



GOVERNMENT OF NWT
ATTN: Darren Campbell
PO Box 1320
YELLOWKNIFE NT X1A 2L9

Date Received: 27-SEP-13
Report Date: 15-OCT-13 15:43 (MT)
Version: FINAL

Client Phone: 867-920-8822

Certificate of Analysis

Lab Work Order #: L1370042
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers: 10-185900
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
L1370042-1 JC-3 Sampled By: JP on 26-SEP-13 @ 15:22 Matrix:							
F2, F3, F4							
F2 (>C10-C16)	<0.25		0.25	mg/L	06-OCT-13	06-OCT-13	R2710280
F3 (C16-C34)	<0.25		0.25	mg/L	06-OCT-13	06-OCT-13	R2710280
F4 (C34-C50)	<0.25		0.25	mg/L	06-OCT-13	06-OCT-13	R2710280
Surrogate: 2-Bromobenzotrifluoride	93.1		50-150	%	06-OCT-13	06-OCT-13	R2710280
L1370042-2 JC-4 Sampled By: JP on 26-SEP-13 @ 15:22 Matrix:							
F2, F3, F4							
F2 (>C10-C16)	<0.25		0.25	mg/L	06-OCT-13	06-OCT-13	R2710280
F3 (C16-C34)	<0.25		0.25	mg/L	06-OCT-13	06-OCT-13	R2710280
F4 (C34-C50)	<0.25		0.25	mg/L	06-OCT-13	06-OCT-13	R2710280
Surrogate: 2-Bromobenzotrifluoride	87.6		50-150	%	06-OCT-13	06-OCT-13	R2710280

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

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
F2,F3,F4-ED	Water	F2, F3, F4	EPA 3510/CCME PHC CWS-GC-FID

** 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

Chain of Custody Numbers:

10-185900

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 wwt - 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.



Quality Control Report

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Client: GOVERNMENT OF NWT
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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2,F3,F4-ED	Water							
Batch	R2710280							
WG1761923-2	LCS							
F2 (>C10-C16)			104.0		%		65-135	06-OCT-13
F3 (C16-C34)			111.2		%		65-135	06-OCT-13
F4 (C34-C50)			106.2		%		65-135	06-OCT-13
WG1761923-1	MB							
F2 (>C10-C16)			<0.25		mg/L		0.25	06-OCT-13
F3 (C16-C34)			<0.25		mg/L		0.25	06-OCT-13
F4 (C34-C50)			<0.25		mg/L		0.25	06-OCT-13
Surrogate: 2-Bromobenzotrifluoride			86.7		%		50-150	06-OCT-13

Quality Control Report

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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.

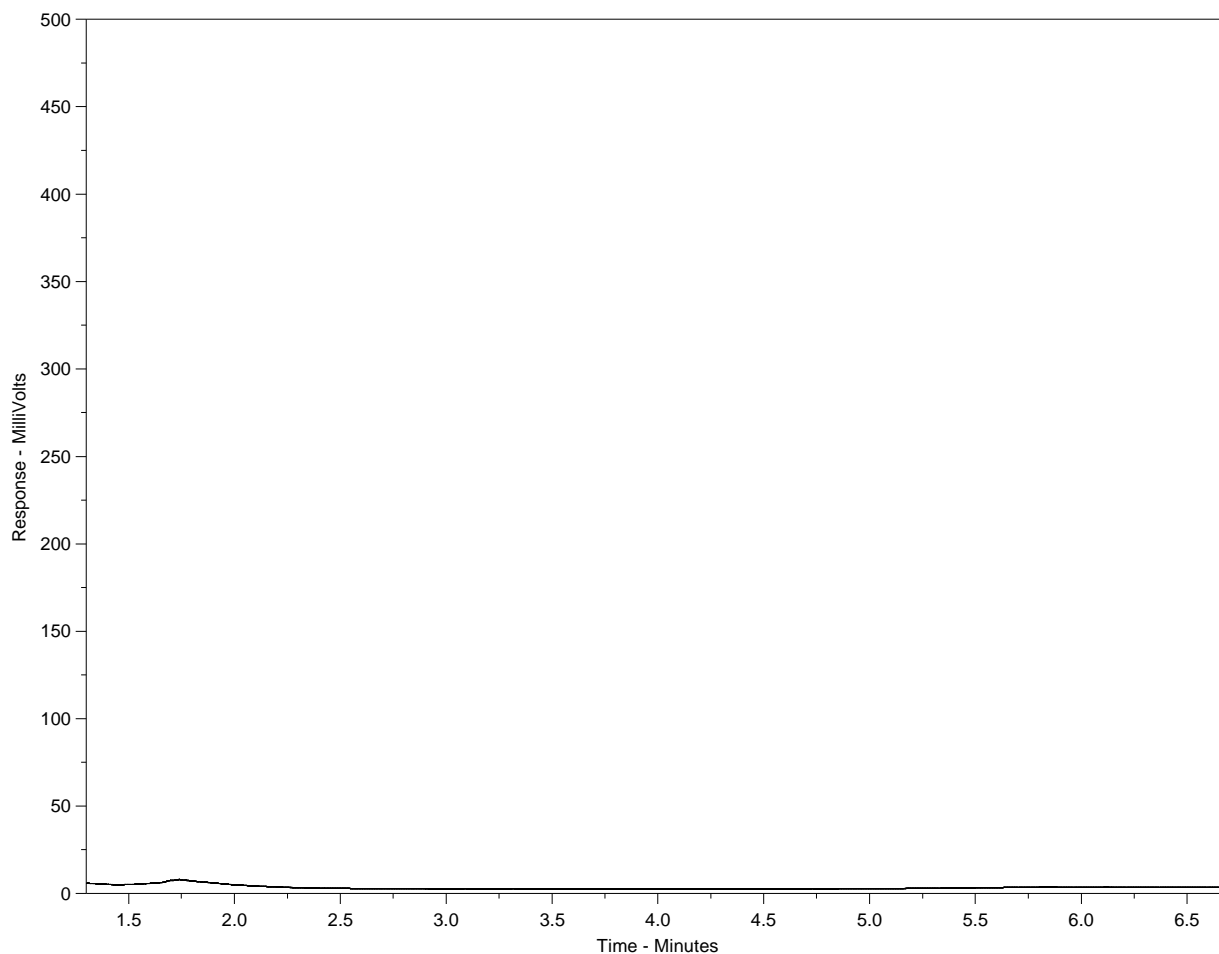
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide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

