

Sample #6

Sample #1

Sample #2

Sample #3

Sample #5

Sample #4

Sample #4

Sample #5

Sample #6

Sample #3

Sample #2

Sample #1





PEACE RIVER REGIONAL DISTRICT
ATTN: PAULO EICHELBERGER/LORYN
DAY
PO Box 810
1981 ALASKA AVENUE
Dawson Creek BC V1G 4H8

Date Received: 18-AUG-14
Report Date: 23-AUG-14 14:32 (MT)
Version: FINAL

Client Phone: 250-784-3200

Certificate of Analysis

Lab Work Order #: L1503681
Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers: 10-147181
Legal Site Desc: HOME AND COUNTRY STORE CECIL LAKE

Amanda Somer

Amanda Van Somer
Account Manager

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ADDRESS: 9505-111 Street, Grande Prairie, AB T8V 5W1 Canada | Phone: +1 780 539 5196 | Fax: +1 780 513 2191
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ALS ENVIRONMENTAL ANALYTICAL REPORT

L1503681 CONTD....
 PAGE 2 of 8
 23-AUG-14 14:32 (MT)
 Version: FINAL

	Sample ID Description Sampled Date Sampled Time Client ID	L1503681-1 GRAB 15-AUG-14 11:05 SAMPLE #1	L1503681-2 GRAB 15-AUG-14 11:07 SAMPLE #2	L1503681-3 GRAB 15-AUG-14 11:09 SAMPLE #3	L1503681-4 GRAB 15-AUG-14 11:11 SAMPLE #4	L1503681-5 GRAB 15-AUG-14 11:13 SAMPLE #5
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)	21.4	16.3	14.4	19.5	3.75
Metals	Antimony (Sb) (mg/kg)	0.23	0.21	0.30	0.63	0.64
	Arsenic (As) (mg/kg)	7.67	7.91	8.03	5.81	11.7
	Barium (Ba) (mg/kg)	214	204	220	149	276
	Beryllium (Be) (mg/kg)	<1.0	<1.0	<1.0	<1.0	<1.0
	Cadmium (Cd) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Chromium (Cr) (mg/kg)	16.4	15.8	15.8	9.80	18.8
	Cobalt (Co) (mg/kg)	14.0	13.7	12.6	4.9	10.0
	Copper (Cu) (mg/kg)	15.1	14.7	15.7	19.7	22.4
	Lead (Pb) (mg/kg)	11.5	11.5	14.9	12.4	14.1
	Mercury (Hg) (mg/kg)	<0.050	<0.050	<0.050	<0.050	0.066
	Molybdenum (Mo) (mg/kg)	1.6	1.5	1.5	1.4	1.9
	Nickel (Ni) (mg/kg)	21.3	21.2	21.8	14.0	29.2
	Selenium (Se) (mg/kg)	<0.50	<0.50	<0.50	<0.50	0.89
	Silver (Ag) (mg/kg)	<1.0	<1.0	<1.0	<1.0	<1.0
	Thallium (Tl) (mg/kg)	<0.50	<0.50	<0.50	<0.50	<0.50
	Tin (Sn) (mg/kg)	<5.0	<5.0	<5.0	<5.0	<5.0
	Uranium (U) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Vanadium (V) (mg/kg)	39.9	39.2	37.0	22.6	38.8
	Zinc (Zn) (mg/kg)	87	93	89	63	90
Leachable Metals	Boron (B), Hot Water Ext. (mg/kg)	1.77	1.42	1.18	0.33	0.81
Hydrocarbons	EPH10-19 (mg/kg)	<200	<200	<200	<200	<200
	EPH19-32 (mg/kg)	<200	<200	<200	740	<200
	LEPHs (mg/kg)	<200	<200	<200	<200	<200
	HEPHs (mg/kg)	<200	<200	<200	740	<200
	Surrogate: 2-Bromobenzotrifluoride (%)	92.9	101.8	99.1	104.7	91.3
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Acenaphthylene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Anthracene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benz(a)anthracene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(a)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(b&j)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	0.014	0.011
	Benzo(g,h,i)perylene (mg/kg)	<0.010	<0.010	<0.010	0.025	0.014
	Benzo(k)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Chrysene (mg/kg)	<0.010	<0.010	<0.010	0.017	0.010
	Dibenz(a,h)anthracene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1503681-6			
	Description	GRAB			
	Sampled Date	15-AUG-14			
	Sampled Time	11:15			
	Client ID	SAMPLE #6			
Grouping	Analyte				
SOIL					
Physical Tests	% Moisture (%)	8.62			
Metals	Antimony (Sb) (mg/kg)	<0.20			
	Arsenic (As) (mg/kg)	6.93			
	Barium (Ba) (mg/kg)	183			
	Beryllium (Be) (mg/kg)	<1.0			
	Cadmium (Cd) (mg/kg)	<0.50			
	Chromium (Cr) (mg/kg)	14.5			
	Cobalt (Co) (mg/kg)	13.9			
	Copper (Cu) (mg/kg)	14.0			
	Lead (Pb) (mg/kg)	11.2			
	Mercury (Hg) (mg/kg)	<0.050			
	Molybdenum (Mo) (mg/kg)	1.3			
	Nickel (Ni) (mg/kg)	19.9			
	Selenium (Se) (mg/kg)	<0.50			
	Silver (Ag) (mg/kg)	<1.0			
	Thallium (Tl) (mg/kg)	<0.50			
	Tin (Sn) (mg/kg)	<5.0			
	Uranium (U) (mg/kg)	<2.0			
	Vanadium (V) (mg/kg)	35.7			
	Zinc (Zn) (mg/kg)	92			
Leachable Metals	Boron (B), Hot Water Ext. (mg/kg)	1.61			
Hydrocarbons	EPH10-19 (mg/kg)	<200			
	EPH19-32 (mg/kg)	<200			
	LEPHs (mg/kg)	<200			
	HEPHs (mg/kg)	<200			
	Surrogate: 2-Bromobenzotrifluoride (%)	100.0			
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.010			
	Acenaphthylene (mg/kg)	<0.010			
	Anthracene (mg/kg)	<0.010			
	Benz(a)anthracene (mg/kg)	<0.010			
	Benzo(a)pyrene (mg/kg)	<0.010			
	Benzo(b&j)fluoranthene (mg/kg)	<0.010			
	Benzo(g,h,i)perylene (mg/kg)	<0.010			
	Benzo(k)fluoranthene (mg/kg)	<0.010			
	Chrysene (mg/kg)	<0.010			
	Dibenz(a,h)anthracene (mg/kg)	<0.010			

