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**Stantec**

November 16, 2006  
File: 110217444

Northeast Capital Industrial Association  
#204, 9902 - 102 Street  
Fort Saskatchewan, AB  
T8L 2C3

**Attention: Mr. David Onuczko**

Dear Mr. Onuczko:

**Reference: Spring, 2006 Groundwater Monitoring Field Program**

Stantec Consulting Ltd. is pleased to present the analytical results of the Spring 2006 field program as part of the ongoing monitoring of the NCIA groundwater monitoring wells. The following sections detail our field program and analytical results for the 13 monitoring wells installed during the Regional Groundwater Quality Study of the Beverly Channel.

### **FIELD PROGRAM**

Groundwater monitoring and sample collection was completed between June 14 to 16, 2006. Prior to sampling, water level measurements were obtained and all of the monitoring wells were purged to remove stagnant water. A minimum of 3 well volumes was purged from each monitoring well using a Rediflo stainless steel submersible pump. The Rediflo pump was subsequently used to obtain water samples for analysis. Field measurements of temperature, pH and conductivity were taken at the time of sampling using handheld pH and EC meters. Both meters were calibrated each day prior to sampling. A duplicate sample from MW-12 was prepared in the field during the sampling event for Quality Control purposes. The duplicate sample was prepared by rinsing a clean 4 L plastic container with formation water, collecting the required sample volume, and splitting the sample into two aliquots.

All groundwater samples were submitted to ALS Laboratories (formerly Envirotest Laboratories) for analysis. Groundwater samples from the June, 2006 sampling event were analyzed for routine water quality parameters, major ions, hydrocarbon parameters and dissolved metals. All sample bottles were labeled at the time of sample collection with the site number, date of collection, the sampling personnel involved, and the analyses required. Sample bottles were placed into a cooler with ice packs and delivered to ALS Laboratories in Edmonton at the end of each sampling day.

**Reference: Spring, 2006 Groundwater Monitoring Field Program**

## **ANALYTICAL RESULTS**

Table 1 (attached) presents a summary of the analytical results for the 13 monitoring wells sampled during the Spring, 2006 sampling event. The *Canadian Environmental Quality Guidelines – Freshwater Aquatic Life* (CCME, 2004) and the *Guidelines for Canadian Drinking Water Quality* (Health Canada, 2004) are included in the table for comparative purposes. Copies of the laboratory reports are also appended to this letter for your reference.

The reproducibility of the data was assessed by calculating the relative percent difference (RPD) between the sample and duplicate results. Duplicate results are considered acceptable when the RPD is below 20% or, when at least one of the duplicate results is less than or equal to five times the parameter detection limit, the absolute difference (AD) between the results is less than or equal to the detection limit. All of the duplicate results met this criteria for this sampling event.

Based on the analytical results presented in Table 1, several exceedances of the CCME (2004) and/or Health Canada (2004) guideline criteria were noted. Exceedances were similar to previous sampling events with total dissolved solids, iron and manganese concentrations above guideline levels in most of the monitoring wells. Sodium concentrations were above guidelines in monitors MW-07 and MW-09, which had been observed during previous sampling events. Sulphate concentration also remained above the guideline level in MW-07. Aluminum concentrations were below guideline levels for all monitors during the June, 2006 sampling event after a number of exceedances were noted during the Fall, 2005 event. All other parameter concentrations were similar to previous sampling events.

## **CLOSURE**

Should you have any further questions or require clarification on any matter, please do not hesitate to contact me.

Best regards,

**STANTEC CONSULTING LTD.**



Dan Yoshisaka, M.Sc., P.Eng.

GeoEnvironmental Engineer

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Environmental Division

**ANALYTICAL REPORT**

STANTEC CONSULTING LTD  
**ATTN:** CHRISTINE RONDEAU/D YOKHISAKA  
7 FL NORTH TOWER 10160 112 STREET  
EDMONTON AB T5K 2L6

**Reported On:** 16-NOV-06 01:59 PM  
**Revision:** 1

**Lab Work Order #:** L399975

**Date Received:** 14-JUN-06

**Project P.O. #:**  
**Job Reference:** 1102-17444  
**Legal Site Desc:**  
**CofC Numbers:** 248173

**Other Information:**

**Comments:** Revised Report: Recheck requested on vanadium for L399975-1, sample verified by reanalysis. Toluene recheck requested for L399975-2, original value reported at detection limit, reanalysis from new bottle below detection limit so data revised 17-JUL-06.

ROY JONES  
General Manager, Edmonton

**For any questions about this report please contact your Account Manager:**

**RACHEL JONES**

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY.  
ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU  
REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

**ETL Chemspec Analytical Ltd.**

Part of the **ALS Laboratory Group**  
9936-67 Avenue, Edmonton, AB T6E 0P5

**Phone: +1 780 413 5227 Fax: +1 780 437 2311 [www.alsglobal.com](http://www.alsglobal.com)**

*A Campbell Brothers Limited Company*

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L399975-1 MW4								
Sampled By: CR on 14-JUN-06								
Matrix: GW								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L	15-JUN-06	15-JUN-06	DCD	R410207
Toluene	<0.0005		0.0005	mg/L	15-JUN-06	15-JUN-06	DCD	R410207
EthylBenzene	<0.0005		0.0005	mg/L	15-JUN-06	15-JUN-06	DCD	R410207
Xylenes	<0.0005		0.0005	mg/L	15-JUN-06	15-JUN-06	DCD	R410207
F1(C6-C10)	<0.1		0.1	mg/L	15-JUN-06	15-JUN-06	DCD	R410207
F1-BTEX	<0.1		0.1	mg/L	15-JUN-06	15-JUN-06	DCD	R410207
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	19-JUN-06	19-JUN-06	MKE	R411114
Surr: 2-Bromobenzotrifluoride	99		60-148	%	19-JUN-06	19-JUN-06	MKE	R411114
Surr: Hexatriacontane	88		57-147	%	19-JUN-06	19-JUN-06	MKE	R411114
Ammonia-N	0.007		0.005	mg/L		15-JUN-06	KMY	R409765
Dissolved Organic Carbon	4		1	mg/L		15-JUN-06	TL	R409612
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		16-JUN-06	QLI	R410364
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		15-JUN-06	SHC	R409909
Phenols (4AAP)	<0.001		0.001	mg/L		20-JUN-06	GCM	R411315
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	155		1	mg/L		15-JUN-06	WYA	R409869
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		16-JUN-06	QLI	R410364
Aluminum (Al)	<0.01		0.01	mg/L		16-JUN-06	QLI	R410364
Arsenic (As)	0.0006		0.0004	mg/L		16-JUN-06	QLI	R410364
Boron (B)	0.092		0.002	mg/L		16-JUN-06	QLI	R410364
Barium (Ba)	0.0764		0.0001	mg/L		16-JUN-06	QLI	R410364
Beryllium (Be)	<0.0005		0.0005	mg/L		16-JUN-06	QLI	R410364
Bismuth (Bi)	<0.00005		0.00005	mg/L		16-JUN-06	QLI	R410364
Cadmium (Cd)	<0.0001		0.0001	mg/L		16-JUN-06	QLI	R410364
Cobalt (Co)	<0.0001		0.0001	mg/L		16-JUN-06	QLI	R410364
Chromium (Cr)	0.0017		0.0004	mg/L		16-JUN-06	QLI	R410364
Copper (Cu)	0.0009		0.0006	mg/L		16-JUN-06	QLI	R410364
Molybdenum (Mo)	0.0005		0.0001	mg/L		16-JUN-06	QLI	R410364
Nickel (Ni)	0.0007		0.0001	mg/L		16-JUN-06	QLI	R410364
Lead (Pb)	<0.0001		0.0001	mg/L		16-JUN-06	QLI	R410364
Antimony (Sb)	0.0008		0.0004	mg/L		16-JUN-06	QLI	R410364
Selenium (Se)	0.0010		0.0004	mg/L		16-JUN-06	QLI	R410364
Tin (Sn)	<0.0002		0.0002	mg/L		16-JUN-06	QLI	R410364
Strontium (Sr)	0.585		0.0001	mg/L		16-JUN-06	QLI	R410364
Titanium (Ti)	0.0003		0.0003	mg/L		16-JUN-06	QLI	R410364
Thallium (Tl)	<0.00005		0.00005	mg/L		16-JUN-06	QLI	R410364
Uranium (U)	0.0028		0.0001	mg/L		16-JUN-06	QLI	R410364
Vanadium (V)	0.0022		0.0001	mg/L		16-JUN-06	QLI	R410364
Zinc (Zn)	0.005		0.002	mg/L		16-JUN-06	QLI	R410364
Fluoride (F)	0.13		0.05	mg/L		16-JUN-06	PTT	R410427
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	147		0.5	mg/L		17-JUN-06	MLH	R410415
Potassium (K)	10.2		0.5	mg/L		17-JUN-06	MLH	R410415
Magnesium (Mg)	42.7		0.1	mg/L		17-JUN-06	MLH	R410415
Sodium (Na)	57		1	mg/L		17-JUN-06	MLH	R410415
Sulfate (SO4)	86.2		0.5	mg/L		17-JUN-06	MLH	R410415
<b>Ion Balance Calculation</b>								
Ion Balance	99.4			%		18-JUN-06		

