APPENDIX E

Laboratory Certificates of Analysis and Data Quality Review Checklists

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/08/19
Report #: R3218837
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C259075
Received: 2022/08/09, 11:45

Sample Matrix: Soil
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble) (1)	4	2022/08/11	2022/08/11	AB SOP-00034 / AB SOP-00042	EPA 6010d R5 m
Boron (Hot Water Soluble) (1)	2	2022/08/12	2022/08/12	AB SOP-00034 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	8	N/A	2022/08/11	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	8	N/A	2022/08/11		Auto Calc
Cation/EC Ratio (1)	1	N/A	2022/08/11		Auto Calc
Cation/EC Ratio (1)	5	N/A	2022/08/12		Auto Calc
Chloride (Soluble) (1)	4	2022/08/11	2022/08/11	AB SOP-00033 / AB SOP-00020	SM 23-4500-Cl-E m
Chloride (Soluble) (1)	2	2022/08/12	2022/08/12	AB SOP-00033 / AB SOP-00020	SM 23-4500-Cl-E m
Hexavalent Chromium (1, 3)	6	2022/08/11	2022/08/11	AB SOP-00063	SM 23 3500-Cr B m
Conductivity @25C (Soluble) (1)	4	2022/08/11	2022/08/11	AB SOP-00033 / AB SOP-00004	SM 23 2510 B m
Conductivity @25C (Soluble) (1)	2	2022/08/12	2022/08/12	AB SOP-00033 / AB SOP-00004	SM 23 2510 B m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	8	2022/08/10	2022/08/11	AB SOP-00036	CCME PHC-CWS m
Elements by ICPMS - Soils (1)	1	2022/08/11	2022/08/11	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Elements by ICPMS - Soils (1)	3	2022/08/11	2022/08/12	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Elements by ICPMS - Soils (1)	2	2022/08/12	2022/08/12	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Sum of Cations, Anions (1)	1	N/A	2022/08/11		Auto Calc
Sum of Cations, Anions (1)	5	N/A	2022/08/12		Auto Calc
Moisture (1)	8	N/A	2022/08/11	AB SOP-00002	CCME PHC-CWS m
Benzo[a]pyrene Equivalency (1)	6	N/A	2022/08/11		Auto Calc
PAH in Soil by GC/MS (1)	6	2022/08/10	2022/08/11	AB SOP-00036 / AB SOP-00003	EPA 3540C/8270E m
pH @25C (1:2 Calcium Chloride Extract) (1)	4	2022/08/11	2022/08/11	AB SOP-00033 / AB SOP-00006	SM 23 4500 H+B m

Your P.O. #: 22525414-1100-1104
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GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
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CANADA T2P 2W2

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CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C259075
Received: 2022/08/09, 11:45

Sample Matrix: Soil
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
pH @25C (1:2 Calcium Chloride Extract) (1)	2	2022/08/12	2022/08/12	AB SOP-00033 / AB SOP-00006	SM 23 4500 H+B m
Sodium Adsorption Ratio (1)	1	N/A	2022/08/11		Auto Calc
Sodium Adsorption Ratio (1)	5	N/A	2022/08/12		Auto Calc
Soluble Ions (1)	4	2022/08/11	2022/08/11	AB SOP-00033 / AB SOP-00042	EPA 6010d R5 m
Soluble Ions (1)	2	2022/08/12	2022/08/12	AB SOP-00033 / AB SOP-00042	EPA 6010d R5 m
Soluble Paste (1)	4	2022/08/11	2022/08/11	AB SOP-00033	Carter 2nd ed 15.2 m
Soluble Paste (1)	2	2022/08/12	2022/08/12	AB SOP-00033	Carter 2nd ed 15.2 m
Soluble Ions Calculation (1)	6	N/A	2022/08/11		Auto Calc
Theoretical Gypsum Requirement (1, 5)	1	N/A	2022/08/11		Auto Calc
Theoretical Gypsum Requirement (1, 5)	5	N/A	2022/08/12		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
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Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/08/19
Report #: R3218837
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CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C259075

Received: 2022/08/09, 11:45

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.

(3) Some soil samples may react with the Cr(VI) spike reducing it to Cr(III). These samples are highly unlikely to contain native hexavalent chromium. Thus a failed spike recovery does not invalidate a negative result on the native sample.

