



TMAC Resources Inc.
ATTN: Sr. Env. Co-ordinator
300 - 889 Harbourside Drive
North Vancouver BC V7P 3S1

Date Received: 16-APR-13
Report Date: 22-APR-13 14:19 (MT)
Version: FINAL

Client Phone: 604-985-2572

Certificate of Analysis

Lab Work Order #: L1289894
Project P.O. #: CR0262
Job Reference: COMPLIANCE SAMPLING PROGRAM
C of C Numbers: 2013041601
Legal Site Desc:

Dana Brown
Account Manager

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ADDRESS: 9936-67 Avenue, Edmonton, AB T6E 0P5 Canada | Phone: +1 780 413 5227 | Fax: +1 780 437 2311
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L1289894-1 ST8B-15APR13 Sampled By: JD WINN on 15-APR-13 @ 10:30 Matrix: water Miscellaneous Parameters Oil And Grease (Visible Sheen) Oil and Grease Special Request Total Suspended Solids pH and Conductivity pH Conductivity (EC)	 NO VISIBLE SHEEN 5.2 See Attached <3.0 8.50 1730			 1.0 3.0 0.10 0.20	 mg/L mg/L pH uS/cm	 17-APR-13 17-APR-13 16-APR-13 18-APR-13 17-APR-13 17-APR-13	 R2580536 R2580535 R2583308 R2580693 R2580049 R2580049

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

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
FC-MF-TG	Water	Fecal Coliforms by MF	SM9222D
OGG-LLE-ED	Water	Oil and Grease-Gra	APHA 5520 B HEXANE MTBE EXT. GRAVIME
OGG-VISIBLE-SHEEN-ED	Water	Oil and Grease - Visible Sheen	Alberta Environment Regs. (Ind. Runoff)
PH/EC-ED	Water	pH and Conductivity	APHA 4500-H, 2510
All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed)			
SOLIDS-TOTSUS-ED	Water	Total Suspended Solids	APHA 2540 D-Gravimetric
SPECIAL REQUEST-TG	Misc.	Special Request Taiga Yellowknife	SEE SUBLET LAB RESULTS

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

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
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA
TG	TAIGA ENVIRONMENTAL LABORATORY (INAC)

Chain of Custody Numbers:

2013041601

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg ww - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - 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.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Environmental

Quality Control Report

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Client: TMAC Resources Inc.
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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OGG-LLE-ED		Water						
Batch	R2580535							
WG1656479-2	LCS							
Oil and Grease			100.0		%		70-130	17-APR-13
WG1656479-1	MB							
Oil and Grease			<1.0		mg/L		1	17-APR-13
PH/EC-ED		Water						
Batch	R2580049							
WG1655955-2	LCS							
Conductivity (EC)			100.0		%		90-110	17-APR-13
WG1655955-3	LCS							
pH			7.03		pH		6.9-7.1	17-APR-13
WG1655955-5	LCS							
Conductivity (EC)			98.7		%		90-110	17-APR-13
SOLIDS-TOTSUS-ED		Water						
Batch	R2580693							
WG1656103-3	DUP	L1289953-4						
Total Suspended Solids		186	196		mg/L	5.2	20	18-APR-13
WG1656103-4	DUP	L1290169-1						
Total Suspended Solids		39.0	38.0		mg/L	2.6	20	18-APR-13
WG1656103-2	LCS							
Total Suspended Solids			92.0		%		85-115	18-APR-13
WG1656103-1	MB							
Total Suspended Solids			<3.0		mg/L		3	18-APR-13

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Legend:

Limit	ALS Control Limit (Data Quality Objectives)
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

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

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.



Taiga Environmental Laboratory
4601-52nd Ave., Box 1500, Yellowknife, NT. X1A 2R3
Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.:
130226

- FINAL REPORT -

Prepared For: ALS Environmental

Address: 314 Old Airport Road
Unit 116
Yellowknife, NT
X1A 2R1

Attn: Bruce Stuart

Facsimile:

Final report has been reviewed and approved by:

Angelique Ruzindana
Quality Assurance Officer

NOTES:

- Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
 - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
 - Environment Canada
 - USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Monday, April 22, 2013

Print Date: Monday, April 22, 2013



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Tel: (867)-669-2788 Fax: (867)-669-2718

Taiga Batch No.:
130226

- CERTIFICATE OF ANALYSIS -

Client Sample ID: **ST8B- 15APR13 L1289894**

Taiga Sample ID: **001**

Client Project:

Sample Type: Water

Received Date: 16-Apr-13

Sampling Date: 15-Apr-13

Sampling Time: 10:30

Location:

Report Status: Final

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<u>Inorganics - Nutrients</u>						
CBOD	< 2	2	mg/L	16-Apr-13	SM5210:B	
<u>Microbiology</u>						
Coliforms, Fecal	< 10	10	CFU/100mL	16-Apr-13	SM9222:D	

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- CERTIFICATE OF ANALYSIS -

Client Sample ID: ST8B- 15APR13 L1289894

Taiga Sample ID: 001

*** Taiga analytical methods are based on the following standard analytical methods**

SM - Standard Methods for the Examination of Water and Wastewater

EPA - United States Environmental Protection Agency

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ALS QC data 2013 (FC)

Date	TEL	ALS ID	Test	Blank Result FC/100 mL	Original FC/100 mL	Duplicate FC/100 mL	Pass/Fail	Comments
Apr.16	130226-001	L1289894	FC	<1	<10	<10	P	