Hydrocarbon Distribution Report



ALS Sample ID: L1370042-1
Client ID: JC-3



← F2 →		← F3 →		← F4 →		← F4 →	
nC10	nC16			nC34	nC50		
174°C	287°C			481°C	575°C		
346°F	549°F			898°F	1067°F		
← Gasoline →				← Motor Oils/ Lube Oils/ Grease →			
← Diesel/ Jet Fuels →							

The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

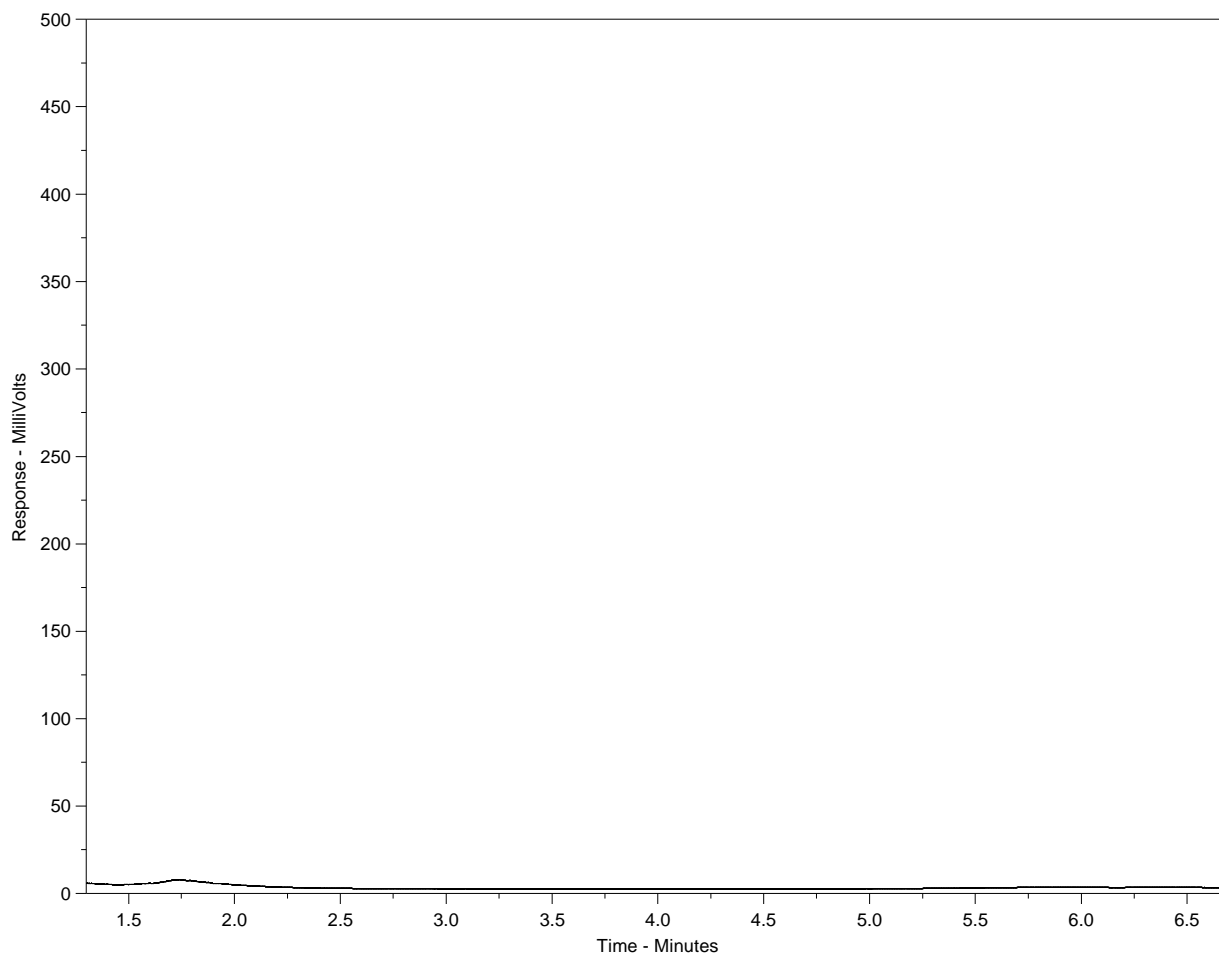
Note:

This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method. Note that retention times and distribution profiles from reports produced using different GC programs will differ.

Hydrocarbon Distribution Report



ALS Sample ID: L1370042-2
Client ID: JC-4



← F2 →		← F3 →		← F4 →		← F4 →	
nC10	nC16			nC34	nC50		
174°C	287°C			481°C	575°C		
346°F	549°F			898°F	1067°F		
← Gasoline →				← Motor Oils/ Lube Oils/ Grease →			
← Diesel/ Jet Fuels →							

The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note:

This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method. Note that retention times and distribution profiles from reports produced using different GC programs will differ.