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L399975-1 MW4								
Sampled By: CR on 14-JUN-06								
Matrix: GW								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Ion Balance Calculation</b>								
TDS (Calculated)	724			mg/L		18-JUN-06		
Hardness (as CaCO3)	543			mg/L		18-JUN-06		
Iron (Fe)-Dissolved	0.005		0.005	mg/L		16-JUN-06	SYF	R410352
Manganese (Mn)-Dissolved	0.013		0.001	mg/L		16-JUN-06	SYF	R410352
Nitrate+Nitrite-N	0.5		0.1	mg/L		15-JUN-06	SEL	R409732
Nitrate-N	0.5		0.1	mg/L		15-JUN-06	SEL	R409732
Nitrite-N	<0.05		0.05	mg/L		15-JUN-06	SEL	R409732
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.7		0.1	pH		16-JUN-06	PTT	R410427
Conductivity (EC)	1280		0.2	uS/cm		16-JUN-06	PTT	R410427
Bicarbonate (HCO3)	455		5	mg/L		16-JUN-06	PTT	R410427
Carbonate (CO3)	<5		5	mg/L		16-JUN-06	PTT	R410427
Hydroxide (OH)	<5		5	mg/L		16-JUN-06	PTT	R410427
Alkalinity, Total (as CaCO3)	373		5	mg/L		16-JUN-06	PTT	R410427
L399975-2 MW5								
Sampled By: CR on 14-JUN-06								
Matrix: GW								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L	06-JUL-06	06-JUL-06	DDU	R417324
Toluene	<0.0005		0.0005	mg/L	06-JUL-06	06-JUL-06	DDU	R417324
EthylBenzene	<0.0005		0.0005	mg/L	06-JUL-06	06-JUL-06	DDU	R417324
Xylenes	<0.0005		0.0005	mg/L	06-JUL-06	06-JUL-06	DDU	R417324
F1(C6-C10)	<0.1		0.1	mg/L	06-JUL-06	06-JUL-06	DDU	R417324
F1-BTEX	<0.1		0.1	mg/L	06-JUL-06	06-JUL-06	DDU	R417324
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	19-JUN-06	19-JUN-06	MKE	R411114
Surr: 2-Bromobenzotrifluoride	102		60-148	%	19-JUN-06	19-JUN-06	MKE	R411114
Surr: Hexatriacontane	92		57-147	%	19-JUN-06	19-JUN-06	MKE	R411114
Ammonia-N	0.338		0.005	mg/L		15-JUN-06	KMY	R409765
Dissolved Organic Carbon	4		1	mg/L		15-JUN-06	TL	R409612
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		16-JUN-06	QLI	R410364
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		15-JUN-06	SHC	R409909
Phenols (4AAP)	<0.001		0.001	mg/L		20-JUN-06	GCM	R411315
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	22		1	mg/L		15-JUN-06	WYA	R409869
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		16-JUN-06	QLI	R410364
Aluminum (Al)	<0.01		0.01	mg/L		16-JUN-06	QLI	R410364
Arsenic (As)	0.0051		0.0004	mg/L		16-JUN-06	QLI	R410364
Boron (B)	0.081		0.002	mg/L		16-JUN-06	QLI	R410364
Barium (Ba)	0.0454		0.0001	mg/L		16-JUN-06	QLI	R410364
Beryllium (Be)	<0.0005		0.0005	mg/L		16-JUN-06	QLI	R410364
Bismuth (Bi)	<0.00005		0.00005	mg/L		16-JUN-06	QLI	R410364
Cadmium (Cd)	<0.0001		0.0001	mg/L		16-JUN-06	QLI	R410364
Cobalt (Co)	0.0007		0.0001	mg/L		16-JUN-06	QLI	R410364
Chromium (Cr)	0.0016		0.0004	mg/L		16-JUN-06	QLI	R410364
Copper (Cu)	0.0006		0.0006	mg/L		16-JUN-06	QLI	R410364
Molybdenum (Mo)	0.0013		0.0001	mg/L		16-JUN-06	QLI	R410364

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L399975-2 MW5								
Sampled By: CR on 14-JUN-06								
Matrix: GW								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Dissolved Trace Metals (Low Level)</b>								
Nickel (Ni)	0.0002		0.0001	mg/L		16-JUN-06	QLI	R410364
Lead (Pb)	<0.0001		0.0001	mg/L		16-JUN-06	QLI	R410364
Antimony (Sb)	0.0007		0.0004	mg/L		16-JUN-06	QLI	R410364
Selenium (Se)	<0.0004		0.0004	mg/L		16-JUN-06	QLI	R410364
Tin (Sn)	<0.0002		0.0002	mg/L		16-JUN-06	QLI	R410364
Strontium (Sr)	0.659		0.0001	mg/L		16-JUN-06	QLI	R410364
Titanium (Ti)	0.0005		0.0003	mg/L		16-JUN-06	QLI	R410364
Thallium (Tl)	<0.00005		0.00005	mg/L		16-JUN-06	QLI	R410364
Uranium (U)	0.0007		0.0001	mg/L		16-JUN-06	QLI	R410364
Vanadium (V)	0.0008		0.0001	mg/L		16-JUN-06	QLI	R410364
Zinc (Zn)	0.004		0.002	mg/L		16-JUN-06	QLI	R410364
Fluoride (F)	0.11		0.05	mg/L		16-JUN-06	PTT	R410427
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	107		0.5	mg/L		17-JUN-06	MLH	R410415
Potassium (K)	7.6		0.5	mg/L		17-JUN-06	MLH	R410415
Magnesium (Mg)	33.5		0.1	mg/L		17-JUN-06	MLH	R410415
Sodium (Na)	44		1	mg/L		17-JUN-06	MLH	R410415
Sulfate (SO4)	124		0.5	mg/L		17-JUN-06	MLH	R410415
<b>Ion Balance Calculation</b>								
Ion Balance	101			%		18-JUN-06		
TDS (Calculated)	545			mg/L		18-JUN-06		
Hardness (as CaCO3)	405			mg/L		18-JUN-06		
Iron (Fe)-Dissolved	3.48		0.005	mg/L		16-JUN-06	SYF	R410352
Manganese (Mn)-Dissolved	0.583		0.001	mg/L		16-JUN-06	SYF	R410352
Nitrate+Nitrite-N	<0.1		0.1	mg/L		15-JUN-06	SEL	R409732
Nitrate-N	<0.1		0.1	mg/L		15-JUN-06	SEL	R409732
Nitrite-N	<0.05		0.05	mg/L		15-JUN-06	SEL	R409732
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.7		0.1	pH		16-JUN-06	PTT	R410427
Conductivity (EC)	902		0.2	uS/cm		16-JUN-06	PTT	R410427
Bicarbonate (HCO3)	421		5	mg/L		16-JUN-06	PTT	R410427
Carbonate (CO3)	<5		5	mg/L		16-JUN-06	PTT	R410427
Hydroxide (OH)	<5		5	mg/L		16-JUN-06	PTT	R410427
Alkalinity, Total (as CaCO3)	345		5	mg/L		16-JUN-06	PTT	R410427

\* Refer to Referenced Information for Qualifiers (if any) and Methodology.

