

October 16, 2009

Project No. 09-1426-0015/9000  
Doc. No. 034 Ver. 0

Mr. Mark Balog and Mr. John Witteman  
Comaplex Minerals Corporation  
Suite 901, 1015 Fourth Street, S.W.  
Calgary, Alberta  
T2R 1J4

## **RESULTS OF GEOCHEMICAL ANALYSIS OF PETROLEUM STAINED SOILS AT THE DEDICATED SOILS MANAGEMENT AREA – MELIADINE GOLD PROJECT SITE, 25 KM NORTH OF RANKIN INLET, NUNAVUT**

Dear Mr. Balog and Mr. Witteman,

This letter has been prepared at the request of Comaplex Minerals Corporation (CMC), and briefly describes the results of a soil sampling program undertaken by Golder Associates Ltd. on August 7, 2009 at CMC's Meliadine Gold Project site, specifically the Meliadine West project area, located on the west coast of Hudson Bay, 25 km north of Rankin Inlet, Nunavut.

Soil samples were collected from an area utilized by CMC to contain petroleum stained soils as a management and mitigation measure. Petroleum stained soils that may result from contact with petroleum hydrocarbons during the course of regular work activities are excavated and placed on to an impermeable liner, reducing the potential for further migration of the hydrocarbons.

### **1.0 SOIL MANAGEMENT SITE INFORMATION**

The soil management site is located on an existing rock fill pad at the Project site, adjacent to coarse ore stockpiles that were developed as part of the underground exploration and bulk sampling programs. The location of the study area, relative to the general site layout, is shown on Figure 1. A photograph of the management area is shown below in Photograph 1.





*Photograph 1: Designated Petroleum Stained Soils Management Area - Meliadine Gold Project Site*

The dimensions of the management area were not surveyed for this study; however, the approximate dimensions were estimated during the sampling process as follows:

**Table 1: Management Area Approximate Dimensions and Volume**

<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>	<b>Approximate Volume (m<sup>3</sup>)</b>
25	10	0.2	50

Based on visual estimates, approximately 30 percent of the material in the management area consists of coarse cobble to boulder size material, with the remainder being gravel, sand, and silt as matrix material filling voids between the coarser rock fill.

## **1.1 Sampling Procedure**

Two discrete samples, each made up of four grab samples, were collected at intervals of approximately 4 metres along two parallel lines extending across the management area, and spaced approximately 4 metres apart. One sample was tested, and the second sample retained pending the results of the testing.

## **1.2 Shipping Procedure**

The samples were refrigerated following collection. The samples were then transported to Yellowknife from Rankin Inlet, where again they were refrigerated overnight before being delivered to Aurora Laboratory Services (ALS) of Yellowknife. The samples were re-packaged with ice packs at the Yellowknife ALS laboratory and then shipped to the ALS laboratory in Vancouver for chemical analysis. One of the two samples was then tested.

## **1.3 Regulatory Criteria**

The applicable standards are the Government of Nunavut (GN) Environment Guideline for Site Remediation which is based on the CCME 1991 Interim Criteria, CCME 1997 Recommended Canadian Soil Quality Guidelines and the Environmental Protection Service.

## **1.4 Analytical Testing**

Aurora Laboratory Services (ALS) of Vancouver, B.C. analyzed one of the grab samples for the following parameters:

- Petroleum Hydrocarbons (F-1, F-2, F-3 and F-4); and
- Benzene, toluene, ethylbenzene, and xylenes (BTEX).

The Total Petroleum Hydrocarbon (TPH) value is determined as the sum of the F-2 through F-4 results.

## **2.0 RESULTS**

A summary of the analytical test results is presented in the following table, along with GN site remediation guideline limits.

**Table 2: Summary of Analytical Test Results**

Analyte	Remediation Guideline Limit	Analytical Result
Benzene	0.5 mg/kg	<0.0050 mg/kg
Toluene	0.8 mg/kg	<0.050 mg/kg
Ethylbenzene	1.2 mg/kg	<0.010 mg/kg
Xylene	1 mg/kg	<0.10 mg/kg
Total Petroleum Hydrocarbons (TPH)	500 mg/kg	~285 mg/kg

The test results of the analyte concentrations in the sample collected from the petroleum stained soils management area at the Meliadine Project site are below the remediation guideline limits set out in GN Environment Guideline for Site Remediation for residential/parkland. The F1-Total BTEX was less than 10 mg/kg.