ALS ENVIRONMENTAL ANALYTICAL REPORT

L1503681 CONTD....
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 23-AUG-14 14:32 (MT)
 Version: FINAL

	Sample ID Description Sampled Date Sampled Time Client ID	L1503681-1 GRAB 15-AUG-14 11:05 SAMPLE #1	L1503681-2 GRAB 15-AUG-14 11:07 SAMPLE #2	L1503681-3 GRAB 15-AUG-14 11:09 SAMPLE #3	L1503681-4 GRAB 15-AUG-14 11:11 SAMPLE #4	L1503681-5 GRAB 15-AUG-14 11:13 SAMPLE #5
Grouping	Analyte					
SOIL						
Polycyclic Aromatic Hydrocarbons	Fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	0.013	<0.010	<0.010
	Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Phenanthrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Surrogate: Acenaphthene d10 (%)	66.5	70.2	69.4	80.7	70.6
	Surrogate: Chrysene d12 (%)	78.3	86.1	86.8	98.0	95.8
Surrogate: Phenanthrene d10 (%)	74.9	87.9	85.5	88.2	89.0	

ALS ENVIRONMENTAL ANALYTICAL REPORT

L1503681 CONTD....
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 23-AUG-14 14:32 (MT)
 Version: FINAL

	Sample ID Description Sampled Date Sampled Time Client ID				
	L1503681-6 GRAB 15-AUG-14 11:15 SAMPLE #6				
Grouping	Analyte				
SOIL					
Polycyclic Aromatic Hydrocarbons	Fluoranthene (mg/kg)	<0.010			
	Fluorene (mg/kg)	<0.010			
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010			
	2-Methylnaphthalene (mg/kg)	<0.010			
	Naphthalene (mg/kg)	<0.010			
	Phenanthrene (mg/kg)	<0.010			
	Pyrene (mg/kg)	<0.010			
	Surrogate: Acenaphthene d10 (%)	65.5			
	Surrogate: Chrysene d12 (%)	89.8			
	Surrogate: Phenanthrene d10 (%)	86.6			

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	Description	Sampled Date	Sampled Time	Client ID
	L1503681-1	GRAB	15-AUG-14	11:05	SAMPLE #1
	L1503681-2	GRAB	15-AUG-14	11:07	SAMPLE #2
	L1503681-3	GRAB	15-AUG-14	11:09	SAMPLE #3
	L1503681-4	GRAB	15-AUG-14	11:11	SAMPLE #4
	L1503681-5	GRAB	15-AUG-14	11:13	SAMPLE #5
Grouping	Analyte				
WASTE					
Waste Characterizations	pH (pH)				
	6.60	6.62	6.56	7.95	7.37