## Reference Information

**Sample Parameter Qualifier key listed:**

Qualifier	Description			
<b>Methods Listed (if applicable):</b>				
ALS Test Code	Matrix	Test Description	Preparation Method Reference(Based On)	Analytical Method Reference(Based On)
BTX,F1-ED	Water	BTEX and F1 (C6-C10)	EPA 5030	EPA 5030/8015&&8260-P&T GC-MS & FID
C-DIS-ORG-ED	Water	Dissolved Organic Carbon		APHA 5310 B-Instrumental
CL-ED	Water	Chloride (Cl)		APHA 4500 Cl E-Colorimetry
ETL-ROUTINE-ICP-ED	Water	ICP metals and SO4 for routine water		APHA 3120 B-ICP-OES
F-ED	Water	Fluoride (F)		APHA 4500 F-C-Electrode
F2-ED	Water	F2 (>C10-C16)		EPA 3510/8000-GC-FID
FE-DIS-ED	Water	Iron (Fe)-Dissolved		EPA 200.7
HG-DIS-LOW-ED	Water	Mercury (Hg)-Dissolved		EPA 6020
IONBALANCE-ED	Water	Ion Balance Calculation		APHA 1030E
MET1-DIS-LOW-ED	Water	Dissolved Trace Metals (Low Level)		EPA 6020
MN-DIS-ED	Water	Manganese (Mn)-Dissolved		EPA 200.7
N2N3-ED	Water	Nitrate+Nitrite-N		APHA 4500 NO3H-Colorimetry
NH4-LOW-ED	Water	Ammonia-N		APHA 4500 NH3F-Colorimetry
NO2-ED	Water	Nitrite-N		APHA 4500 NO2B-Colorimetry
NO3-ED	Water	Nitrate-N		APHA 4500 NO3H-Colorimetry
PH/EC/ALK-ED	Water	pH, Conductivity and Total Alkalinity		APHA 4500-H, 2510, 2320
PHENOLS-CL	Water	Phenols (4AAP)		EPA 9066-Colorimetric
PO4-LOW-ED	Water	Orthophosphate (PO4-P)		APHA 4500 P B,E-Auto-Colorimetry

\*\* Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.

Chain of Custody numbers:

248173

*The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:*

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
CL	ALS LABORATORY GROUP - CALGARY, ALBERTA, CANADA	ED	ALS LABORATORY GROUP - EDMONTON, ALBERTA, CANADA



## Reference Information

### GLOSSARY OF REPORT TERMS

*Surr* - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds. The reported surrogate recovery value provides a measure of method efficiency. The Laboratory control limits are determined under column heading D.L.

*mg/kg (units)* - unit of concentration based on mass, parts per million.

*mg/L (units)* - unit of concentration based on volume, parts per million.

*<* - Less than.

*D.L.* - The reporting limit.

*N/A* - Result not available. Refer to qualifier code and definition for explanation.

*Test results reported relate only to the samples as received by the laboratory.*

*UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.*

*UNLESS OTHERWISE STATED, SAMPLES ARE NOT CORRECTED FOR CLIENT FIELD BLANKS.*

*Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.*

*ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.*

<b>REPORT TO:</b> COMPANY: STANTEC CONTACT: C. Rondeau / D. Yoshizaka ADDRESS: 10160 - 112st Edmonton AB T5K 2L6 PHONE: 917-7000 FAX: 917-7249 CELLPHONE: 995-3824 INVOICE TO: SAME COMPANY: CONTACT: ADDRESS: PHONE: FAX:		DATE: 14-Jun-06 REPORT DISTRIBUTION ALL FINAL RESULTS WILL BE MAILED EMAIL <input checked="" type="checkbox"/> FAX EMAIL 1: d.yoshizaka@stantec.com EMAIL 2: c.rondeau@stantec.com DIGITAL EMAIL: SELECT: pdf digital both <input checked="" type="checkbox"/> INDICATE BOTTLES: FILTERED/PRESERVED (F/P)		LAB WORK ORDER # 399975 SERVICE REQUESTED <input checked="" type="checkbox"/> REGULAR SERVICE (DEFAULT) <input type="checkbox"/> PRIORITY SERVICE (50% SURCHARGE) <input type="checkbox"/> EMERGENCY SERVICE (100% SURCHARGE)	
ANALYSIS REQUEST ANALYZE BOTTLES: FILTERED/PRESERVED (F/P)		ANALYSIS REQUEST		HAZARDOUS ? NUMBER OF CONTAINERS 8 HIGHLY CONTAMINATED ?	
JOB # 110217444 PO/A/E: LSD: QUOTE # 8883		SAMPLED BY / DATE / TIME CR / 14-Jun-06 ↓		SAMPLING METHOD GRAB ↓	
SAMPLE ID MW4 MW5		SAMPLING LOCATION		SAMPLE TYPE CW ↓	
SPECIAL INSTRUCTIONS / NATURE OF HAZARDOUS MATERIAL * DOC. & METALS FIELD FILTERED & PRESERVED		SAMPLE CONDITION FROZEN COLD AMBIENT		MEAN TEMPERATURE	
GUIDELINES / REGULATIONS					
Failure to complete all portions of this form may delay analysis. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the reverse of the white report copy.					
RELINQUISHED BY: [Signature] DATE & TIME: 14-Jun-06 / 16:54		RECEIVED BY: [Signature] DATE & TIME: 14 Jun 06 16:54		SAMPLE CONDITION ACCEPTABLE UPON RECEIPT ? (Y/N)	



Environmental Division

**ANALYTICAL REPORT**

STANTEC CONSULTING LTD  
**ATTN:** CHRISTINE RONDEAU/DAN YOSHIKA  
7 FL NORTH TOWER 10160 112 STREET  
EDMONTON AB T5K 2L6

**Reported On:** 16-NOV-06 01:34 PM  
**Revision:** 2

**Lab Work Order #:** L400481

**Date Received:** 15-JUN-06

**Project P.O. #:**  
**Job Reference:** 1102-17444  
**Legal Site Desc:**  
**CofC Numbers:** 244083

**Other Information:**

**Comments:** Revised Report: Rechecks requested for Fe, Mn, alkalinity and HCO<sub>3</sub> on L400481-1, values confirmed by reanalysis. Rechecks requested for Cr on L400481-2,3, values edited to reanalysed values 16-JUL-06.