The results are contained in Attachment 1.

### **3.0 LABORATORY QA/QC**

The accuracy of the test results was acceptable based on laboratory spike recoveries and comparisons to National Research Council of Canada Certified Reference Materials.

### **4.0 LIMITATIONS AND USE OF REPORT**

The information presented herein was prepared for Comaplex Minerals Corporation. The objective of the sampling and analysis conducted on the soils described above is to ensure, to the greatest extent reasonable, that petroleum hydrocarbon affected soils managed at the current soil management area at the Meliadine Project site meet the applicable Territorial Standards.

## 5.0 CLOSURE

We trust this information is sufficient for your requirements at this time. Should you have any questions or concerns, please contact the undersigned.

Yours very truly,

**GOLDER ASSOCIATES LTD.**

**ORIGINAL SIGNED**

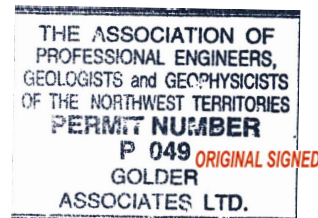
Cameron Clayton, M.Eng., P.Geo.  
Project Manager

**ORIGINAL SIGNED**

Gary Hamilton, B.Sc.  
Principal

**ORIGINAL SIGNED**

John A. Hull, P.Eng.  
Principal

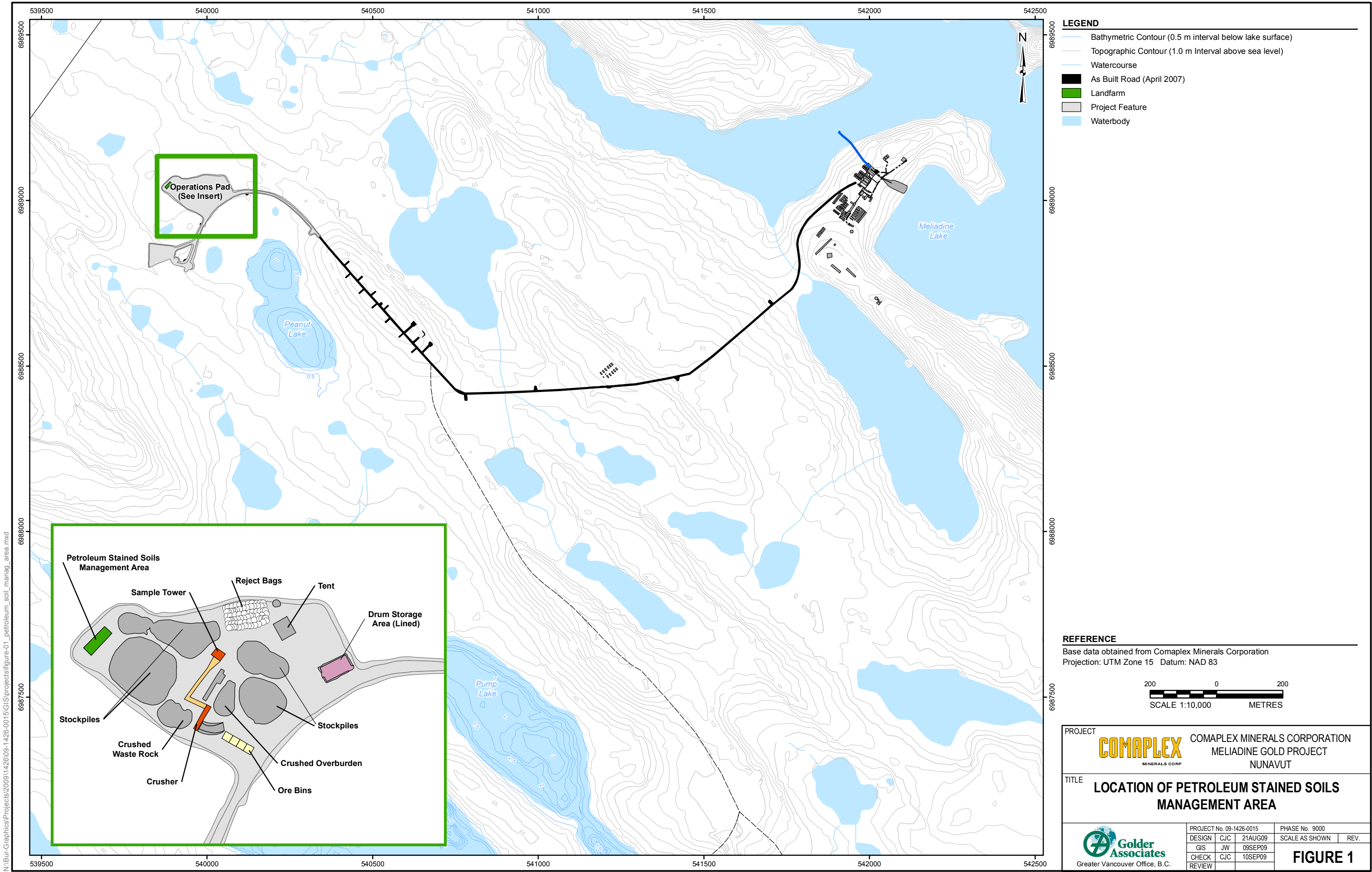


CJC/GH/JAH/rs/mrb

Attachments: Figure 1: Location of Petroleum Stained Soils Management Area  
Laboratory Results

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**ATTACHMENT 1**  
**LABORATORY RESULTS**



**Environmental Division**

**Certificate of Analysis**

GOLDER ASSOCIATES LTD.

ATTN: Cam Clayton

500 - 4260 STILL CREEK DRIVE

BURNABY BC V5C 6C6

Report Date: 19-AUG-09 17:49 (MT)

Version: FINAL

Lab Work Order #: **L802785**

Date Received: **08-AUG-09**

Project P.O. #: 09-1426-015/9000

Job Reference: 09-1426-0015