(4) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

(5) TGR calculation is based on a theoretical SAR of 4. Salt Contamination and Assessment and remediation guideline 2001 recommended SAR is ranging 4-8. TGR is reported in tonnes/ha.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
22 Aug 2022 18:09:16

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Cynny Hagen, Key Account Specialist
Email: Cynny.HAGEN@bureauveritas.com
Phone# (403)735-2273

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C259075
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZF954	AZF954			AZF955		AZF956		
Sampling Date		2022/08/06 14:50	2022/08/06 14:50			2022/08/06 14:55		2022/08/06 16:10		
COC Number		1 of 1	1 of 1			1 of 1		1 of 1		
	UNITS	BH22-42-01	BH22-42-01 Lab-Dup	RDL	QC Batch	BH22-42-02	RDL	BH22-44-01	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<28 (1)	N/A	28	A676506	11	10	28 (1)	23	A676506
F3 (C16-C34 Hydrocarbons)	mg/kg	370 (1)	N/A	140	A676506	140	50	370 (1)	120	A676506
F4 (C34-C50 Hydrocarbons)	mg/kg	<140 (1)	N/A	140	A676506	<50	50	<120 (1)	120	A676506
Reached Baseline at C50	mg/kg	Yes	N/A	N/A	A676506	Yes	N/A	Yes	N/A	A676506
Physical Properties										
Moisture	%	64	N/A	0.30	A676508	29	0.30	57	0.30	A676514
Volatiles										
Xylenes (Total)	mg/kg	<0.25	N/A	0.25	A676395	<0.045	0.045	<0.23	0.23	A676395
F1 (C6-C10) - BTEX	mg/kg	<36	N/A	36	A676395	<10	10	<33	33	A676395
Field Preserved Volatiles										
Benzene	mg/kg	<0.028 (2)	<0.028	0.028	A676666	<0.0050	0.0050	<0.026 (2)	0.026	A676666
Toluene	mg/kg	<0.050 (3)	<0.050 (3)	0.050	A676666	<0.050	0.050	<0.050 (3)	0.050	A676666
Ethylbenzene	mg/kg	<0.057 (2)	<0.057	0.057	A676666	<0.010	0.010	<0.052 (2)	0.052	A676666
m & p-Xylene	mg/kg	<0.23 (4)	<0.23	0.23	A676666	<0.040	0.040	<0.21 (2)	0.21	A676666
o-Xylene	mg/kg	<0.11 (2)	<0.11	0.11	A676666	<0.020	0.020	<0.10 (2)	0.10	A676666
F1 (C6-C10)	mg/kg	<36 (3)	<36 (3)	36	A676666	<10	10	<33 (3)	33	A676666
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	97	95	N/A	A676666	122	N/A	96	N/A	A676666
4-Bromofluorobenzene (sur.)	%	90	81	N/A	A676666	90	N/A	86	N/A	A676666
D10-o-Xylene (sur.)	%	106	96	N/A	A676666	99	N/A	104	N/A	A676666
D4-1,2-Dichloroethane (sur.)	%	95	87	N/A	A676666	115	N/A	87	N/A	A676666
O-TERPHENYL (sur.)	%	101	N/A	N/A	A676506	97	N/A	101	N/A	A676506