ROY JONES  
General Manager, Edmonton

**For any questions about this report please contact your Account Manager:**

**RACHEL JONES**

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY.  
ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU  
REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

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*A Campbell Brothers Limited Company*

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400481-1 MW1								
Sampled By: CR on 15-JUN-06								
Matrix: GW								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
Toluene	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
EthylBenzene	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
Xylenes	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
F1(C6-C10)	<0.1		0.1	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
F1-BTEX	<0.1		0.1	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	19-JUN-06	19-JUN-06	MKE	R411108
Surr: 2-Bromobenzotrifluoride	113		60-148	%	19-JUN-06	19-JUN-06	MKE	R411108
Surr: Hexatriacontane	122		57-147	%	19-JUN-06	19-JUN-06	MKE	R411108
Ammonia-N	1.17		0.005	mg/L		20-JUN-06	KMY	R411275
Dissolved Organic Carbon	5		1	mg/L		16-JUN-06	TL	R410084
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		16-JUN-06	SHC	R410363
Phenols (4AAP)	<0.001		0.001	mg/L		21-JUN-06	GCM	R411764
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	23		1	mg/L		18-JUN-06	WYA	R410558
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0024		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.152		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.107		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0031		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0040		0.0004	mg/L		19-JUN-06	QLI	R411366
Copper (Cu)	0.0011		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0009		0.0001	mg/L		19-JUN-06	QLI	R411366
Nickel (Ni)	0.0012		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0007		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	0.0005		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	1.46		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0012		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0023		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.012		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.09		0.05	mg/L		17-JUN-06	PTT	R410935
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	162		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	5.5		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	55.4		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	95		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	274		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	102			%		19-JUN-06		

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400481-1 MW1 Sampled By: CR on 15-JUN-06 Matrix: GW								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Ion Balance Calculation</b>								
TDS (Calculated)	925			mg/L		19-JUN-06		
Hardness (as CaCO3)	633			mg/L		19-JUN-06		
Iron (Fe)-Dissolved	3.19	RRVAP	0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	1.09	RRVAP	0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	<0.1		0.1	mg/L		16-JUN-06	SEL	R410293
Nitrate-N	<0.1		0.1	mg/L		16-JUN-06	SEL	R410293
Nitrite-N	<0.05		0.05	mg/L		16-JUN-06	SEL	R410293
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.9		0.1	pH		17-JUN-06	PTT	R410935
Conductivity (EC)	1420		0.2	uS/cm		17-JUN-06	PTT	R410935
Bicarbonate (HCO3)	629	RRV	5	mg/L		17-JUN-06	PTT	R410935
Carbonate (CO3)	<5		5	mg/L		17-JUN-06	PTT	R410935
Hydroxide (OH)	<5		5	mg/L		17-JUN-06	PTT	R410935
Alkalinity, Total (as CaCO3)	516	RRV	5	mg/L		17-JUN-06	PTT	R410935
L400481-2 MW2 Sampled By: CR on 15-JUN-06 Matrix: GW								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
Toluene	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
EthylBenzene	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
Xylenes	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
F1(C6-C10)	<0.1		0.1	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
F1-BTEX	<0.1		0.1	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	19-JUN-06	19-JUN-06	MKE	R411108
Surr: 2-Bromobenzotrifluoride	101		60-148	%	19-JUN-06	19-JUN-06	MKE	R411108
Surr: Hexatriacontane	94		57-147	%	19-JUN-06	19-JUN-06	MKE	R411108
Ammonia-N	0.274		0.005	mg/L		20-JUN-06	KMY	R411275
Dissolved Organic Carbon	3		1	mg/L		16-JUN-06	TL	R410084
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		16-JUN-06	SHC	R410363
Phenols (4AAP)	<0.001		0.001	mg/L		21-JUN-06	GCM	R411764
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	4		1	mg/L		18-JUN-06	WYA	R410558
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0009		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.045		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.134		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0008		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	<0.0004	RVS	0.0004	mg/L		05-JUL-06	QLI	R414688
Copper (Cu)	<0.0006		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0004		0.0001	mg/L		19-JUN-06	QLI	R411366

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400481-2 MW2								
Sampled By: CR on 15-JUN-06								
Matrix: GW								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Dissolved Trace Metals (Low Level)</b>								
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0006		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	<0.0004		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	0.554		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0010		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0022		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.005		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.14		0.05	mg/L		17-JUN-06	PTT	R410935
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	99.7		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	2.9		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	27.3		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	37		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	56.8		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	103			%		19-JUN-06		
TDS (Calculated)	448			mg/L		19-JUN-06		
Hardness (as CaCO3)	361			mg/L		19-JUN-06		
Iron (Fe)-Dissolved	1.81		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	0.700		0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	<0.1		0.1	mg/L		16-JUN-06	SEL	R410293
Nitrate-N	<0.1		0.1	mg/L		16-JUN-06	SEL	R410293
Nitrite-N	<0.05		0.05	mg/L		16-JUN-06	SEL	R410293
<b>pH, Conductivity and Total Alkalinity</b>								
pH	8.0		0.1	pH		17-JUN-06	PTT	R410935
Conductivity (EC)	748		0.2	uS/cm		17-JUN-06	PTT	R410935
Bicarbonate (HCO3)	448		5	mg/L		17-JUN-06	PTT	R410935
Carbonate (CO3)	<5		5	mg/L		17-JUN-06	PTT	R410935
Hydroxide (OH)	<5		5	mg/L		17-JUN-06	PTT	R410935
Alkalinity, Total (as CaCO3)	367		5	mg/L		17-JUN-06	PTT	R410935
L400481-3 MW3								
Sampled By: CR on 15-JUN-06								
Matrix: GW								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
Toluene	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
EthylBenzene	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
Xylenes	<0.0005		0.0005	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
F1(C6-C10)	<0.1		0.1	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
F1-BTEX	<0.1		0.1	mg/L	17-JUN-06	17-JUN-06	DCD	R410567
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	19-JUN-06	19-JUN-06	MKE	R411108
Surr: 2-Bromobenzotrifluoride	103		60-148	%	19-JUN-06	19-JUN-06	MKE	R411108
Surr: Hexatriacontane	98		57-147	%	19-JUN-06	19-JUN-06	MKE	R411108
Ammonia-N	0.359		0.005	mg/L		20-JUN-06	KMY	R411275

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400481-3 MW3								
Sampled By: CR on 15-JUN-06								
Matrix: GW								
Dissolved Organic Carbon	3		1	mg/L		16-JUN-06	TL	R410084
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		16-JUN-06	SHC	R410363
Phenols (4AAP)	<0.001		0.001	mg/L		21-JUN-06	GCM	R411764
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	35		1	mg/L		18-JUN-06	WYA	R410558
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0013		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.109		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.0411		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0008		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0004	RVS	0.0004	mg/L		05-JUL-06	QLI	R414688
Copper (Cu)	0.0007		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0007		0.0001	mg/L		19-JUN-06	QLI	R411366
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0006		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	0.0005		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	0.845		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0010		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0007		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.010		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.10		0.05	mg/L		17-JUN-06	PTT	R410935
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	109		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	3.0		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	36.6		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	52		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	116		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	102			%		20-JUN-06		
TDS (Calculated)	568			mg/L		20-JUN-06		
Hardness (as CaCO3)	423			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	4.85		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	0.258		0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	<0.1		0.1	mg/L		16-JUN-06	SEL	R410293
Nitrate-N	<0.1		0.1	mg/L		16-JUN-06	SEL	R410293
Nitrite-N	<0.05		0.05	mg/L		16-JUN-06	SEL	R410293
<b>pH, Conductivity and Total Alkalinity</b>								
pH	8.0		0.1	pH		17-JUN-06	PTT	R410935
Conductivity (EC)	943		0.2	uS/cm		17-JUN-06	PTT	R410935
Bicarbonate (HCO3)	439		5	mg/L		17-JUN-06	PTT	R410935
Carbonate (CO3)	<5		5	mg/L		17-JUN-06	PTT	R410935

# ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400481-3 MW3								
Sampled By: CR on 15-JUN-06								
Matrix: GW								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>pH, Conductivity and Total Alkalinity</b>								
Hydroxide (OH)	<5		5	mg/L		17-JUN-06	PTT	R410935
Alkalinity, Total (as CaCO3)	360		5	mg/L		17-JUN-06	PTT	R410935
* Refer to Referenced Information for Qualifiers (if any) and Methodology.								