Legal Site Desc: LAND FARM AREA AT MELIADINE SITE

CofC Numbers:

Other Information:

Comments:

Amber Springer  
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.



## ALS LABORATORY GROUP ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L802785-1 SOIL 08-AUG-09  SOIL LINE MELIADINE LAND FARM SITE				
Grouping	Analyte					
<b>SOIL</b>						
<b>Physical Tests</b>	% Moisture (%)	14.5				
<b>Volatile Organic Compounds</b>	Benzene (mg/kg)	<0.0050				
	Ethylbenzene (mg/kg)	<0.010				
	Methyl t-butyl ether (MTBE) (mg/kg)	<0.20				
	Styrene (mg/kg)	<0.050				
	Toluene (mg/kg)	<0.050				
	ortho-Xylene (mg/kg)	<0.050				
	meta- & para-Xylene (mg/kg)	<0.050				
	Xylenes (mg/kg)	<0.10				
	Surrogate: 4-Bromofluorobenzene (SS) (%)	108				
	Surrogate: Fluorobenzene (SS) (%)	90				
<b>Hydrocarbons</b>	F1 (C6-C10) (mg/kg)	<10				
	F1-BTEX (mg/kg)	<10				
	F2 (C10-C16) (mg/kg)	76				
	F3 (C16-C34) (mg/kg)	209				
	F4 (C34-C50) (mg/kg)	<50				
	F4G-SG (mg/kg)	<500				
	Chrom. to baseline at nC50	NO				
	Surrogate: 2,4-Dichlorotoluene (SS) (%)	87				

## Reference Information

## Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comments
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## Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
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**F1-BTX-CALC-VA** Soil F1-Total BTX CCME CWS PHC TIER 1 (2001)

This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment, December 2000." For F1 (C6-C10) and F1-BTEX, a subsample of the sediment/soil is extracted with methanol and analysed by purge & trap GC/FID. The F1-BTEX result is then calculated as follows:

F1-BTEX: F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).