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.
(2) Detection limits raised based on sample weight used for analysis.
(3) Detection limit reported based on MDL and sample weight used for analysis.
(4) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high. Detection limits raised based on sample weight used for analysis.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C259075
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZF957		AZF958		AZF959		AZF960		AZF961		
Sampling Date		2022/08/06 15:35		2022/08/06 16:20		2022/08/07 08:40		2022/08/06 14:10		2022/08/06 14:10		
COC Number		1 of 1		1 of 1		1 of 1		1 of 1		1 of 1		
	UNITS	MW22-43-01	RDL	BH22-45-01	RDL	BH22-46-01	RDL	BH22-41-01	RDL	DUP A	RDL	QC Batch
Ext. Pet. Hydrocarbon												
F2 (C10-C16 Hydrocarbons)	mg/kg	14	10	120 (1)	23	340 (1)	34	<21 (1)	21	29	10	A676506
F3 (C16-C34 Hydrocarbons)	mg/kg	300	50	2100 (1)	110	2900 (1)	170	360 (1)	100	410	50	A676506
F4 (C34-C50 Hydrocarbons)	mg/kg	86	50	650 (1)	110	930 (1)	170	120 (1)	100	93	50	A676506
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	Yes	N/A	Yes	N/A	Yes	N/A	A676506
Physical Properties												
Moisture	%	34	0.30	56	0.30	71	0.30	52	0.30	47	0.30	A676514
Volatiles												
Xylenes (Total)	mg/kg	<0.045	0.045	<0.14	0.14	<0.28	0.28	<0.14	0.14	<0.12	0.12	A676395
F1 (C6-C10) - BTEX	mg/kg	<10	10	<24	24	<40	40	<24	24	<24	24	A676395
Field Preserved Volatiles												
Benzene	mg/kg	<0.0050	0.0050	<0.016 (2)	0.016	<0.032 (2)	0.032	<0.016 (2)	0.016	<0.013 (2)	0.013	A676666
Toluene	mg/kg	<0.050	0.050	<0.050 (3)	0.050	<0.050 (3)	0.050	<0.050 (3)	0.050	<0.050 (3)	0.050	A676666
Ethylbenzene	mg/kg	<0.010	0.010	<0.032 (2)	0.032	<0.064 (2)	0.064	<0.031 (2)	0.031	<0.026 (2)	0.026	A676666
m & p-Xylene	mg/kg	<0.040	0.040	<0.13 (2)	0.13	<0.26 (2)	0.26	<0.13 (2)	0.13	<0.11 (2)	0.11	A676666
o-Xylene	mg/kg	<0.020	0.020	<0.065 (2)	0.065	<0.13 (2)	0.13	<0.063 (2)	0.063	<0.052 (2)	0.052	A676666
F1 (C6-C10)	mg/kg	<10	10	<24 (3)	24	<40 (3)	40	<24 (3)	24	<24 (3)	24	A676666
Surrogate Recovery (%)												
1,4-Difluorobenzene (sur.)	%	116	N/A	135	N/A	103	N/A	93	N/A	124	N/A	A676666
4-Bromofluorobenzene (sur.)	%	86	N/A	91	N/A	91	N/A	87	N/A	91	N/A	A676666
D10-o-Xylene (sur.)	%	107	N/A	107	N/A	114	N/A	104	N/A	111	N/A	A676666
D4-1,2-Dichloroethane (sur.)	%	109	N/A	124	N/A	101	N/A	89	N/A	116	N/A	A676666
O-TERPHENYL (sur.)	%	98	N/A	107	N/A	101	N/A	98	N/A	103	N/A	A676506

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.
(2) Detection limits raised based on sample weight used for analysis.
(3) Detection limit reported based on MDL and sample weight used for analysis.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C259075
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

SOIL SALINITY 4 (SOIL)

Bureau Veritas ID		AZF954		AZF955		AZF956			AZF957		
Sampling Date		2022/08/06 14:50		2022/08/06 14:55		2022/08/06 16:10			2022/08/06 15:35		
COC Number		1 of 1		1 of 1		1 of 1			1 of 1		
	UNITS	BH22-42-01	RDL	BH22-42-02	RDL	BH22-44-01	RDL	QC Batch	MW22-43-01	RDL	QC Batch
Calculated Parameters											
Anion Sum	meq/L	0.70	N/A	0.80	N/A	0.54	N/A	A676224	0.92	N/A	A676224
Cation Sum	meq/L	3.8	N/A	4.8	N/A	2.3	N/A	A676224	4.6	N/A	A676224
Cation/EC Ratio	N/A	16	0.10	18	0.10	13	0.10	A676346	16	0.10	A676346
Calculated Calcium (Ca)	mg/kg	29	1.2	39	1.2	39	2.9	A676399	35	1.2	A676399
Calculated Magnesium (Mg)	mg/kg	11	0.81	11	0.82	13	1.9	A676399	13	0.82	A676399
Calculated Sodium (Na)	mg/kg	17	2.0	23	2.0	32	4.8	A676399	21	2.0	A676399
Calculated Potassium (K)	mg/kg	2.7	1.1	1.1	1.1	4.3	2.5	A676399	1.7	1.1	A676399
Calculated Chloride (Cl)	mg/kg	12	8.1	12	8.2	21	19	A676399	11	8.2	A676399
Calculated Sulphate (SO4)	mg/kg	11	4.1	15	4.1	22	9.7	A676399	21	4.1	A676399
Soluble Parameters											
Soluble Chloride (Cl)	mg/L	14	10	15	10	11	10	A677413	13	10	A677512
Soluble Conductivity	dS/m	0.23	0.020	0.27	0.020	0.18	0.020	A677437	0.29	0.020	A677416
Soluble (CaCl2) pH	pH	6.71 (1)	N/A	6.98 (1)	N/A	6.43 (1)	N/A	A676771	6.77	N/A	A676662
Sodium Adsorption Ratio	N/A	0.76	0.10	0.93	0.10	0.80	0.10	A676396	0.86	0.10	A676396
Soluble Calcium (Ca)	mg/L	35	1.5	48	1.5	20	1.5	A677260	43	1.5	A677396
Soluble Magnesium (Mg)	mg/L	13	1.0	14	1.0	7.0	1.0	A677260	16	1.0	A677396
Soluble Sodium (Na)	mg/L	21	2.5	28	2.5	16	2.5	A677260	26	2.5	A677396
Soluble Potassium (K)	mg/L	3.4	1.3	1.4	1.3	2.2	1.3	A677260	2.0	1.3	A677396
Saturation %	%	81	N/A	82	N/A	190	N/A	A676768	82	N/A	A676660
Soluble Sulphate (SO4)	mg/L	14	5.0	18	5.0	12	5.0	A677260	26	5.0	A677396
Theoretical Gypsum Requirement	tonnes/ha	<0.20	0.20	<0.20	0.20	<0.20	0.20	A676350	<0.20	0.20	A676350