## Reference Information

**Sample Parameter Qualifier key listed:**

Qualifier	Description
RRV	Reported Result Verified By Repeat Analysis
RRVAP	Reported Result Verified by Alternate Process
RVS	Result Revised from previous report

**Methods Listed (if applicable):**

ALS Test Code	Matrix	Test Description	Preparation Method Reference(Based On)	Analytical Method Reference(Based On)
BTX,F1-ED	Water	BTEX and F1 (C6-C10)	EPA 5030	EPA 5030/8015&8260-P&T GC-MS & FID
C-DIS-ORG-ED	Water	Dissolved Organic Carbon		APHA 5310 B-Instrumental
CL-ED	Water	Chloride (Cl)		APHA 4500 Cl E-Colorimetry
ETL-ROUTINE-ICP-ED	Water	ICP metals and SO4 for routine water		APHA 3120 B-ICP-OES
F-ED	Water	Fluoride (F)		APHA 4500 F-C-Electrode
F2-ED	Water	F2 (>C10-C16)		EPA 3510/8000-GC-FID
FE-DIS-ED	Water	Iron (Fe)-Dissolved		EPA 200.7
HG-DIS-LOW-ED	Water	Mercury (Hg)-Dissolved		EPA 6020
IONBALANCE-ED	Water	Ion Balance Calculation		APHA 1030E
MET1-DIS-LOW-ED	Water	Dissolved Trace Metals (Low Level)		EPA 6020
MN-DIS-ED	Water	Manganese (Mn)-Dissolved		EPA 200.7
N2N3-ED	Water	Nitrate+Nitrite-N		APHA 4500 NO3H-Colorimetry
NH4-LOW-ED	Water	Ammonia-N		APHA 4500 NH3F-Colorimetry
NO2-ED	Water	Nitrite-N		APHA 4500 NO2B-Colorimetry
NO3-ED	Water	Nitrate-N		APHA 4500 NO3H-Colorimetry
PH/EC/ALK-ED	Water	pH, Conductivity and Total Alkalinity		APHA 4500-H, 2510, 2320
PHENOLS-CL	Water	Phenols (4AAP)		EPA 9066-Colorimetric
PO4-LOW-ED	Water	Orthophosphate (PO4-P)		APHA 4500 P B,E-Auto-Colorimetry

\*\* Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.

Chain of Custody numbers:

244083

*The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:*

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
CL	ALS LABORATORY GROUP - CALGARY, ALBERTA, CANADA	ED	ALS LABORATORY GROUP - EDMONTON, ALBERTA, CANADA

## Reference Information

### GLOSSARY OF REPORT TERMS

*Surr* - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds. The reported surrogate recovery value provides a measure of method efficiency. The Laboratory control limits are determined under column heading D.L.

*mg/kg (units)* - unit of concentration based on mass, parts per million.

*mg/L (units)* - unit of concentration based on volume, parts per million.

*<* - Less than.

*D.L.* - The reporting limit.

*N/A* - Result not available. Refer to qualifier code and definition for explanation.

*Test results reported relate only to the samples as received by the laboratory.*

*UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.*

*UNLESS OTHERWISE STATED, SAMPLES ARE NOT CORRECTED FOR CLIENT FIELD BLANKS.*

*Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.*

*ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.*





Environmental Division

**ANALYTICAL REPORT**

STANTEC CONSULTING LTD  
**ATTN:** DAN YOSHISAKA  
7 FL NORTH TOWER 10160 112 STREET  
EDMONTON AB T5K 2L6

**Reported On:** 16-NOV-06 01:52 PM  
**Revision:** 1

**Lab Work Order #:** L400948

**Date Received:** 17-JUN-06

**Project P.O. #:**  
**Job Reference:** 1102-17444  
**Legal Site Desc:**  
**CofC Numbers:** 248174

**Other Information:**

**Comments:** Revised Report: Recheck requested for PO4 on L400948-1, sample value did increase from reanalysis yet sample past hold time and change likely due to chemical shift within the sample, so initial result likely best estimate. Recheck requested for dissolved Fe on L400948-2, sample prep error, wrong sample analysed initially so results have been edited to result from reanalysis 17-JUL-06.

ROY JONES  
General Manager, Edmonton

**For any questions about this report please contact your Account Manager:**

**RACHEL JONES**

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY.  
ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU  
REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-1 MW6								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Toluene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
EthylBenzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Xylenes	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
F1(C6-C10)	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
F1-BTEX	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	20-JUN-06	20-JUN-06	IJB	R411547
Surr: 2-Bromobenzotrifluoride	99		60-148	%	20-JUN-06	20-JUN-06	IJB	R411547
Surr: Hexatriacontane	96		57-147	%	20-JUN-06	20-JUN-06	IJB	R411547
Ammonia-N	2.38		0.005	mg/L		27-JUN-06	KMY	R413706
Dissolved Organic Carbon	7		1	mg/L		19-JUN-06	TL	R410750
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	0.001		0.001	mg/L		19-JUN-06	KMY	R410984
Phenols (4AAP)	<0.001		0.001	mg/L		26-JUN-06	GCM	R413249
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	10		1	mg/L		19-JUN-06	WYA	R410982
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0034		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.149		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.0666		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0007		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0015		0.0004	mg/L		19-JUN-06	QLI	R411366
Copper (Cu)	0.0014		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0014		0.0001	mg/L		19-JUN-06	QLI	R411366
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0009		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	0.0007		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	1.28		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0010		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0016		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.008		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.14		0.05	mg/L		19-JUN-06	PTT	R410762
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	168		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	5.5		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	57.7		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	190		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	482		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	104			%		20-JUN-06		

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-1 MW6 Sampled By: NOT PROVIDED on 16-JUN-06 Matrix: WATER								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Ion Balance Calculation</b>								
TDS (Calculated)	1220			mg/L		20-JUN-06		
Hardness (as CaCO3)	657			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	3.58		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	1.01		0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrate-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrite-N	<0.05		0.05	mg/L		19-JUN-06	SHC	R410989
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.7		0.1	pH		19-JUN-06	PTT	R410762
Conductivity (EC)	1700		0.2	uS/cm		19-JUN-06	PTT	R410762
Bicarbonate (HCO3)	633		5	mg/L		19-JUN-06	PTT	R410762
Carbonate (CO3)	<5		5	mg/L		19-JUN-06	PTT	R410762
Hydroxide (OH)	<5		5	mg/L		19-JUN-06	PTT	R410762
Alkalinity, Total (as CaCO3)	519		5	mg/L		19-JUN-06	PTT	R410762
L400948-2 MW7 Sampled By: NOT PROVIDED on 16-JUN-06 Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Toluene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
EthylBenzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Xylenes	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
F1(C6-C10)	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
F1-BTEX	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	20-JUN-06	20-JUN-06	IJB	R411547
Surr: 2-Bromobenzotrifluoride	95		60-148	%	20-JUN-06	20-JUN-06	IJB	R411547
Surr: Hexatriacontane	94		57-147	%	20-JUN-06	20-JUN-06	IJB	R411547
Ammonia-N	2.28		0.005	mg/L		27-JUN-06	KMY	R413706
Dissolved Organic Carbon	6		1	mg/L		19-JUN-06	TL	R410750
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		19-JUN-06	KMY	R410984
Phenols (4AAP)	<0.001		0.001	mg/L		26-JUN-06	GCM	R413249
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	15		1	mg/L		19-JUN-06	WYA	R410982
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0022		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.312		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.0543		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0012		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0018		0.0004	mg/L		19-JUN-06	QLI	R411366
Copper (Cu)	0.0023		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0008		0.0001	mg/L		19-JUN-06	QLI	R411366

