



Environmental Division

Certificate of Analysis

CASH CLIENTS - WATERLOO

ATTN: TERRY STURTEVANT

Report Date: 17-AUG-09 14:04 (MT)

Version: FINAL

ON

Lab Work Order #: **L802993**

Date Received: **10-AUG-09**

Project P.O. #:

Job Reference:

Legal Site Desc:

CofC Numbers: 70601

Other Information:

Comments:

NANCY GRAHAM
Account Manager

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.



Environmental Division

ALS LABORATORY GROUP CRITERIA REPORT

L802993 CONTD....

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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Specific Limits		Analyzed	Batch
L802993-1 ROCK LAKE								
Sampled By: T.S. on 08-AUG-09 @ 15:30								
Matrix: WATER					STANDARDS	GUIDELINES		
Total Coliform, e.Coli								
E. Coli	0		0	CFU/100mL	0		11-AUG-09	R908775
Total Coliforms	14		0	CFU/100mL**	0		11-AUG-09	R908777
Individual Analytes								
Metal Scan-Total								
Aluminum (Al)-Total	0.023		0.010	mg/L		0.1	13-AUG-09	R910432
Antimony (Sb)-Total	<0.0050		0.0050	mg/L	0.006		13-AUG-09	R910432
Arsenic (As)-Total	<0.0010		0.0010	mg/L	0.025		13-AUG-09	R910432
Barium (Ba)-Total	<0.010		0.010	mg/L	1		13-AUG-09	R910432
Beryllium (Be)-Total	<0.0010		0.0010	mg/L			14-AUG-09	R911293
Bismuth (Bi)-Total	<0.0010		0.0010	mg/L			13-AUG-09	R910432
Boron (B)-Total	<0.050		0.050	mg/L	5		14-AUG-09	R911293
Cadmium (Cd)-Total	<0.00010		0.00010	mg/L	0.005		13-AUG-09	R910432
Calcium (Ca)-Total	5.34		0.50	mg/L			13-AUG-09	R910432
Chromium (Cr)-Total	<0.0010		0.0010	mg/L	0.05		13-AUG-09	R910432
Cobalt (Co)-Total	<0.00050		0.00050	mg/L			13-AUG-09	R910432
Copper (Cu)-Total	<0.0010		0.0010	mg/L		1	13-AUG-09	R910432
Iron (Fe)-Total	0.062		0.050	mg/L		0.3	13-AUG-09	R910432
Lead (Pb)-Total	<0.0010		0.0010	mg/L	0.01		14-AUG-09	R911293
Magnesium (Mg)-Total	1.06		0.50	mg/L			13-AUG-09	R910432
Manganese (Mn)-Total	0.0128		0.0010	mg/L		0.05	13-AUG-09	R910432
Molybdenum (Mo)-Total	0.0025		0.0010	mg/L			13-AUG-09	R910432
Nickel (Ni)-Total	<0.0020		0.0020	mg/L			13-AUG-09	R910432
Phosphorus (P)-Total	<0.050		0.050	mg/L			13-AUG-09	R910432
Potassium (K)-Total	<1.0		1.0	mg/L			13-AUG-09	R910432
Selenium (Se)-Total	<0.0050		0.0050	mg/L	0.01		13-AUG-09	R910432
Silicon (Si)-Total	0.88		0.10	mg/L			13-AUG-09	R910432
Silver (Ag)-Total	<0.00010		0.00010	mg/L			13-AUG-09	R910432
Sodium (Na)-Total	0.69		0.50	mg/L	20	200	13-AUG-09	R910432
Strontium (Sr)-Total	0.0150		0.0010	mg/L			13-AUG-09	R910432
Thallium (Tl)-Total	<0.00030		0.00030	mg/L			13-AUG-09	R910432
Tin (Sn)-Total	<0.0010		0.0010	mg/L			13-AUG-09	R910432
Titanium (Ti)-Total	<0.0020		0.0020	mg/L			13-AUG-09	R910432
Tungsten (W)-Total	<0.010		0.010	mg/L			13-AUG-09	R910432
Uranium (U)-Total	<0.0050		0.0050	mg/L	0.02		14-AUG-09	R911293
Vanadium (V)-Total	<0.0010		0.0010	mg/L			13-AUG-09	R910432
Zinc (Zn)-Total	0.0076		0.0030	mg/L		5	13-AUG-09	R910432
Zirconium (Zr)-Total	<0.0040		0.0040	mg/L			13-AUG-09	R910432
pH	7.13		0.10	pH units		6.5-8.5	11-AUG-09	R909095

** analytical results for this parameter exceed criteria limits listed on this report

Reference Information

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Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Preparation Method Reference(Based On)	Analytical Method Reference(Based On)
EC-MF-WT	Water	E. Coli		SM 9222D
A 100mL volume of sample is filtered through a membrane, the membrane is placed on mFC-BCIG agar and incubated at @44.5–0.2°C for 24–2h.				
MET-TOT-WT	Water	Metal Scan-Total		EPA 200.8
PH-WT	Water	pH		APHA 4500 H-Electrode
TC-MF-WT	Water	Total Coliforms		SM 9222B
A 100mL volume of sample is filtered through a membrane, the membrane is placed on mENDO LES agar and incubated at 35–0.5°C for 24–2h.				

