN ABSENT

5 Collected/Relinquished By: (1) [Signature] Received By:
 Relinquished By: (2) [Signature] Received By:
 Relinquished By: (3) [Signature] Received By:
 Relinquished By: (4) [Signature] Received For Laboratory By:

1045415



CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
Laboratory Division

1 CLIENT: Michael Baker
 CONTACT: Mike Cox PHONE NO.: 273-1639
 PROJECT: NPRA LAKES PWSID#: _____
 REPORTS TO: Mike Cox FAX NO.: 273-1699
 INVOICE TO: 11 QUOTE# _____
 P.O. NUMBER: _____

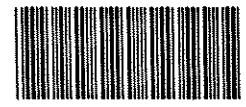
CT&E Reference: _____ PAGE _____ OF _____

No.	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
	C = COMP		3	
	G = GRAB			
	CONTAINERS			
1	G-H		X	
2	M9923		X	
3	M9924		X	
4	M9925		X	
5	M80302		X	
	L9910		X	

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX
1	M9923	8/20/04	1850	H ₂ O
2	M9924		1900	
3	M9925		1840	
4	M80302		1915	
5	L9910		1908	

4 Shipping Carrier: Adair Temperature: 78.9 / C = 4.6
 Shipping Ticket No.: _____ Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
 Data Deliverables: _____
 Level I Level II Level III EDD Type: _____
 Requested Turnaround Time and Special Instructions: _____

5 Collected/Relinquished By: [Signature] Received By: _____
 Relinquished By: (2) _____ Received By: _____
 Relinquished By: (3) _____ Received By: _____
 Relinquished By: (4) _____ Received By: _____



SAMPLE RECEIPT FORM SGS WO#:

Yes No NA

- Are samples **RUSH**, priority, or w/n 72 hrs. of **hold time**? called
- If yes have you done e-mail notification?
- Are samples within 24 hrs. of **hold time** or due date?
- If yes, have you *spoken with* Supervisor?
- Archiving bottles - if req., are they properly marked?
- Are there any **problems**? PM Notified? _____
- Were samples preserved correctly and pH verified?
** turbidity past hold time*

- If this is for PWS, provide PWSID. _____
- Will courier charges apply? _____
- Method of payment? _____
- Data package required? (Level: 1 / 2 / 3 / 4) _____
Notes: _____
- Is this a DoD project? (USACE, Navy, AFCEE) _____

Due Date: JUL 9-2-04
 Received Date: 8-24-04
 Received Time: 1230
 Is date/time conversion necessary? N
 # of hours to AK Local Time: _____

Cooler ID	Temp Blank	Cooler Temp
<u>4</u>	<u>6.6</u> °C	<u>4.3</u> °C
<u>2</u>	<u>3.2</u> °C	<u>3.9</u> °C
<u>8</u>	<u>1.9</u> °C	<u>4.6</u> °C
_____	_____ °C	_____ °C
_____	_____ °C	_____ °C

*Temperature readings include thermometer correction factors

Delivery method (circle all that apply): Client
 Alert Courier / UPS / FedEx / USPS /
 AA Goldstreak / NAC / ERA / PenAir / Carlite
 Lynden / SGS / Other: _____

Airbill # _____
 Additional Sample Remarks: (if applicable)
 Extra Sample Volume?
 Limited Sample Volume?
 Field preserved for volatiles?
 Field-filtered for dissolved?
 Lab-filtered for dissolved?
 Ref Lab required?
 Foreign Soil?