**F1-MET-PT-FID-VA** Soil CCME by Purge and Trap with GCMS EPA 8260B & 524.2

This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment, December 2000." For F1 (C6-C10), a subsample of the sediment/soil is extracted with methanol and analysed by purge & trap GC/FID.

## Notes:

1. F1 (C6-C10): Sum of all hydrocarbons that elute between nC6 and nC10.
2. Reported results are expressed as milligrams per dry kilogram.
3. This method is validated for use.
4. Data from analysis of quality control samples is available upon request.

**F2F4-TUMB-H/A-FID-VA** Soil Petroleum Hydrocarbon by Tumbler GCFID CCME PETROLEUM HYDROCARBONS

This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment, December 2000." For C10 to C50 hydrocarbons (F2, F3, F4) and gravimetric heavy hydrocarbons (F4G-sg), a subsample of the sediment/soil is extracted with 1:1 hexane:acetone using a rotary extractor. The extract undergoes a silica-gel clean-up to remove polar compounds. F2, F3 & F4 are analyzed by on-column GC/FID, and F4G-sg is analyzed gravimetrically.

## Notes:

1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.
4. F4G: Gravimetric Heavy Hydrocarbons
5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
6. Where F4 (C34-C50) and F4G-sg results are reported for a sample, the larger of the reported values is used for comparison against the relevant CCME standard for F4.
7. The gravimetric heavy hydrocarbon results (F4G-sg), cannot be added to the C6 to C50 hydrocarbon results.
8. This method is validated for use.
9. Data from analysis of quality control samples is available upon request.
10. Reported results are expressed as milligrams per dry kilogram.

**MOISTURE-VA** Soil Moisture content ASTM METHOD D2974-00

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

**OGG-F4G-TUMB-SG-VA** Soil CWS F4G with Silica Gel CCME PETROLEUM HYDROCARBONS-GRAVIMETRIC

This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment, December 2000." For gravimetric heavy hydrocarbons (F4G-sg), a subsample of the sediment/soil is extracted with 1:1 hexane:acetone using a rotary extractor. The extract undergoes a silica-gel clean-up to remove polar compounds prior to gravimetric analysis.

## Notes:

1. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
3. Where F4 (C34-C50) and F4G-sg results are reported for a sample, the larger of the reported values is used for comparison against the relevant CCME standard for F4.
4. The gravimetric heavy hydrocarbon (F4G-sg) result cannot be added to the C6 to C50 hydrocarbons results.
5. This method is validated for use.
6. Data from analysis of quality control samples is available upon request.
7. Reported results are expressed as milligrams per dry kilogram.

**VOC7-MET-PT-MS-VA** Soil BTEX by MeOH with Purge and Trap GCMS EPA 8260B & 524.2

## Reference Information

### Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
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Volatile Organic Compounds (VOC) are extracted from sediment or soil with methanol, following a procedure from the British Columbia Ministry of Water Land and Air Protection (BCWLAP) Analytical Method for Contaminated Sites "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1 July 1999). Aliquots of the extract are analyzed by Purge and Trap by gas chromatography with mass spectrometric detection (GC/MS), using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Method 8260B, published by the United States Environmental Protection Agency (EPA). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Where required to achieve lower detection limits for select regulations, additional analysis using headspace-GCMS may be employed.

<b>VOC7/VOC-SURR-MS-VA</b>	Soil	VOC7 and/or VOC Surrogates for Soils	EPA METHODS 8260B & 524.2
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<b>XYLENES-CALC-VA</b>	Soil	Sum of Xylene Isomer Concentrations	EPA 8260B & 524.2
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Calculation of Total Xylenes

Total Xylenes is the sum of the concentrations of the ortho, meta, and para Xylene isomers. Results below detection limit (DL) are treated as zero. The DL for Total Xylenes is set to a value no less than the square root of the sum of the squares of the DLs of the individual Xylenes.