ALS ENVIRONMENTAL ANALYTICAL REPORT

L1503681 CONTD....
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 23-AUG-14 14:32 (MT)
 Version: FINAL

	Sample ID Description Sampled Date Sampled Time Client ID	L1503681-6 GRAB 15-AUG-14 11:15 SAMPLE #6			
Grouping	Analyte				
WASTE					
Waste Characterizations	pH (pH)	6.77			

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
B-HOTW-ED	Soil	Available Boron, Hot Water	Methods of Soil Analysis (1996) SSSA
HG-200.2-CVAA-ED	Soil	Mercury in Soil by CVAAS	EPA 200.2/245.1
Test method is based on US EPA Method 200.2 "Sample Preparation Procedure for Spectrochemical Determination of Total Recoverable Elements", and meets all requirements of BC CSR Analytical Method 8 "Strong Acid Leachable Metals (SALM) in Soil", BC MOE, June 26, 2001. Soil is dried at <60 C and digested with nitric and hydrochloric acids, prior to analysis for mercury by cold vapour atomic absorption.			
LEPH/HEPH-CALC-CL	Soil	LEPHs and HEPHs	BC MELP; CSR-Analytical Method 3
LEPH/HEPH-CL	Soil	LEPHs and HEPHs	BC MELP; CSR-Analytical Method 3
MET-200.2-CCMS-ED	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A
This analysis is carried out using procedures from CSR Analytical Method: "Strong Acid Leachable Metals (SALM) in Soil", BC Ministry of Environment, 26 June 2009, and procedures adapted from EPA Method 200.2. The sample is manually homogenized, dried at 60 degrees Celsius, sieved through a 2 mm (10 mesh) sieve, and a representative subsample of the dry material is weighed. The sample is then digested at 95 degrees Celsius for 2 hours by block digester using concentrated nitric and hydrochloric acids. Instrumental analysis is by inductively coupled plasma - mass spectrometry (EPA Method 6020A).			
Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.			
PAH-BCCSR-CL	Soil	PAHs - BC CSR Regs	EPA 3570/8270-GC/MS
PH-1:2-ED	Waste	pH	CSSS 16.2 - PH OF 1:2 WATER EXTRACT
PREP-MOISTURE-CL	Soil	% Moisture	Oven dry 105C-Gravimetric
TEH-BC-CL	Soil	EPH (C10-C19) & EPH (C19-C32)	BC MOE EPH GCFID
Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).			

** 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
CL	ALS ENVIRONMENTAL - CALGARY, ALBERTA, CANADA

Chain of Custody Numbers:

10-147181

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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.

Project
Report To
ALS File No.
Date Received
Date

Cecil Lake Home and Country Store - Soil Analysis
PAULO EICHELBERGER/LORYN DAY, PEACE RIVER REGIONAL DISTRICT - DAWSON CREEK
L1503681
18-Aug-14 10:20
23-Aug-14

RESULTS OF ANALYSIS

Notes: Test results were compared to the BC Contaminated Sites Regulation Limits. It is these limits that are listed in the last column. If any of the samples exceeded a specific limit, the intent would be to go back, excavate further and retest the affected area.

Sample ID	SAMPLE #1	SAMPLE #2	SAMPLE #3	SAMPLE #4	SAMPLE #5	SAMPLE #6	CSR Ag Limits
Date Sampled	15-AUG-14	15-AUG-14	15-AUG-14	15-AUG-14	15-AUG-14	15-AUG-14	
Time Sampled	11:05	11:07	11:09	11:11	11:13	11:15	
ALS Sample ID	L1503681-1	L1503681-2	L1503681-3	L1503681-4	L1503681-5	L1503681-6	
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	

Physical Tests

% Moisture	21.4	16.3	14.4	19.5	3.75	8.62	N/A
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Metals

Antimony (Sb)	0.23	0.21	0.30	0.63	0.64	<0.20	20
Arsenic (As)	7.67	7.91	8.03	5.81	11.7	6.93	25
Barium (Ba)	214	204	220	149	276	183	400
Beryllium (Be)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4
Cadmium (Cd)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3
Chromium (Cr)	16.4	15.8	15.8	9.80	18.8	14.5	50
Cobalt (Co)	14.0	13.7	12.6	4.9	10.0	13.9	40
Copper (Cu)	15.1	14.7	15.7	19.7	22.4	14.0	30000
Lead (Pb)	11.5	11.5	14.9	12.4	14.1	11.2	350
Mercury (Hg)	<0.050	<0.050	<0.050	<0.050	0.066	<0.050	0.6
Molybdenum (Mo)	1.6	1.5	1.5	1.4	1.9	1.3	5
Nickel (Ni)	21.3	21.2	21.8	14.0	29.2	19.9	150
Selenium (Se)	<0.50	<0.50	<0.50	<0.50	0.89	<0.50	2
Silver (Ag)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	20
Thallium (Tl)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2
Tin (Sn)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5
Uranium (U)	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	No standard
Vanadium (V)	39.9	39.2	37.0	22.6	38.8	35.7	200
Zinc (Zn)	87	93	89	63	90	92	200