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

- | | | | |
|-------------------------------------|-------------------------------------|---|----------------------------------|
| Yes | No | | |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is received temperature 4 ± 2°C? | Samples/Analyses Affected: _____ |
| _____ | _____ | Exceptions: _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | <input checked="" type="checkbox"/> | Rad Screen performed? | |
| _____ | _____ | Result: _____ | |
| _____ | <input checked="" type="checkbox"/> | Was there an airbill? (Note # above in the right hand column) | |
| _____ | <input checked="" type="checkbox"/> | Was cooler sealed with custody seals? | |
| _____ | _____ | # / where: _____ | |
| _____ | <u>na</u> | Were seal(s) intact upon arrival? | |
| _____ | <input checked="" type="checkbox"/> | Was there a COC with cooler? | |
| _____ | <input checked="" type="checkbox"/> | Was the COC filled out properly? | |
| _____ | <input checked="" type="checkbox"/> | Did the COC indicate COE / AFCEE / Navy project? | |
| _____ | <input checked="" type="checkbox"/> | Did the COC and samples correspond? | |
| _____ | <input checked="" type="checkbox"/> | Were all sample packed to prevent breakage? | |
| _____ | _____ | Packing material: <u>BW</u> | |
| _____ | <input checked="" type="checkbox"/> | Were all samples unbroken and clearly labeled? | |
| _____ | <input checked="" type="checkbox"/> | Were all samples sealed in separate plastic bags? | |
| _____ | <u>na</u> | Were all VOCs free of headspace and/or MeOH preserved? | |
| _____ | <input checked="" type="checkbox"/> | Were correct container / sample sizes submitted? | |
| _____ | <input checked="" type="checkbox"/> | Is sample condition good? | |
| _____ | <input checked="" type="checkbox"/> | Was copy of CoC, SRF, and custody seals given to PM to fax? | |

This section must be filled if problems are found.

- Yes No
 Was client notified of problems?
 Individual contacted: _____
 Via: Phone / Fax / Email (circle one)
 Date/Time: _____
 Reason for contact: _____

 Change Order Required? _____
 SGS Contact: _____

Notes: _____

Completed by (sign): [Signature] (print): Jamie Johnson
 Login proof (check one): waived required performed by: _____



Laboratory Analysis Report

200 W. Potter Drive
Anchorage, AK 99518-1605
Tel: (907) 562-2343
Fax: (907) 561-5301
Web: <http://www.sgsevenvironmental.com>

Mike Cox
Michael Baker Jr., Inc.
4601 Business Pk Blvd., #42
Anchorage, AK 99503

Work Order: 1045420
NPRA Lakes
Client: Michael Baker Jr., Inc.
Report Date: September 17, 2004

Enclosed are the analytical results associated with the above workorder.

As required by the state of Alaska and the USEPA, a formal Quality Assurance/Quality Control Program is maintained by SGS. A copy of our Quality Control Manual that outlines this program is available at your request. The laboratory ADEC certification numbers are AK08-03 (DW), UST-005 (CS) and AK00971 (Micro).

Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS Quality Assurance Program Plan and the National Environmental Laboratory Accreditation Conference.

If you have any questions regarding this report or if we can be of any other assistance, please call your SGS Project Manager at (907) 562-2343.

The following descriptors may be found on your report which will serve to further qualify the data.

- PQL Practical Quantitation Limit (reporting limit).
- U Indicates the analyte was analyzed for but not detected.
- F Indicates an estimated value that falls below PQL, but is greater than the MDL.
- J The quantitation is an estimation.
- B Indicates the analyte is found in a blank associated with the sample.
- * The analyte has exceeded allowable regulatory or control limits.
- GT Greater Than
- D The analyte concentration is the result of a dilution.
- LT Less Than
- ! Surrogate out of control limits.
- Q QC parameter out of acceptance range.
- M A matrix effect was present.
- JL The analyte was positively identified, but the quantitation is a low estimation.
- E The analyte result is high outside of calibrated range.

Note: Soil samples are reported on a dry weight basis unless otherwise specified



SGS Ref.# 1045420001
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID MB0401
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/17/2004 11:16
 Collected Date/Time 08/20/2004 17:27
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Peterson*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
 EP 300.0 - The duplicate RPD for sulfate is greater than 20%. Duplicate will be diluted and re run. MB and LFB are within QC requirements. No further action taken

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	4280	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	12900	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	3250	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.305	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Alkalinity	44.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	11.8	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Total Dissolved Solids	82.5	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/09/04		JJB
Turbidity	8.76	0.100	NTU	SM20 2130B	D		08/25/04		KC

Semivolatile Organic Fuels Department

Residual Range Organics	0.543 U	0.543	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Diesel Range Organics	0.326 U	0.326	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

5a Androstane <surr>	79.8		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
n-Triacontane-d62 <surr>	89.5		%	AK102/103	E	50-150	08/25/04	08/26/04	JC