\*\* Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies. The last two letters of the above ALS Test Code column 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
VA	ALS LABORATORY GROUP - VANCOUVER, BC, 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.*

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

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

*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.*

*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**

# ALS Laboratory Group Quality Control Report

Workorder: L802785

Report Date: 08-SEP-09

Page 1 of 2

Client: GOLDER ASSOCIATES LTD.  
500 - 4260 STILL CREEK DRIVE  
BURNABY BC V5C 6C6

Contact: Cam Clayton

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
<b>F1-MET-PT-FID-VA</b>	<b>Soil</b>							
Batch	R912869							
<b>WG986961-2</b>	<b>LCS</b>							
F1 (C6-C10)			102		%		55-145	19-AUG-09
<b>WG986961-1</b>	<b>MB</b>							
F1 (C6-C10)			<10		mg/kg		10	19-AUG-09
<b>F2F4-TUMB-H/A-FID-VA</b>	<b>Soil</b>							
Batch	R912950							
<b>WG987941-3</b>	<b>IRM</b>	<b>ALS PHC1 RM</b>						
F2 (C10-C16)			109		%		70-130	19-AUG-09
F3 (C16-C34)			106		%		70-130	19-AUG-09
F4 (C34-C50)			101		%		70-130	19-AUG-09
<b>WG987941-2</b>	<b>LCS</b>							
F2 (C10-C16)			113		%		80-120	19-AUG-09
F3 (C16-C34)			107		%		80-120	19-AUG-09
F4 (C34-C50)			110		%		80-120	19-AUG-09
<b>WG987941-1</b>	<b>MB</b>							
F2 (C10-C16)			<30		mg/kg		30	19-AUG-09
F3 (C16-C34)			<50		mg/kg		50	19-AUG-09
F4 (C34-C50)			<50		mg/kg		50	19-AUG-09
<b>OGG-F4G-TUMB-SG-VA</b>	<b>Soil</b>							
Batch	R912079							
<b>WG987941-3</b>	<b>IRM</b>	<b>ALS PHC1 RM</b>						
F4G-SG			99		%		60-140	19-AUG-09
<b>WG987941-1</b>	<b>MB</b>							
F4G-SG			<500		mg/kg		500	19-AUG-09

# ALS Laboratory Group Quality Control Report

Workorder: L802785

Report Date: 08-SEP-09

Page 2 of 2

## Legend:

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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