Leachable Metals

Boron (B), Hot Water Ext.	1.77	1.42	1.18	0.33	0.81	1.61	2
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Waste Characterizations

pH	6.60	6.62	6.56	7.95	7.37	6.77	no limit - overall pH is neutral
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Hydrocarbons

EPH10-19	<200	<200	<200	<200	<200	<200	1000
EPH19-32	<200	<200	<200	740	<200	<200	1000
LEPHs	<200	<200	<200	<200	<200	<200	1000
HEPHs	<200	<200	<200	740	<200	<200	1000
Prep/Analysis Dates	-	-	-	-	-	-	
Surrogate: 2-Bromobenzotrifluoride	92.9	101.8	99.1	104.7	91.3	100.0	N/A

Polycyclic Aromatic Hydrocarbons

Acenaphthene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Acenaphthylene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Anthracene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Benz(a)anthracene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Benzo(a)pyrene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Benzo(b&j)fluoranthene	<0.010	<0.010	<0.010	0.014	0.011	<0.010	0.1
Benzo(g,h,i)perylene	<0.010	<0.010	<0.010	0.025	0.014	<0.010	0.1
Benzo(k)fluoranthene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Chrysene	<0.010	<0.010	<0.010	0.017	0.010	<0.010	0.1
Dibenz(a,h)anthracene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Fluoranthene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Fluorene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Indeno(1,2,3-c,d)pyrene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
2-Methylnaphthalene	<0.010	<0.010	0.013	<0.010	<0.010	<0.010	0.1
Naphthalene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Phenanthrene	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1
Pyrene	<0.010	<0.010	<0.010	0.022	<0.010	<0.010	0.1
Surrogate: Acenaphthene d10	66.5	70.2	69.4	80.7	70.6	65.5	N/A
Surrogate: Chrysene d12	78.3	86.1	86.8	98.0	95.8	89.8	N/A
Surrogate: Phenanthrene d10	74.9	87.9	85.5	88.2	89.0	86.6	N/A



Environmental

Quality Control Report

Workorder: L1503681

Report Date: 23-AUG-14

Page 1 of 7

Client: PEACE RIVER REGIONAL DISTRICT
PO Box 810 1981 ALASKA AVENUE
Dawson Creek BC V1G 4H8

Contact: PAULO EICHELBERGER/LORYN DAY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HOTW-ED	Soil							
Batch	R2925201							
WG1935054-2	IRM	HOTB-ED-SAL	NAT1					
Boron (B), Hot Water Ext.			88.7		%		70-130	21-AUG-14
WG1935054-1	MB							
Boron (B), Hot Water Ext.			<0.10		mg/kg		0.1	21-AUG-14
HG-200.2-CVAA-ED	Soil							
Batch	R2925143							
WG1934718-10	CRM	TILL-1 SOIL						
Mercury (Hg)			98.6		%		70-130	21-AUG-14
WG1934718-11	DUP	L1503681-6						
Mercury (Hg)		<0.050	<0.050	RPD-NA	mg/kg	N/A	20	21-AUG-14
WG1934718-9	IRM	ALS MET IRM1						
Mercury (Hg)			90.2		%		70-130	21-AUG-14
WG1934718-7	MB							
Mercury (Hg)			<0.050		mg/kg		0.05	21-AUG-14
WG1934718-8	MB							
Mercury (Hg)			<0.050		mg/kg		0.05	21-AUG-14
MET-200.2-CCMS-ED	Soil							
Batch	R2925335							
WG1934718-10	CRM	TILL-1 SOIL						
Antimony (Sb)			94.9		%		70-130	21-AUG-14
Arsenic (As)			101.6		%		70-130	21-AUG-14
Barium (Ba)			102.8		%		70-130	21-AUG-14
Beryllium (Be)			93.2		%		70-130	21-AUG-14
Cadmium (Cd)			90.5		%		70-130	21-AUG-14
Chromium (Cr)			97.4		%		70-130	21-AUG-14
Cobalt (Co)			99.8		%		70-130	21-AUG-14
Copper (Cu)			97.3		%		70-130	21-AUG-14
Lead (Pb)			95.9		%		70-130	21-AUG-14
Molybdenum (Mo)			101.5		%		70-130	21-AUG-14
Nickel (Ni)			99.8		%		70-130	21-AUG-14
Selenium (Se)			106.1		%		70-130	21-AUG-14
Thallium (Tl)			114.5		%		70-130	21-AUG-14
Uranium (U)			108.7		%		70-130	21-AUG-14
Vanadium (V)			103.1		%		70-130	21-AUG-14
Zinc (Zn)			95.3		%		70-130	21-AUG-14
WG1934718-11	DUP	L1503681-6						
Antimony (Sb)		<0.20	0.21	RPD-NA	mg/kg	N/A	25	21-AUG-14