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) pH was done on a 10:1 Calcium Chloride to soil ratio due to the matrix of the sample.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

SOIL SALINITY 4 (SOIL)

Bureau Veritas ID		AZF958		AZF959		
Sampling Date		2022/08/06 16:20		2022/08/07 08:40		
COC Number		1 of 1		1 of 1		
	UNITS	BH22-45-01	RDL	BH22-46-01	RDL	QC Batch
Calculated Parameters						
Anion Sum	meq/L	0.25	N/A	0.28	N/A	A676224
Cation Sum	meq/L	2.7	N/A	2.9	N/A	A676224
Cation/EC Ratio	N/A	16	0.10	16	0.10	A676346
Calculated Calcium (Ca)	mg/kg	37	2.3	72	4.0	A676399
Calculated Magnesium (Mg)	mg/kg	14	1.5	25	2.6	A676399
Calculated Sodium (Na)	mg/kg	22	3.8	40	6.6	A676399
Calculated Potassium (K)	mg/kg	3.8	2.0	10	3.4	A676399
Calculated Chloride (Cl)	mg/kg	<15	15	<26	26	A676399
Calculated Sulphate (SO4)	mg/kg	18	7.6	35	13	A676399
Soluble Parameters						
Soluble Chloride (Cl)	mg/L	<10	10	<10	10	A678876
Soluble Conductivity	dS/m	0.17	0.020	0.18	0.020	A678998
Soluble (CaCl2) pH	pH	6.15	N/A	6.29	N/A	A677998
Sodium Adsorption Ratio	N/A	0.65	0.10	0.63	0.10	A676396
Soluble Calcium (Ca)	mg/L	24	1.5	28	1.5	A678849
Soluble Magnesium (Mg)	mg/L	9.0	1.0	9.6	1.0	A678849
Soluble Sodium (Na)	mg/L	15	2.5	15	2.5	A678849
Soluble Potassium (K)	mg/L	2.5	1.3	3.9	1.3	A678849
Saturation %	%	150	N/A	260	N/A	A677996
Soluble Sulphate (SO4)	mg/L	12	5.0	13	5.0	A678849
Theoretical Gypsum Requirement	tonnes/ha	<0.20	0.20	<0.20	0.20	A676350