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-2 MW7								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Dissolved Trace Metals (Low Level)</b>								
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0007		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	0.0007		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	2.58		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0010		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0017		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.006		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.07		0.05	mg/L		19-JUN-06	PTT	R410762
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	284		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	6.2		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	96.4		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	269		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	1010		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	105			%		20-JUN-06		
TDS (Calculated)	2010			mg/L		20-JUN-06		
Hardness (as CaCO3)	1110			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	11.1	RVS	0.005	mg/L		21-JUN-06	HAS	R411849
Manganese (Mn)-Dissolved	1.86		0.001	mg/L		21-JUN-06	HAS	R411849
Nitrate+Nitrite-N	0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrate-N	0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrite-N	<0.05		0.05	mg/L		19-JUN-06	SHC	R410989
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.5		0.1	pH		19-JUN-06	PTT	R410762
Conductivity (EC)	2530		0.2	uS/cm		19-JUN-06	PTT	R410762
Bicarbonate (HCO3)	661		5	mg/L		19-JUN-06	PTT	R410762
Carbonate (CO3)	<5		5	mg/L		19-JUN-06	PTT	R410762
Hydroxide (OH)	<5		5	mg/L		19-JUN-06	PTT	R410762
Alkalinity, Total (as CaCO3)	542		5	mg/L		19-JUN-06	PTT	R410762
L400948-3 MW8								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Toluene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
EthylBenzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Xylenes	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
F1(C6-C10)	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
F1-BTEX	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	20-JUN-06	20-JUN-06	IJB	R411547
Surr: 2-Bromobenzotrifluoride	100		60-148	%	20-JUN-06	20-JUN-06	IJB	R411547
Surr: Hexatriacontane	95		57-147	%	20-JUN-06	20-JUN-06	IJB	R411547
Ammonia-N	1.89		0.005	mg/L		27-JUN-06	KMY	R413706

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-3 MW8								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
Dissolved Organic Carbon	6	ISCR:ST	1	mg/L		20-JUN-06	TL	R411194
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		19-JUN-06	KMY	R410984
Phenols (4AAP)	<0.001		0.001	mg/L		26-JUN-06	GCM	R413249
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	3		1	mg/L		19-JUN-06	WYA	R410982
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0044		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.206		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.0629		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0004		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0012		0.0004	mg/L		19-JUN-06	QLI	R411366
Copper (Cu)	0.0011		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0011		0.0001	mg/L		19-JUN-06	QLI	R411366
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0006		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	<0.0004		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	1.45		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0008		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0009		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.006		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.09		0.05	mg/L		19-JUN-06	PTT	R410762
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	161		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	6.1		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	44.2		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	132		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	341		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	104			%		20-JUN-06		
TDS (Calculated)	980			mg/L		20-JUN-06		
Hardness (as CaCO3)	584			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	6.97		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	0.481		0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrate-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrite-N	<0.05		0.05	mg/L		19-JUN-06	SHC	R410989
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.7		0.1	pH		19-JUN-06	PTT	R410762
Conductivity (EC)	1240		0.2	uS/cm		19-JUN-06	PTT	R410762
Bicarbonate (HCO3)	594		5	mg/L		19-JUN-06	PTT	R410762
Carbonate (CO3)	<5		5	mg/L		19-JUN-06	PTT	R410762





## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-4 MW9								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	98.1		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	3.9		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	27.7		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	231		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	316		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	99.9			%		20-JUN-06		
TDS (Calculated)	1000			mg/L		20-JUN-06		
Hardness (as CaCO3)	359			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	1.44		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	0.797		0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrate-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrite-N	<0.05		0.05	mg/L		19-JUN-06	SHC	R410989
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.9		0.1	pH		19-JUN-06	PTT	R410762
Conductivity (EC)	1520		0.2	uS/cm		19-JUN-06	PTT	R410762
Bicarbonate (HCO3)	644		5	mg/L		19-JUN-06	PTT	R410762
Carbonate (CO3)	<5		5	mg/L		19-JUN-06	PTT	R410762
Hydroxide (OH)	<5		5	mg/L		19-JUN-06	PTT	R410762
Alkalinity, Total (as CaCO3)	528		5	mg/L		19-JUN-06	PTT	R410762
L400948-5 MW10								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Toluene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
EthylBenzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Xylenes	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
F1(C6-C10)	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
F1-BTEX	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	20-JUN-06	20-JUN-06	IJB	R411547
Surr: 2-Bromobenzotrifluoride	100		60-148	%	20-JUN-06	20-JUN-06	IJB	R411547
Surr: Hexatriacontane	101		57-147	%	20-JUN-06	20-JUN-06	IJB	R411547
Ammonia-N	1.76		0.005	mg/L		27-JUN-06	KMY	R413706
Dissolved Organic Carbon	6		1	mg/L		19-JUN-06	TL	R410750
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		19-JUN-06	KMY	R410984
Phenols (4AAP)	<0.001		0.001	mg/L		26-JUN-06	GCM	R413249
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	2		1	mg/L		19-JUN-06	WYA	R410982
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0036		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.187		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.0319		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-5 MW10								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Dissolved Trace Metals (Low Level)</b>								
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0003		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0011		0.0004	mg/L		19-JUN-06	QLI	R411366
Copper (Cu)	0.0009		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0009		0.0001	mg/L		19-JUN-06	QLI	R411366
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0006		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	<0.0004		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	1.41		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0007		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0014		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.009		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.13		0.05	mg/L		19-JUN-06	PTT	R410762
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	139		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	5.6		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	37.8		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	119		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	212		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	103			%		20-JUN-06		
TDS (Calculated)	831			mg/L		20-JUN-06		
Hardness (as CaCO3)	503			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	5.89		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	0.670		0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrate-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrite-N	<0.05		0.05	mg/L		19-JUN-06	SHC	R410989
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.7		0.1	pH		19-JUN-06	PTT	R410762
Conductivity (EC)	1120		0.2	uS/cm		19-JUN-06	PTT	R410762
Bicarbonate (HCO3)	641		5	mg/L		19-JUN-06	PTT	R410762
Carbonate (CO3)	<5		5	mg/L		19-JUN-06	PTT	R410762
Hydroxide (OH)	<5		5	mg/L		19-JUN-06	PTT	R410762
Alkalinity, Total (as CaCO3)	525		5	mg/L		19-JUN-06	PTT	R410762
L400948-6 MW11								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Toluene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
EthylBenzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Xylenes	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
F1(C6-C10)	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
F1-BTEX	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-6 MW11								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	20-JUN-06	20-JUN-06	IJB	R411547
Surr: 2-Bromobenzotrifluoride	96		60-148	%	20-JUN-06	20-JUN-06	IJB	R411547
Surr: Hexatriacontane	174	SOL:MI	57-147	%	20-JUN-06	20-JUN-06	IJB	R411547
Ammonia-N	1.56		0.005	mg/L		27-JUN-06	KMY	R413706
Dissolved Organic Carbon	7	ISCR:ST	1	mg/L		20-JUN-06	TL	R411194
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		19-JUN-06	KMY	R410984
Phenols (4AAP)	<0.001		0.001	mg/L		26-JUN-06	GCM	R413249
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	11		1	mg/L		19-JUN-06	WYA	R410982
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0022		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.205		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.0440		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0003		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0013		0.0004	mg/L		19-JUN-06	QLI	R411366
Copper (Cu)	0.0009		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0006		0.0001	mg/L		19-JUN-06	QLI	R411366
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0006		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	0.0004		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	1.22		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0010		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0011		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.009		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.09		0.05	mg/L		19-JUN-06	PTT	R410762
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	153		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	4.8		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	45.7		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	92		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	194		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	101			%		20-JUN-06		
TDS (Calculated)	831			mg/L		20-JUN-06		
Hardness (as CaCO3)	570			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	7.23		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	0.659		0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrate-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-6 MW11 Sampled By: NOT PROVIDED on 16-JUN-06 Matrix: WATER								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Nitrite-N	<0.05		0.05	mg/L		19-JUN-06	SHC	R410989
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.7		0.1	pH		19-JUN-06	PTT	R410762
Conductivity (EC)	1100		0.2	uS/cm		19-JUN-06	PTT	R410762
Bicarbonate (HCO3)	672		5	mg/L		19-JUN-06	PTT	R410762
Carbonate (CO3)	<5		5	mg/L		19-JUN-06	PTT	R410762
Hydroxide (OH)	<5		5	mg/L		19-JUN-06	PTT	R410762
Alkalinity, Total (as CaCO3)	551		5	mg/L		19-JUN-06	PTT	R410762
L400948-7 MW12 Sampled By: NOT PROVIDED on 16-JUN-06 Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Toluene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
EthylBenzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Xylenes	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
F1(C6-C10)	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
F1-BTEX	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	20-JUN-06	20-JUN-06	IJB	R411547
Surr: 2-Bromobenzotrifluoride	100		60-148	%	20-JUN-06	20-JUN-06	IJB	R411547
Surr: Hexatriacontane	105		57-147	%	20-JUN-06	20-JUN-06	IJB	R411547
Ammonia-N	1.34		0.005	mg/L		27-JUN-06	KMY	R413706
Dissolved Organic Carbon	7		1	mg/L		19-JUN-06	TL	R410750
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		19-JUN-06	KMY	R410984
Phenols (4AAP)	<0.001		0.001	mg/L		26-JUN-06	GCM	R413249
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	7		1	mg/L		19-JUN-06	WYA	R410982
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0023		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.251		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.178		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0007		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0016		0.0004	mg/L		19-JUN-06	QLI	R411366
Copper (Cu)	<0.0006		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0012		0.0001	mg/L		19-JUN-06	QLI	R411366
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0006		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	<0.0004		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	0.925		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0008		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-7 MW12								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Dissolved Trace Metals (Low Level)</b>								
Uranium (U)	0.0010		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.007		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.07		0.05	mg/L		19-JUN-06	PTT	R410762
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	100		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	5.1		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	29.1		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	106		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	44.2		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	100			%		20-JUN-06		
TDS (Calculated)	621			mg/L		20-JUN-06		
Hardness (as CaCO3)	370			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	3.76		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	0.436		0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrate-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrite-N	<0.05		0.05	mg/L		19-JUN-06	SHC	R410989
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.8		0.1	pH		19-JUN-06	PTT	R410762
Conductivity (EC)	904		0.2	uS/cm		19-JUN-06	PTT	R410762
Bicarbonate (HCO3)	669		5	mg/L		19-JUN-06	PTT	R410762
Carbonate (CO3)	<5		5	mg/L		19-JUN-06	PTT	R410762
Hydroxide (OH)	<5		5	mg/L		19-JUN-06	PTT	R410762
Alkalinity, Total (as CaCO3)	549		5	mg/L		19-JUN-06	PTT	R410762
L400948-8 MW13								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Toluene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
EthylBenzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Xylenes	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
F1(C6-C10)	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
F1-BTEX	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	20-JUN-06	20-JUN-06	IJB	R411547
Surr: 2-Bromobenzotrifluoride	99		60-148	%	20-JUN-06	20-JUN-06	IJB	R411547
Surr: Hexatriacontane	94		57-147	%	20-JUN-06	20-JUN-06	IJB	R411547
Ammonia-N	1.31		0.005	mg/L		27-JUN-06	KMY	R413706
Dissolved Organic Carbon	5		1	mg/L		19-JUN-06	TL	R410750
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		19-JUN-06	KMY	R410984
Phenols (4AAP)	<0.001		0.001	mg/L		26-JUN-06	GCM	R413249
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	4		1	mg/L		19-JUN-06	WYA	R410982
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-8 MW13								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Dissolved Trace Metals (Low Level)</b>								
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0014		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.273		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.424		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0007		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0011		0.0004	mg/L		19-JUN-06	QLI	R411366
Copper (Cu)	<0.0006		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0021		0.0001	mg/L		19-JUN-06	QLI	R411366
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0006		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	<0.0004		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	0.553		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0006		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0008		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.009		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.14		0.05	mg/L		19-JUN-06	PTT	R410762
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	55.6		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	3.9		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	17.1		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	112		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	10.1		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	99.4			%		20-JUN-06		
TDS (Calculated)	470			mg/L		20-JUN-06		
Hardness (as CaCO3)	209			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	1.19		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	0.256		0.001	mg/L		19-JUN-06	HAS	R410979
Nitrate+Nitrite-N	0.2		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrate-N	0.2		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrite-N	<0.05		0.05	mg/L		19-JUN-06	SHC	R410989
<b>pH, Conductivity and Total Alkalinity</b>								
pH	8.0		0.1	pH		19-JUN-06	PTT	R410762
Conductivity (EC)	715		0.2	uS/cm		19-JUN-06	PTT	R410762
Bicarbonate (HCO3)	541		5	mg/L		19-JUN-06	PTT	R410762
Carbonate (CO3)	<5		5	mg/L		19-JUN-06	PTT	R410762
Hydroxide (OH)	<5		5	mg/L		19-JUN-06	PTT	R410762
Alkalinity, Total (as CaCO3)	443		5	mg/L		19-JUN-06	PTT	R410762
L400948-9 MW14								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Benzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117

## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-9 MW14								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>BTEX, F1 (C6-C10) and F2 (&gt;C10-C16)</b>								
<b>BTEX and F1 (C6-C10)</b>								
Toluene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
EthylBenzene	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
Xylenes	<0.0005		0.0005	mg/L		19-JUN-06	CTL	R411117
F1(C6-C10)	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
F1-BTEX	<0.1		0.1	mg/L		19-JUN-06	CTL	R411117
<b>F2 (&gt;C10-C16)</b>								
F2 (>C10-C16)	<0.05		0.05	mg/L	20-JUN-06	20-JUN-06	IJB	R411547
Surr: 2-Bromobenzotrifluoride	91		60-148	%	20-JUN-06	20-JUN-06	IJB	R411547
Surr: Hexatriacontane	91		57-147	%	20-JUN-06	20-JUN-06	IJB	R411547
Ammonia-N	1.33		0.005	mg/L		27-JUN-06	KMY	R413706
Dissolved Organic Carbon	7		1	mg/L		19-JUN-06	TL	R410750
Mercury (Hg)-Dissolved	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Orthophosphate (PO4-P)	<0.001		0.001	mg/L		19-JUN-06	KMY	R410984
Phenols (4AAP)	<0.001		0.001	mg/L		26-JUN-06	GCM	R413249
<b>Major Ions &amp; Trace Dissolved Metals</b>								
Chloride (Cl)	8		1	mg/L		19-JUN-06	WYA	R410982
<b>Dissolved Trace Metals (Low Level)</b>								
Silver (Ag)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Aluminum (Al)	<0.01		0.01	mg/L		19-JUN-06	QLI	R411366
Arsenic (As)	0.0023		0.0004	mg/L		19-JUN-06	QLI	R411366
Boron (B)	0.247		0.002	mg/L		19-JUN-06	QLI	R411366
Barium (Ba)	0.176		0.0001	mg/L		19-JUN-06	QLI	R411366
Beryllium (Be)	<0.0005		0.0005	mg/L		19-JUN-06	QLI	R411366
Bismuth (Bi)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Cadmium (Cd)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Cobalt (Co)	0.0007		0.0001	mg/L		19-JUN-06	QLI	R411366
Chromium (Cr)	0.0013		0.0004	mg/L		19-JUN-06	QLI	R411366
Copper (Cu)	<0.0006		0.0006	mg/L		19-JUN-06	QLI	R411366
Molybdenum (Mo)	0.0011		0.0001	mg/L		19-JUN-06	QLI	R411366
Nickel (Ni)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Lead (Pb)	0.0003		0.0001	mg/L		19-JUN-06	QLI	R411366
Antimony (Sb)	0.0006		0.0004	mg/L		19-JUN-06	QLI	R411366
Selenium (Se)	<0.0004		0.0004	mg/L		19-JUN-06	QLI	R411366
Tin (Sn)	<0.0002		0.0002	mg/L		19-JUN-06	QLI	R411366
Strontium (Sr)	0.921		0.0001	mg/L		19-JUN-06	QLI	R411366
Titanium (Ti)	0.0007		0.0003	mg/L		19-JUN-06	QLI	R411366
Thallium (Tl)	<0.00005		0.00005	mg/L		19-JUN-06	QLI	R411366
Uranium (U)	0.0010		0.0001	mg/L		19-JUN-06	QLI	R411366
Vanadium (V)	<0.0001		0.0001	mg/L		19-JUN-06	QLI	R411366
Zinc (Zn)	0.006		0.002	mg/L		19-JUN-06	QLI	R411366
Fluoride (F)	0.07		0.05	mg/L		19-JUN-06	PTT	R410762
<b>ICP metals and SO4 for routine water</b>								
Calcium (Ca)	99.0		0.5	mg/L		19-JUN-06	MLH	R410881
Potassium (K)	4.9		0.5	mg/L		19-JUN-06	MLH	R410881
Magnesium (Mg)	28.9		0.1	mg/L		19-JUN-06	MLH	R410881
Sodium (Na)	103		1	mg/L		19-JUN-06	MLH	R410881
Sulfate (SO4)	42.3		0.5	mg/L		19-JUN-06	MLH	R410881
<b>Ion Balance Calculation</b>								
Ion Balance	98.6			%		20-JUN-06		
TDS (Calculated)	616			mg/L		20-JUN-06		