Quality Control Report

Workorder: L1503681

Report Date: 23-AUG-14

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	Soil							
Batch	R2925335							
WG1934718-11 DUP		L1503681-6						
Arsenic (As)		6.93	7.49		mg/kg	7.7	30	21-AUG-14
Barium (Ba)		183	206		mg/kg	12	40	21-AUG-14
Beryllium (Be)		<1.0	<1.0	RPD-NA	mg/kg	N/A	30	21-AUG-14
Cadmium (Cd)		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	21-AUG-14
Chromium (Cr)		14.5	15.4		mg/kg	5.6	30	21-AUG-14
Cobalt (Co)		13.9	14.6		mg/kg	4.4	30	21-AUG-14
Copper (Cu)		14.0	14.0		mg/kg	0.1	30	21-AUG-14
Lead (Pb)		11.2	11.1		mg/kg	0.4	40	21-AUG-14
Molybdenum (Mo)		1.3	1.4		mg/kg	1.8	40	21-AUG-14
Nickel (Ni)		19.9	20.8		mg/kg	4.7	30	21-AUG-14
Selenium (Se)		<0.50	<0.50	RPD-NA	mg/kg	N/A	25	21-AUG-14
Silver (Ag)		<1.0	<1.0	RPD-NA	mg/kg	N/A	40	21-AUG-14
Thallium (Tl)		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	21-AUG-14
Tin (Sn)		<5.0	<5.0	RPD-NA	mg/kg	N/A	40	21-AUG-14
Uranium (U)		<2.0	<2.0	RPD-NA	mg/kg	N/A	30	21-AUG-14
Vanadium (V)		35.7	38.3		mg/kg	6.8	25	21-AUG-14
Zinc (Zn)		92	98		mg/kg	6.4	30	21-AUG-14
WG1934718-9 IRM		ALS MET IRM1						
Antimony (Sb)			96.7		%		70-130	21-AUG-14
Arsenic (As)			102.2		%		70-130	21-AUG-14
Barium (Ba)			99.6		%		70-130	21-AUG-14
Beryllium (Be)			100.8		%		70-130	21-AUG-14
Cadmium (Cd)			98.2		%		70-130	21-AUG-14
Chromium (Cr)			108.5		%		70-130	21-AUG-14
Cobalt (Co)			102.7		%		70-130	21-AUG-14
Copper (Cu)			101.1		%		70-130	21-AUG-14
Lead (Pb)			107.2		%		70-130	21-AUG-14
Nickel (Ni)			109.9		%		70-130	21-AUG-14
Selenium (Se)			109.9		%		70-130	21-AUG-14
Silver (Ag)			99.0		%		70-130	21-AUG-14
Thallium (Tl)			108.1		%		70-130	21-AUG-14
Tin (Sn)			96.8		%		70-130	21-AUG-14
Uranium (U)			103.3		%		70-130	21-AUG-14
Vanadium (V)			99.9		%		70-130	21-AUG-14