SGS Ref.# 1045420001
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID MB0401
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/17/2004 11:16
Collected Date/Time 08/20/2004 17:27
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthylene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.105 U	0.105	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.105 U	0.105	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]Fluoranthene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0526 U	0.0526	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	49.3		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	54.7		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	65.2		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM



SGS Ref.# 1045420002
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID LD001
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/17/2004 11:16
 Collected Date/Time 08/20/2004 17:50
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shane Poston*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
 EP 300.0 - The duplicate RPD for sulfate is greater than 20%. Duplicate will be diluted and re run. MB and LFB are within QC requirements. No further action taken

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	3330	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	7940	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2030	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.521	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Alkalinity	27.0	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	9.52	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Total Dissolved Solids	48.8	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/09/04		JJB
Turbidity	1.66	0.100	NTU	SM20 2130B	D		08/25/04		KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.319 U	0.319	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Residual Range Organics	0.532 U	0.532	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

5a Androstane <surr>	82.5		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
n-Triacontane-d62 <surr>	104		%	AK102/103	E	50-150	08/25/04	08/26/04	JC



SGS Ref.# 1045420002
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID LD001
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/17/2004 11:16
 Collected Date/Time 08/20/2004 17:50
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]Fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	51.9		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	59.2		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	81.6		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM



SGS Ref.# 1045420003
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M0024
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time
 Printed Date/Time 09/17/2004 11:16
 Collected Date/Time 08/20/2004 17:17
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shane Poston*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
 EP 300.0 - The duplicate RPD for sulfate is greater than 20%. Duplicate will be diluted and re run. MB and LFB are within QC requirements. No further action taken

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	3150	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	7580	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	1890	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.269	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Alkalinity	27.5	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	12.7	0.100	mg/L	EPA 300.0	B		09/05/04		JJB
Total Dissolved Solids	52.5	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/09/04		JJB
Turbidity	0.790	0.100	NTU	SM20 2130B	D		08/25/04		KC

Semivolatile Organic Fuels Department

Residual Range Organics	0.510 U	0.510	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Diesel Range Organics	0.306 U	0.306	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

5a Androstane <surr>	69		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
n-Triacontane-d62 <surr>	78		%	AK102/103	E	50-150	08/25/04	08/26/04	JC



SGS Ref.# 1045420003
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID M0024
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/17/2004 11:16
Collected Date/Time 08/20/2004 17:17
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Acenaphthylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Naphthalene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]Fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	36.4		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	42.4		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	53.8		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM



SGS Ref.# 1045420004
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID M9914
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/17/2004 11:16
 Collected Date/Time 08/20/2004 17:45
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shawn Pistor*

Sample Remarks:

DRO/RRO - Unknown hydrocarbon with several peaks is present.
 SM2130B-Sample was received after holding time had expired.
 PAHSIM - Naphthalene was detected in the method blank above the MDL and below the reporting limit. The results for naphthalene are estimated in this sample.
 EP 300.0 - The duplicate RPD for sulfate is greater than 20%. Duplicate will be diluted and re run. MB and LFB are within QC requirements. No further action taken

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	4240	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	8880	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2190	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.100 U	0.100	mg/L	EPA 300.0	B		09/06/04		JJB
Alkalinity	28.5	10.0	mg/L	SM20 2320B	D		08/26/04		KA
Chloride	11.7	0.100	mg/L	EPA 300.0	B		09/06/04		JJB
Total Dissolved Solids	55.0	10.0	mg/L	SM20 2540C	D		08/25/04		KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A		09/10/04		JJB
Turbidity	8.82	0.100	NTU	SM20 2130B	D		08/25/04		KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.592	0.309	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Residual Range Organics	0.529	0.515	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

n-Triacontane-d62 <surr>	121		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
5a Androstane <surr>	106		%	AK102/103	E	50-150	08/25/04	08/26/04	JC



SGS Ref.# 1045420004
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID M9914
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/17/2004 11:16
Collected Date/Time 08/20/2004 17:45
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Semivolatile Organic Fuels Department									
Polynuclear Aromatics GC/MS									
Naphthalene	0.107	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.100 U	0.100	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0500 U	0.0500	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	40.7		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	47.8		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	58.4		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM



SGS Ref.# 1045420005
 Client Name Michael Baker Jr., Inc.
 Project Name/# NPRA Lakes
 Client Sample ID R0071
 Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/17/2004 11:16
 Collected Date/Time 08/20/2004 17:37
 Received Date/Time 08/24/2004 12:30
 Technical Director Stephen C. Ede

Released By *Shane Poston*

Sample Remarks:

SM2130B-Sample was received after holding time had expired.
 EP 300.0 - The duplicate RPD for sulfate is greater than 20%. Duplicate will be diluted and re run. MB and LFB are within QC requirements. No further action taken

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Sodium	3400	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Dissolved Metals

Cadmium	2.00 U	2.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Calcium	8330	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Copper	6.00 U	6.00	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Iron	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Magnesium	2030	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Potassium	1000 U	1000	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW
Zinc	25.0 U	25.0	ug/L	SW6020 Diss.	I		08/25/04	08/27/04	WAW

Waters Department

Sulfate	0.109	0.100	mg/L	EPA 300.0	B			09/06/04	JJB
Alkalinity	27.0	10.0	mg/L	SM20 2320B	D			08/26/04	KA
Chloride	9.35	0.100	mg/L	EPA 300.0	B			09/06/04	JJB
Total Dissolved Solids	51.3	10.0	mg/L	SM20 2540C	D			08/25/04	KC
Total Nitrate/Nitrite	1.00 U	1.00	mg/L	EPA 300.0	A			09/10/04	JJB
Turbidity	1.56	0.100	NTU	SM20 2130B	D			08/25/04	KC

Semivolatile Organic Fuels Department

Diesel Range Organics	0.309 U	0.309	mg/L	AK102/103	E		08/25/04	08/26/04	JC
Residual Range Organics	0.515 U	0.515	mg/L	AK102/103	E		08/25/04	08/26/04	JC

Surrogates

5a Androstane <surr>	74.8		%	AK102/103	E	50-150	08/25/04	08/26/04	JC
n-Triacontane-d62 <surr>	84.4		%	AK102/103	E	50-150	08/25/04	08/26/04	JC



SGS Ref.# 1045420005
Client Name Michael Baker Jr., Inc.
Project Name/# NPRA Lakes
Client Sample ID R0071
Matrix Water (Surface, Eff., Ground)

All Dates/Times are Alaska Standard Time

Printed Date/Time 09/17/2004 11:16
Collected Date/Time 08/20/2004 17:37
Received Date/Time 08/24/2004 12:30
Technical Director Stephen C. Ede

Parameter	Results	PQL	Units	Method	Container ID	Allowable Limits	Prep Date	Analysis Date	Init
Polynuclear Aromatics GC/MS									
Naphthalene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthylene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluorene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Phenanthrene	0.103 U	0.103	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo(a)Anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Acenaphthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Dibenzo[a,h]anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[g,h,i]perylene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Anthracene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Fluoranthene	0.103 U	0.103	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Chrysene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[b]Fluoranthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[k]fluoranthene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Benzo[a]pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Indeno[1,2,3-c,d] pyrene	0.0515 U	0.0515	ug/L	GC/MS SIM	G		08/25/04	08/30/04	KWM
Surrogates									
Naphthalene-d8 <surr/IS>	60.2		%	GC/MS SIM	G	30-126	08/25/04	08/30/04	KWM
Acenaphthene-d10 <surr/IS>	67.5		%	GC/MS SIM	G	30-128	08/25/04	08/30/04	KWM
Chrysene-d12 <surr/IS>	69.3		%	GC/MS SIM	G	30-138	08/25/04	08/30/04	KWM

1045420



CHAIN OF CUSTODY RECORD

CT&E Environmental Services Inc.
Laboratory Division

1 CLIENT: Michael Baker PHONE NO: (273-1639)
 CONTACT: Mike Cox PWSID#:
 PROJECT: NPRA LAKES
 REPORTS TO: Mike Cox FAX NO: (273-1699)
 INVOICE TO: Mike Cox QUOTE#
 P.O. NUMBER:

CT&E Reference:

No.	SAMPLE TYPE	Preservatives Used	Analysis Required	REMARKS
2	CONTAINERS		③	
5	GT-H R0071		X	
4	M9914		X	
3	M0624		X	
1	M50401		X	
2	LD001		X	

PAH-SIM

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	Received By:
5	GT-H R0071	8/20/04	1737	H2O	
4	M9914		1745		
3	M0624		1717		
1	M50401		1727		
2	LD001		1750		

4 Shipping Carrier: Coolpak! Temperature: H. 8
CE 6.1
 Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Shipping Ticket No:
 Data Deliverables:
 Level I Level II Level III EDD Type:
 Requested Turnaround Time and Special Instructions:

Collected/Relinquished By: (1)	Date	Time	Received By:
Relinquished By: (2)			
Relinquished By: (3)			
Relinquished By: (4)	8/24/04	1230	

1045420



SGS

SAMPLE RECEIPT FORM

SGS WO#:

Blank box for WO#

Yes No NA

- Are samples RUSH, priority, or w/n 72 hrs. of hold time?
- If yes have you done e-mail notification? called
- Are samples within 24 hrs. of hold time or due date?
- If yes, have you spoken with Supervisor?
- Archiving bottles - if req., are they properly marked?
- Are there any problems? PM Notified? no
- Were samples preserved correctly and pH verified? * turbidity past hold time
- If this is for PWS, provide PWSID. _____
- Will courier charges apply? _____
- Method of payment? _____
- Data package required? (Level: 1 / 2 / 3 / 4) _____
- Notes: _____
- Is this a DoD project? (USACE, Navy, AFCEE) _____

Due Date: JUL 9-2-04
 Received Date: 8-24-04
 Received Time: 1230
 Is date/time conversion necessary? N
 # of hours to AK Local Time: _____
 Thermometer ID: 5D

Cooler ID	Temp Blank	Cooler Temp
<u>2</u>	<u>3.2</u> °C	<u>3.9</u> °C
<u>3</u>	<u>1.6</u> °C	<u>6.5</u> °C
<u>1</u>	<u>4.8</u> °C	<u>6.1</u> °C
_____	_____ °C	_____ °C
_____	_____ °C	_____ °C

*Temperature readings include thermometer correction factors

Delivery method (circle all that apply): Client /
 Alert Courier / UPS / FedEx / USPS /
 AA Goldstreak / NAC / ERA / PenAir / Carlife
 Lynden / SGS / Other: _____

Airbill # _____

Additional Sample Remarks: (✓ if applicable)
 _____ Extra Sample Volume?
 _____ Limited Sample Volume?
✓ Field preserved for volatiles?
✓ Field-filtered for dissolved?
✓ Lab-filtered for dissolved?
 _____ Ref Lab required?
 _____ Foreign Soil?

This section must be filled if problems are found.

Yes No
 _____ Was client notified of problems?
 Individual contacted: _____
 Via: Phone / Fax / Email (circle one)
 Date/Time: _____
 Reason for contact: _____

 Change Order Required? _____
 SGS Contact: _____

This section must be filled out for DoD projects (USACE, Navy, AFCEE)

Yes No
 _____ Is received temperature $4 \pm 2^\circ\text{C}$?
 Exceptions: _____ Samples/Analyses Affected: _____

 _____ Rad Screen performed?
 Result: _____
 _____ Was there an airbill? (Note # above in the right hand column)
 _____ Was cooler sealed with custody seals?
 # / where: _____
 _____ na Were seal(s) intact upon arrival?
 _____ Was there a COC with cooler?
 _____ Was the COC filled out properly?
 _____ Did the COC indicate COE / AFCEE / Navy project?
 _____ Did the COC and samples correspond?
 _____ Were all sample packed to prevent breakage?
 Packing material: BSW
 _____ Were all samples unbroken and clearly labeled?
 _____ Were all samples sealed in separate plastic bags?
 _____ na Were all VOCs free of headspace and/or MeOH preserved?
 _____ Were correct container / sample sizes submitted?
 _____ Is sample condition good?
 _____ Was copy of CoC, SRF, and custody seals given to PM to fax?

Notes: _____

Blank lines for notes

Completed by (sign): [Signature] (print): Jamey Johnson
 Login proof (check one): waived required _____ performed by: _____