# ALS LABORATORY GROUP ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	By	Batch
L400948-9 MW14								
Sampled By: NOT PROVIDED on 16-JUN-06								
Matrix: WATER								
<b>Major Ions &amp; Trace Dissolved Metals</b>								
<b>Ion Balance Calculation</b>								
Hardness (as CaCO <sub>3</sub> )	366			mg/L		20-JUN-06		
Iron (Fe)-Dissolved	3.72		0.005	mg/L		19-JUN-06	HAS	R410979
Manganese (Mn)-Dissolved	0.419		0.001	mg/L		21-JUN-06	HAS	R411849
Nitrate+Nitrite-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrate-N	<0.1		0.1	mg/L		19-JUN-06	SHC	R410989
Nitrite-N	<0.05		0.05	mg/L		19-JUN-06	SHC	R410989
<b>pH, Conductivity and Total Alkalinity</b>								
pH	7.8		0.1	pH		19-JUN-06	PTT	R410762
Conductivity (EC)	930		0.2	uS/cm		19-JUN-06	PTT	R410762
Bicarbonate (HCO <sub>3</sub> )	670		5	mg/L		19-JUN-06	PTT	R410762
Carbonate (CO <sub>3</sub> )	<5		5	mg/L		19-JUN-06	PTT	R410762
Hydroxide (OH)	<5		5	mg/L		19-JUN-06	PTT	R410762
Alkalinity, Total (as CaCO <sub>3</sub> )	549		5	mg/L		19-JUN-06	PTT	R410762
* Refer to Referenced Information for Qualifiers (if any) and Methodology.								

## Reference Information

**Qualifiers for Sample Submission Listed:**

Qualifier	Description
EHT	SOME ROUTINE PARAMETERS PAST HOLD TIME - Exceeds Recommended Holding Time Prior To Analysis

**Sample Parameter Qualifier key listed:**

Qualifier	Description
ISCR:ST	Improper Sample Container Received: Subsamples Taken
RVS	Result Revised from previous report
SOL:MI	Surrogate recovery outside acceptable limits due to matrix interference

**Methods Listed (if applicable):**

ALS Test Code	Matrix	Test Description	Preparation Method Reference(Based On)	Analytical Method Reference(Based On)
BTX,F1-ED	Water	BTEX and F1 (C6-C10)	EPA 5030	EPA 5030/8015&8260-P&T GC-MS & FID
C-DIS-ORG-ED	Water	Dissolved Organic Carbon		APHA 5310 B-Instrumental
CL-ED	Water	Chloride (Cl)		APHA 4500 Cl E-Colorimetry
ETL-ROUTINE-ICP-ED	Water	ICP metals and SO4 for routine water		APHA 3120 B-ICP-OES
F-ED	Water	Fluoride (F)		APHA 4500 F-C-Electrode
F2-ED	Water	F2 (>C10-C16)		EPA 3510/8000-GC-FID
FE-DIS-ED	Water	Iron (Fe)-Dissolved		EPA 200.7
HG-DIS-LOW-ED	Water	Mercury (Hg)-Dissolved		EPA 6020
IONBALANCE-ED	Water	Ion Balance Calculation		APHA 1030E
MET1-DIS-LOW-ED	Water	Dissolved Trace Metals (Low Level)		EPA 6020
MN-DIS-ED	Water	Manganese (Mn)-Dissolved		EPA 200.7
N2N3-ED	Water	Nitrate+Nitrite-N		APHA 4500 NO3H-Colorimetry
NH4-LOW-ED	Water	Ammonia-N		APHA 4500 NH3F-Colorimetry
NO2-ED	Water	Nitrite-N		APHA 4500 NO2B-Colorimetry
NO3-ED	Water	Nitrate-N		APHA 4500 NO3H-Colorimetry
PH/EC/ALK-ED	Water	pH, Conductivity and Total Alkalinity		APHA 4500-H, 2510, 2320
PHENOLS-CL	Water	Phenols (4AAP)		EPA 9066-Colorimetric
PO4-LOW-ED	Water	Orthophosphate (PO4-P)		APHA 4500 P B,E-Auto-Colorimetry

\*\* Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.

Chain of Custody numbers:

248174

*The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:*

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
CL	ALS LABORATORY GROUP -		

## Reference Information

CALGARY, ALBERTA, CANADA

ED

ALS LABORATORY GROUP -  
EDMONTON, ALBERTA, CANADA

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### GLOSSARY OF REPORT TERMS

*Surr* - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds. The reported surrogate recovery value provides a measure of method efficiency. The Laboratory control limits are determined under column heading D.L.

*mg/kg (units)* - unit of concentration based on mass, parts per million.

*mg/L (units)* - unit of concentration based on volume, parts per million.

*<* - Less than.

*D.L.* - The reporting limit.

*N/A* - Result not available. Refer to qualifier code and definition for explanation.

*Test results reported relate only to the samples as received by the laboratory.*

*UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.*

*UNLESS OTHERWISE STATED, SAMPLES ARE NOT CORRECTED FOR CLIENT FIELD BLANKS.*

*Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.*

*ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.*

REPORT TO:

COMPANY: STANTEC

CONTACT: D. Yoshizaka

ADDRESS: 10160-112 st

Edmonton AB T5K 2L6

PHONE: 917-7000 FAX: 917-7249

CELLPHONE:

INVOICE TO: SAME Y / N

COMPANY:

CONTACT:

ADDRESS:

PHONE:

FAX:

DATE: 17-June-06

REPORT DISTRIBUTION ALL FINAL RESULTS WILL BE MAILED

EMAIL:  FAX:

EMAIL 1: cyrondreau@stantec.com

EMAIL 2: dypshasaka@stantec.com

DIGITAL EMAIL:

SELECT: pdf  digital  both

JOB # 110217444

INDICATE BOTTLES: FILTERED/PRESERVED (F/P)

PO/AFE:

LSD:

QUOTE # Q 9883

SAMPLE ID	SAMPLING LOCATION	SAMPLED BY / DATE / TIME	SAMPLING METHOD	SAMPLE TYPE	HAZARDOUS ?	NUMBER OF CONTAINERS	HIGHLY CONTAMINATED ?	LAB SAMPLE #
MW6		D/16-June-06	Grab	SW				
MW7								
MW8								
MW9								
MW10								
MW11								
MW12								
MW13								
MW14								

Please see quote

GUIDELINES / REGULATIONS

SPECIAL INSTRUCTIONS / NATURE OF HAZARDOUS MATERIAL

SAMPLE CONDITION

Failure to complete all portions of this form may delay analysis. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the reverse of the white report copy.

MEAN TEMPERATURE

FROZEN

COLD

AMBIENT

RELINQUISHED BY: *Christine Rende*

DATE & TIME: 17-June-06/10:58

RECEIVED BY:

*[Signature]*

DATE & TIME: 17-June-06/10:58

SAMPLE CONDITION ACCEPTABLE UPON RECEIPT ? (Y/N)