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	Soil							
Batch	R2925335							
WG1934718-9	IRM	ALS MET IRM1						
Zinc (Zn)			96.8		%		70-130	21-AUG-14
WG1934718-7	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	21-AUG-14
Arsenic (As)			<0.10		mg/kg		0.1	21-AUG-14
Barium (Ba)			<0.50		mg/kg		0.5	21-AUG-14
Beryllium (Be)			<0.20		mg/kg		0.2	21-AUG-14
Cadmium (Cd)			<0.10		mg/kg		0.1	21-AUG-14
Chromium (Cr)			<0.50		mg/kg		0.5	21-AUG-14
Cobalt (Co)			<0.10		mg/kg		0.1	21-AUG-14
Copper (Cu)			<0.50		mg/kg		0.5	21-AUG-14
Lead (Pb)			<0.50		mg/kg		0.5	21-AUG-14
Molybdenum (Mo)			<0.10		mg/kg		0.1	21-AUG-14
Nickel (Ni)			<0.50		mg/kg		0.5	21-AUG-14
Selenium (Se)			<0.20		mg/kg		0.2	21-AUG-14
Silver (Ag)			<0.20		mg/kg		0.2	21-AUG-14
Thallium (Tl)			<0.050		mg/kg		0.05	21-AUG-14
Tin (Sn)			<2.0		mg/kg		2	21-AUG-14
Uranium (U)			<0.050		mg/kg		0.05	21-AUG-14
Vanadium (V)			<0.20		mg/kg		0.2	21-AUG-14
Zinc (Zn)			<5.0		mg/kg		5	21-AUG-14
WG1934718-8	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	21-AUG-14
Arsenic (As)			<0.10		mg/kg		0.1	21-AUG-14
Barium (Ba)			<0.50		mg/kg		0.5	21-AUG-14
Beryllium (Be)			<0.20		mg/kg		0.2	21-AUG-14
Cadmium (Cd)			<0.10		mg/kg		0.1	21-AUG-14
Chromium (Cr)			<0.50		mg/kg		0.5	21-AUG-14
Cobalt (Co)			<0.10		mg/kg		0.1	21-AUG-14
Copper (Cu)			<0.50		mg/kg		0.5	21-AUG-14
Lead (Pb)			<0.50		mg/kg		0.5	21-AUG-14
Molybdenum (Mo)			<0.10		mg/kg		0.1	21-AUG-14
Nickel (Ni)			<0.50		mg/kg		0.5	21-AUG-14
Selenium (Se)			<0.20		mg/kg		0.2	21-AUG-14
Silver (Ag)			<0.20		mg/kg		0.2	21-AUG-14
Thallium (Tl)			<0.050		mg/kg		0.05	21-AUG-14



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	Soil							
Batch	R2925335							
WG1934718-8	MB							
Tin (Sn)			<2.0		mg/kg		2	21-AUG-14
Uranium (U)			<0.050		mg/kg		0.05	21-AUG-14
Vanadium (V)			<0.20		mg/kg		0.2	21-AUG-14
Zinc (Zn)			<5.0		mg/kg		5	21-AUG-14
PAH-BCCSR-CL	Soil							
Batch	R2926497							
WG1936558-3	DUP	L1503681-1						
Acenaphthene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Acenaphthylene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Anthracene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Benz(a)anthracene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Benzo(a)pyrene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Benzo(b&j)fluoranthene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Benzo(g,h,i)perylene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Benzo(k)fluoranthene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Chrysene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Dibenz(a,h)anthracene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Fluoranthene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Fluorene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Indeno(1,2,3-c,d)pyrene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
2-Methylnaphthalene		<0.010	0.013	RPD-NA	mg/kg	N/A	50	21-AUG-14
Naphthalene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Phenanthrene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
Pyrene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	21-AUG-14
WG1936558-2	LCS							
Acenaphthene			64.0		mg/kg		60-130	21-AUG-14
Acenaphthylene			67.7		mg/kg		60-130	21-AUG-14
Anthracene			71.0		mg/kg		60-130	21-AUG-14
Benz(a)anthracene			90.1		mg/kg		60-130	21-AUG-14
Benzo(a)pyrene			88.9		mg/kg		60-130	21-AUG-14
Benzo(b&j)fluoranthene			83.1		mg/kg		60-130	21-AUG-14
Benzo(g,h,i)perylene			92.2		mg/kg		60-130	21-AUG-14
Benzo(k)fluoranthene			83.6		mg/kg		60-130	21-AUG-14
Chrysene			88.5		mg/kg		60-130	21-AUG-14