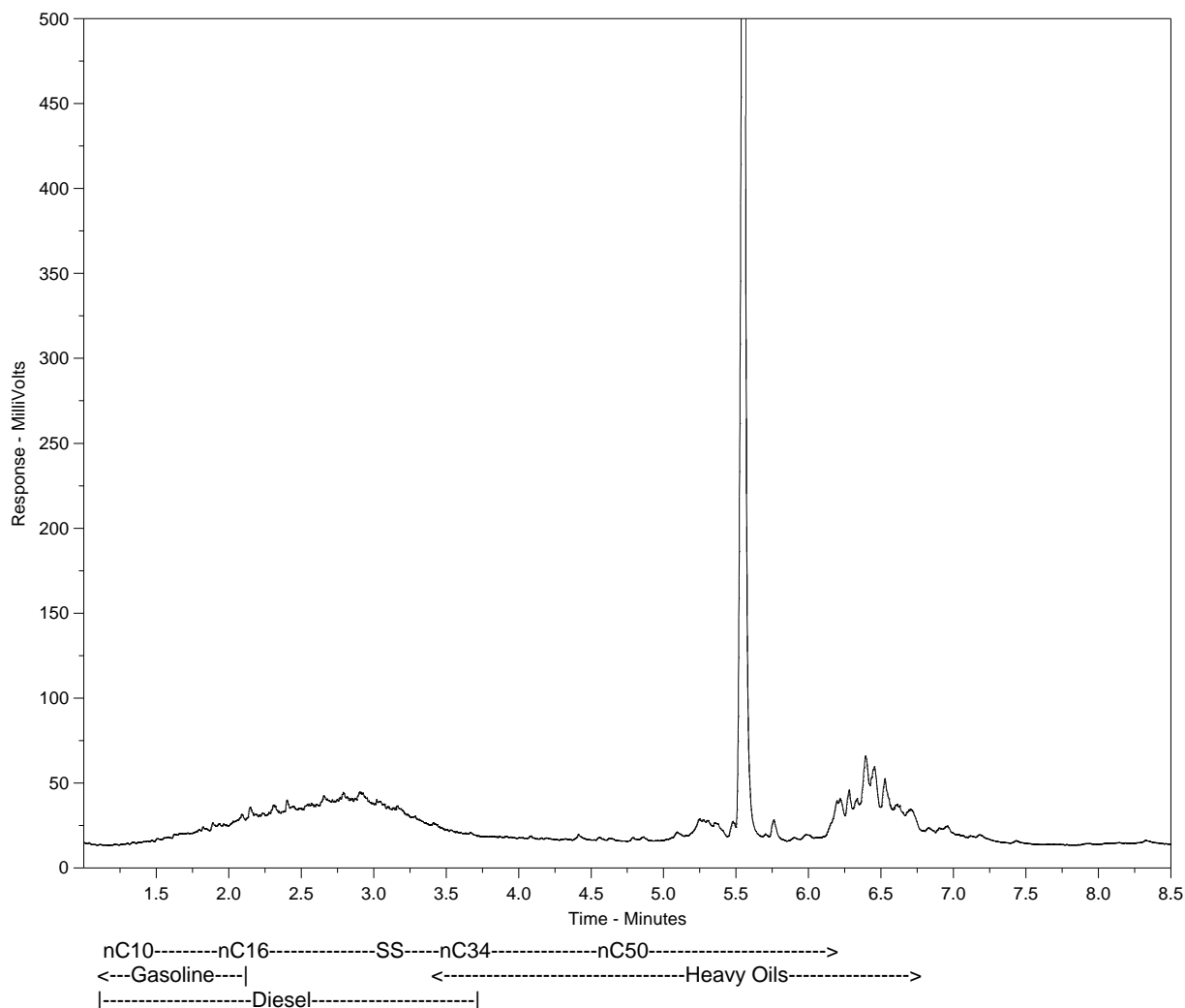
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide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

# Hydrocarbon Distribution Report



ALS Sample ID: L802785-C-1



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, and of four 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 (December 2007 version). Note that retention times and distribution profiles from reports produced using different GC programs will differ.

Note: SS = hexatriacontane (nC28) Surrogate Standard



Report to: Cameron Clayton					
Company: Golder Associates Ltd					
Contact: Cameron Clayton					
Address: 500-4260 Still Creek Drive					
Phone: 604-298-5253 Fax: 604-298-5253					
Invoice To: Same as Report					
Company: Complex Minerals Ltd					
Contact: Mr. Mark Balog					
Address: Suite 901, 1015 Fourth Street S.W.					
PO/A/E: 09-1426-0015/9000					
Legal Site Description: Land Farm area at Melladine Site					
Quote #: 403-232-1421					
ALS Contact: Sean Whitaker Bryan Mark Amber (Initials)					
Sample Identification (This description will appear on the report) Date dd-mm-yy Time hh:mm Sample Type (Select from drop-down list)					
Soil Line 1 Melladine Land Farm site Soil X X X					
Soil Line 2 Melladine Land Farm site Soil X X X					
Special Instructions / Hazardous Details					
Time sensitive materials. 1. Ship to Yellowknife to: ALS Laboratories   75 Con Road   Yellowknife, NT   X1A 2M1   Phone: 867-873-5593   Attention: Sean Whitaker (sean.whitaker@alsenviro.com) 2. Receive in Yellowknife, repackage with ice packs, forward to: ALS Laboratories   1988 Triumph Street   Vancouver, BC Canada, V5L 1K5   Phone: (604) 253-4188 Attention: Amber Springer/Bryan Mark					
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY.					
By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the adjacent worksheet.					
Relinquished By: Received By:					
Date & Time: Date & Time:					
Temperature Condition? Y / N (if no Samples Received in Good provided details)					