RDL = Reportable Detection Limit
N/A = Not Applicable

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

CCME REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AZF954		AZF955		AZF956			AZF957		
Sampling Date		2022/08/06 14:50		2022/08/06 14:55		2022/08/06 16:10			2022/08/06 15:35		
COC Number		1 of 1		1 of 1		1 of 1			1 of 1		
	UNITS	BH22-42-01	RDL	BH22-42-02	RDL	BH22-44-01	RDL	QC Batch	MW22-43-01	RDL	QC Batch
Elements											
Soluble (Hot water) Boron (B)	mg/kg	<0.10	0.10	0.28	0.10	<0.40 (1)	0.40	A677176	0.16	0.10	A677176
Hex. Chromium (Cr 6+)	mg/kg	<0.22 (2)	0.22	<0.080	0.080	<0.19 (2)	0.19	A677150	<0.080	0.080	A677150
Total Antimony (Sb)	mg/kg	<0.50	0.50	<0.50	0.50	<0.50	0.50	A677124	<0.50	0.50	A676884
Total Arsenic (As)	mg/kg	4.9	1.0	4.5	1.0	6.9	1.0	A677124	5.8	1.0	A676884
Total Barium (Ba)	mg/kg	100	1.0	250	1.0	210	1.0	A677124	190	1.0	A676884
Total Beryllium (Be)	mg/kg	<0.40	0.40	<0.40	0.40	<0.40	0.40	A677124	<0.40	0.40	A676884
Total Cadmium (Cd)	mg/kg	0.083	0.050	0.17	0.050	0.10	0.050	A677124	0.079	0.050	A676884
Total Chromium (Cr)	mg/kg	5.9	1.0	7.6	1.0	8.9	1.0	A677124	10	1.0	A676884
Total Cobalt (Co)	mg/kg	3.1	0.50	4.3	0.50	2.7	0.50	A677124	3.7	0.50	A676884
Total Copper (Cu)	mg/kg	3.6	1.0	5.8	1.0	5.4	1.0	A677124	5.7	1.0	A676884
Total Lead (Pb)	mg/kg	3.0	0.50	3.7	0.50	3.4	0.50	A677124	5.1	0.50	A676884
Total Mercury (Hg)	mg/kg	<0.050	0.050	<0.050	0.050	0.053	0.050	A677124	<0.050	0.050	A676884
Total Molybdenum (Mo)	mg/kg	0.76	0.40	0.55	0.40	0.88	0.40	A677124	0.65	0.40	A676884
Total Nickel (Ni)	mg/kg	8.4	1.0	12	1.0	10	1.0	A677124	11	1.0	A676884
Total Selenium (Se)	mg/kg	<0.50	0.50	<0.50	0.50	0.55	0.50	A677124	<0.50	0.50	A676884
Total Silver (Ag)	mg/kg	<0.20	0.20	<0.20	0.20	<0.20	0.20	A677124	<0.20	0.20	A676884
Total Thallium (Tl)	mg/kg	<0.10	0.10	<0.10	0.10	<0.10	0.10	A677124	<0.10	0.10	A676884
Total Tin (Sn)	mg/kg	<1.0	1.0	<1.0	1.0	<1.0	1.0	A677124	<1.0	1.0	A676884
Total Uranium (U)	mg/kg	0.30	0.20	0.39	0.20	0.41	0.20	A677124	0.37	0.20	A676884
Total Vanadium (V)	mg/kg	11	1.0	15	1.0	14	1.0	A677124	20	1.0	A676884
Total Zinc (Zn)	mg/kg	29	10	47	10	23	10	A677124	34	10	A676884

RDL = Reportable Detection Limit
(1) Detection limits raised based on sample weight used for analysis.
(2) Detection limits raised due to high moisture content, samples contain => 50% moisture.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

CCME REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AZF957			AZF958		AZF959	AZF959		
Sampling Date		2022/08/06 15:35			2022/08/06 16:20		2022/08/07 08:40	2022/08/07 08:40		
COC Number		1 of 1			1 of 1		1 of 1	1 of 1		
	UNITS	MW22-43-01 Lab-Dup	RDL	QC Batch	BH22-45-01	RDL	BH22-46-01	BH22-46-01 Lab-Dup	RDL	QC Batch
Elements										
Soluble (Hot water) Boron (B)	mg/kg	N/A	0.10	A677176	1.0 (1)	0.30	1.6 (1)	1.6	0.30	A678625
Hex. Chromium (Cr 6+)	mg/kg	<0.080	0.080	A677150	<0.18 (2)	0.18	<0.27 (2)	N/A	0.27	A677150
Total Antimony (Sb)	mg/kg	N/A	0.50	A676884	<1.0	1.0	<1.0	<1.0	1.0	A678276
Total Arsenic (As)	mg/kg	N/A	1.0	A676884	3.5	2.0	2.6	2.7	2.0	A678276
Total Barium (Ba)	mg/kg	N/A	1.0	A676884	230	2.0	250	260	2.0	A678276
Total Beryllium (Be)	mg/kg	N/A	0.40	A676884	<0.80	0.80	<0.80	<0.80	0.80	A678276
Total Cadmium (Cd)	mg/kg	N/A	0.050	A676884	0.12	0.10	0.18	0.18	0.10	A678276
Total Chromium (Cr)	mg/kg	N/A	1.0	A676884	8.6	2.0	9.0	11	2.0	A678276
Total Cobalt (Co)	mg/kg	N/A	0.50	A676884	3.0	1.0	2.3	2.4	1.0	A678276
Total Copper (Cu)	mg/kg	N/A	1.0	A676884	5.4	2.0	6.2	7.2	2.0	A678276
Total Lead (Pb)	mg/kg	N/A	0.50	A676884	4.0	1.0	3.0	3.1	1.0	A678276
Total Mercury (Hg)	mg/kg	N/A	0.050	A676884	<0.10	0.10	<0.10	<0.10	0.10	A678276
Total Molybdenum (Mo)	mg/kg	N/A	0.40	A676884	<0.80	0.80	0.91	1.0	0.80	A678276
Total Nickel (Ni)	mg/kg	N/A	1.0	A676884	9.7	2.0	9.0	11	2.0	A678276
Total Selenium (Se)	mg/kg	N/A	0.50	A676884	<1.0	1.0	<1.0	<1.0	1.0	A678276
Total Silver (Ag)	mg/kg	N/A	0.20	A676884	<0.40	0.40	<0.40	<0.40	0.40	A678276
Total Thallium (Tl)	mg/kg	N/A	0.10	A676884	<0.20	0.20	<0.20	<0.20	0.20	A678276
Total Tin (Sn)	mg/kg	N/A	1.0	A676884	<2.0	2.0	<2.0	<2.0	2.0	A678276
Total Uranium (U)	mg/kg	N/A	0.20	A676884	<0.40	0.40	<0.40	0.41	0.40	A678276
Total Vanadium (V)	mg/kg	N/A	1.0	A676884	15	2.0	11	12	2.0	A678276
Total Zinc (Zn)	mg/kg	N/A	10	A676884	<20	20	49	52	20	A678276