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-BCCSR-CL	Soil							
Batch	R2926497							
WG1936558-2	LCS							
Dibenz(a,h)anthracene			92.1		mg/kg		60-130	21-AUG-14
Fluoranthene			75.2		mg/kg		60-130	21-AUG-14
Fluorene			61.4		mg/kg		60-130	21-AUG-14
Indeno(1,2,3-c,d)pyrene			94.3		mg/kg		60-130	21-AUG-14
2-Methylnaphthalene			64.3		mg/kg		60-130	21-AUG-14
Naphthalene			62.7		mg/kg		50-130	21-AUG-14
Phenanthrene			65.8		mg/kg		60-130	21-AUG-14
Pyrene			83.1		mg/kg		60-130	21-AUG-14
WG1936558-1	MB							
Acenaphthene			<0.010		mg/kg		0.01	21-AUG-14
Acenaphthylene			<0.010		mg/kg		0.01	21-AUG-14
Anthracene			<0.010		mg/kg		0.01	21-AUG-14
Benz(a)anthracene			<0.010		mg/kg		0.01	21-AUG-14
Benzo(a)pyrene			<0.010		mg/kg		0.01	21-AUG-14
Benzo(b&j)fluoranthene			<0.010		mg/kg		0.01	21-AUG-14
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	21-AUG-14
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	21-AUG-14
Chrysene			<0.010		mg/kg		0.01	21-AUG-14
Dibenz(a,h)anthracene			<0.010		mg/kg		0.01	21-AUG-14
Fluoranthene			<0.010		mg/kg		0.01	21-AUG-14
Fluorene			<0.010		mg/kg		0.01	21-AUG-14
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	21-AUG-14
2-Methylnaphthalene			<0.010		mg/kg		0.01	21-AUG-14
Naphthalene			<0.010		mg/kg		0.01	21-AUG-14
Phenanthrene			<0.010		mg/kg		0.01	21-AUG-14
Pyrene			<0.010		mg/kg		0.01	21-AUG-14
Surrogate: Acenaphthene d10			73.4		%		60-130	21-AUG-14
Surrogate: Chrysene d12			85.9		%		60-130	21-AUG-14
Surrogate: Phenanthrene d10			71.6		%		60-130	21-AUG-14
PREP-MOISTURE-CL	Soil							
Batch	R2926657							
WG1936944-1	DUP	L1503681-3						
% Moisture		14.4	15.0		%	4.0	20	23-AUG-14
TEH-BC-CL	Soil							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TEH-BC-CL		Soil						
Batch	R2926136							
WG1936497-2	DUP	L1503681-3						
EPH10-19		<200	<200	RPD-NA	mg/kg	N/A	50	21-AUG-14
EPH19-32		<200	<200	RPD-NA	mg/kg	N/A	50	21-AUG-14
WG1936497-1	MB							
EPH10-19			<200		mg/kg		200	21-AUG-14
EPH19-32			<200		mg/kg		200	21-AUG-14
Surrogate: 2-Bromobenzotrifluoride			100.0		%		80-120	21-AUG-14
PH-1:2-ED		Waste						
Batch	R2923958							
WG1934571-2	DUP	L1503681-4						
pH		7.95	8.01	J	pH	0.06	0.3	20-AUG-14
WG1934571-1	IRM	ED-SAL NAT1						
pH			6.77		pH		6.48-7.88	20-AUG-14
WG1934571-3	LCS							
pH			4.01		pH		3.7-4.3	20-AUG-14
WG1934571-4	LCS							
pH			7.01		pH		6.7-7.3	20-AUG-14
WG1934571-5	LCS							
pH			10.02		pH		9.7-10.3	20-AUG-14

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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

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

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.

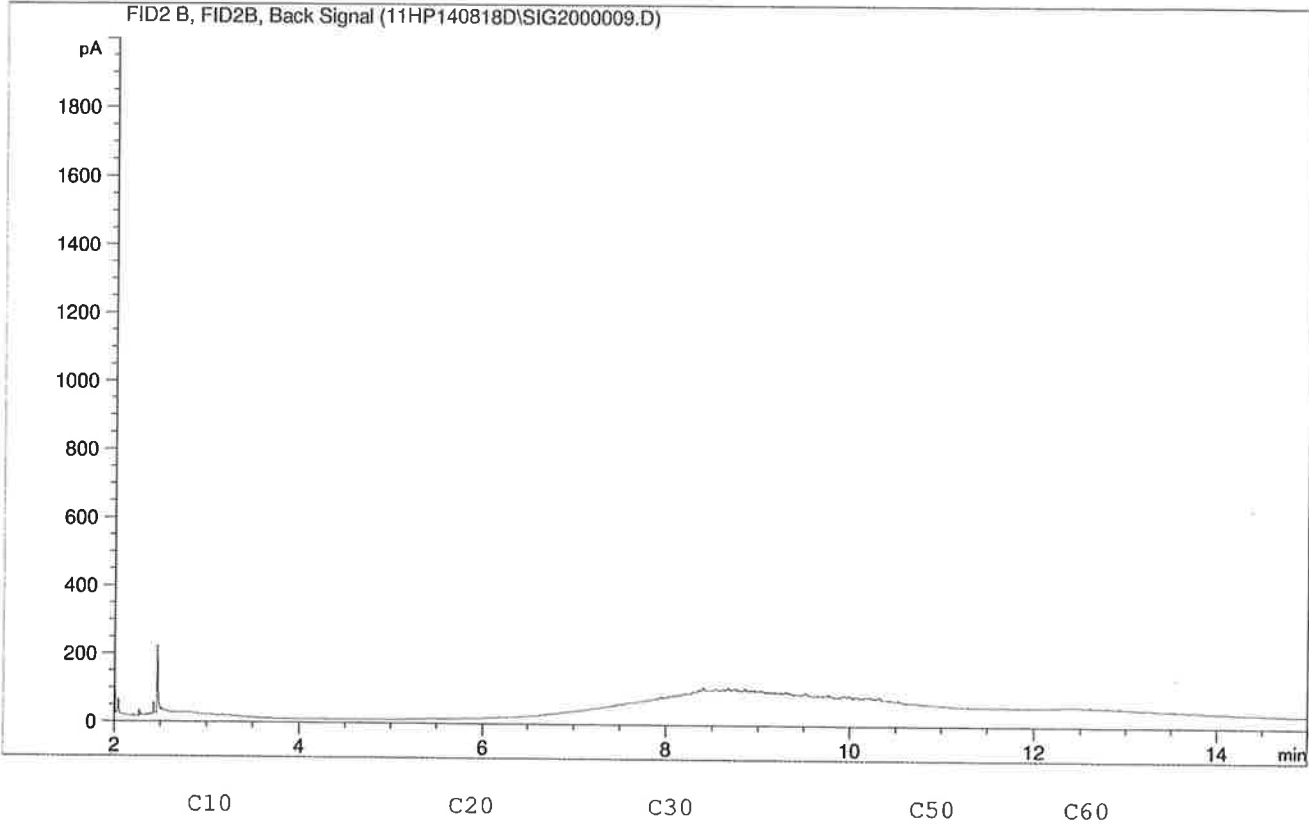
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide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