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

Chain of Custody numbers:

70601

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
WT	ALS LABORATORY GROUP - WATERLOO, ONTARIO, CANADA		

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. - Detection 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.

ALS provides criteria information as a service to you, our customer. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. ALS recommends review of the most current version of the regulation, and assumes no responsibility for the accuracy of the criteria levels indicated.

**Environmental Division**

ALS Laboratory Group Quality Control Report

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Client: CASH CLIENTS - WATERLOO

ON

Contact: TERRY STURTEVANT

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-MF-WT		Water						
Batch	R908775							
WG986094-3	DUP	L803059-1						
E. Coli		0	0		CFU/100mL	0.0	82	11-AUG-09
WG986094-1	MB							
E. Coli			0		CFU/100mL		1	11-AUG-09
WG986094-2	MB							
E. Coli			0		CFU/100mL		1	11-AUG-09
MET-TOT-WT		Water						
Batch	R911293							
WG988731-1	CVS							
Beryllium (Be)-Total			98		%		80-120	14-AUG-09
Boron (B)-Total			99		%		70-130	14-AUG-09
Lead (Pb)-Total			102		%		80-120	14-AUG-09
Uranium (U)-Total			100		%		80-120	14-AUG-09
WG988731-5	DUP	WG988731-4						
Beryllium (Be)-Total		<0.10	<0.10	DLM	mg/L	N/A	20	14-AUG-09
Boron (B)-Total		<5.0	<5.0	DLM	mg/L	N/A	20	14-AUG-09
Lead (Pb)-Total		<0.10	<0.10	DLM	mg/L	N/A	20	14-AUG-09
Uranium (U)-Total		<0.50	<0.50	DLM	mg/L	N/A	20	14-AUG-09
WG988731-3	MB							
Beryllium (Be)-Total			<0.0010		mg/L		0.001	14-AUG-09
Boron (B)-Total			<0.050		mg/L		0.05	14-AUG-09
Lead (Pb)-Total			<0.0010		mg/L		0.001	14-AUG-09
Uranium (U)-Total			<0.0050		mg/L		0.005	14-AUG-09
PH-WT		Water						
Batch	R909095							
WG986678-1	CVS							
pH			101		%		90-110	11-AUG-09
WG986678-2	DUP	L802935-1						
pH		7.41	7.26		pH units	2.0	20	11-AUG-09
TC-MF-WT		Water						
Batch	R908777							
WG986089-3	DUP	L803050-1						
Total Coliforms		0	0		CFU/100mL	0.0	39	11-AUG-09
WG986089-1	MB							
Total Coliforms			0		CFU/100mL		1	11-AUG-09
WG986089-2	MB							

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TC-MF-WT	Water							
Batch	R908777							
WG986089-2	MB							
Total Coliforms			0		CFU/100mL		1	11-AUG-09

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Legend:

Limit	99% Confidence Interval (Laboratory Control Limits)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM



60 NORTHLAND ROAD, UNIT 1
WATERLOO, ON N2V 2B8
Phone: (519) 886-6910
Fax: (519) 886-9047
CANADA TOLL FREE: 1-800-668-9878

ALS Environmental

Note: all TAT Quoted material is in business days which exclude statutory holidays and weekends. TAT samples received past 3:00pm or Saturday/Sunday begin the next day.

Date requested	Service requested	2 day TAT (50%)	Next day TAT (100%)	Same day TAT (200%)
5 day (Regular)				
3-4 day TAT (25%)				

INDICATE BOTTLES FIELD FILTERED

☐ PRESERVED (P/P)

SUBMISSION # 2802993

ENTERED BY: NR

DATE/TIME ENTERED: 10/18/09 13:42

BIN # 999

COMMENTS

LAB ID

Criteria on report (y/n)

Reg 153/04 Table 1 2 3

TCLP MISA PWOO

OTHER REPORT ALL FINAL RESULTS WILL BE MAILED

EMAIL FAX BOTH tstutnev@wlu.ca

EMAIL2

SELECT pdf digital both

SAMPLE DESCRIPTION TO APPEAR ON REPORT Rock Lake

NUMBER OF CONTAINERS TC, EC met per

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS/COMMENTS

SAMPLE CONDITION

FROZEN
COLD
MEAN TEMP
9

AMBIENT
CONDITION ACCEPTABLE
UPON RECEIPT (Y/N) 4

INIT 11

DATE & TIME 10/18/09 9:09

3. Any known or suspected hazards relating to a sample must be noted on the chain of custody in comments section.

PINK - Customer Copy Reg COC Rev#3 Jul06

RECEIVED BY: NR

2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.

YELLOW - File copy

DATE & TIME

DATE & TIME

White - report copy

SAMPLED BY: Jerry Stutnev

RELINQUISHED BY: Jerry Stutnev

NOTES AND CONDITIONS: 1. Quote number must be provided to ensure proper pricing.