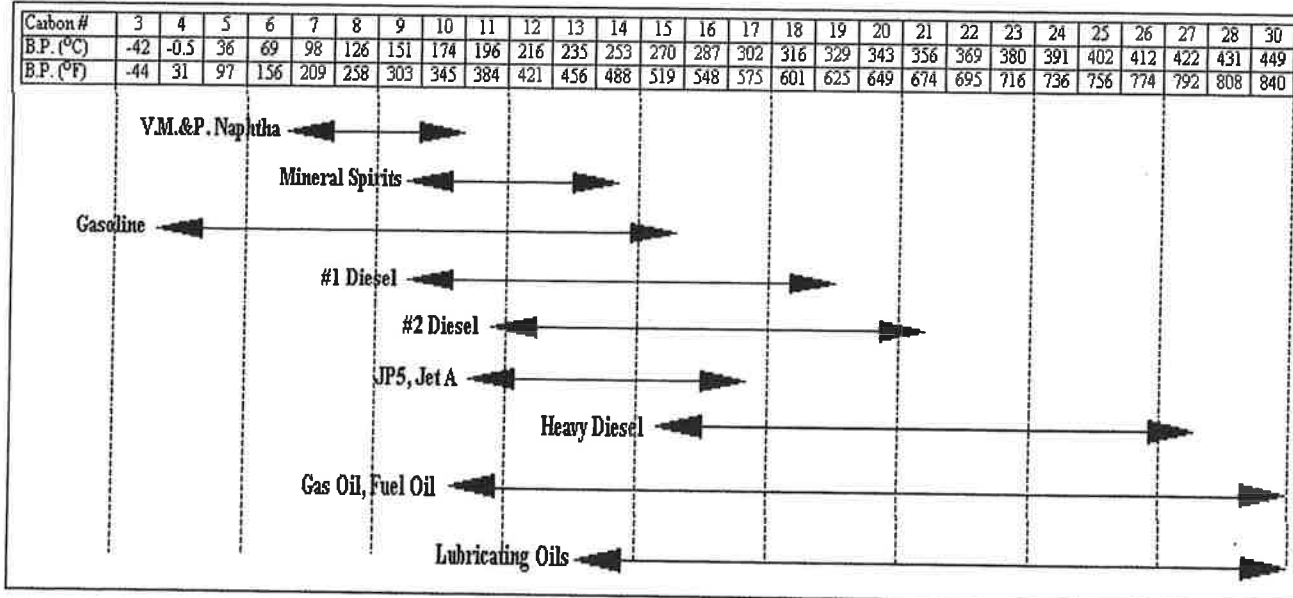
Client ID: SAMPLE #4



Sample ID: L1503681-4 V50 TEH
 Injection Date: 8/21/2014
 Injection Time: 2:52:39 PM
 Instrument ID: Instrument 1
 Operator: Organics



Boiling Point Distribution Range for Petroleum Based Fuel Products



Adapted from: Drews, A.W., ED. Manual on Hydrocarbon Analysis, 4th ed.; American Society for Testing and Materials: Philadelphia, PA., 1989: p XVIII.