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Detection limits raised based on sample weight used for analysis.
(2) Detection limits raised due to high moisture content, samples contain => 50% moisture.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AZF954		AZF955		AZF956		AZF957		
Sampling Date		2022/08/06 14:50		2022/08/06 14:55		2022/08/06 16:10		2022/08/06 15:35		
COC Number		1 of 1		1 of 1		1 of 1		1 of 1		
	UNITS	BH22-42-01	RDL	BH22-42-02	RDL	BH22-44-01	RDL	MW22-43-01	RDL	QC Batch
Polycyclic Aromatics										
Acenaphthene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
B[a]P TPE Total Potency Equivalents	mg/kg	<0.019	0.019	<0.0071	0.0071	<0.016	0.016	<0.0071	0.0071	A676126
Acenaphthylene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Acridine	mg/kg	<0.027 (1)	0.027	0.015 (2)	0.010	0.026 (3)	0.023	<0.010	0.010	A673482
Anthracene	mg/kg	<0.011 (1)	0.011	<0.0040	0.0040	<0.0092 (1)	0.0092	<0.0040	0.0040	A673482
Benzo(a)anthracene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Benzo(b&j)fluoranthene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Benzo(k)fluoranthene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Benzo(g,h,i)perylene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Benzo(c)phenanthrene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Benzo(a)pyrene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Benzo(e)pyrene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Chrysene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Dibenz(a,h)anthracene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Fluoranthene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Fluorene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	0.020 (1)	0.012	0.012	0.0050	A673482
Indeno(1,2,3-cd)pyrene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
1-Methylnaphthalene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
2-Methylnaphthalene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Naphthalene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Phenanthrene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	0.013 (1)	0.012	<0.0050	0.0050	A673482
Perylene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Pyrene	mg/kg	<0.014 (1)	0.014	<0.0050	0.0050	<0.012 (1)	0.012	<0.0050	0.0050	A673482
Quinoline	mg/kg	<0.027 (1)	0.027	<0.010	0.010	<0.023 (1)	0.023	<0.010	0.010	A673482
Surrogate Recovery (%)										
D10-ANTHRACENE (sur.)	%	92	N/A	89	N/A	96	N/A	94	N/A	A673482

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.
(2) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.
(3) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high. In addition, detection limits raised due to high moisture content, sample contains => 50% moisture.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C259075
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AZF954		AZF955		AZF956		AZF957		
Sampling Date		2022/08/06 14:50		2022/08/06 14:55		2022/08/06 16:10		2022/08/06 15:35		
COC Number		1 of 1		1 of 1		1 of 1		1 of 1		
	UNITS	BH22-42-01	RDL	BH22-42-02	RDL	BH22-44-01	RDL	MW22-43-01	RDL	QC Batch
D8-ACENAPHTHYLENE (sur.)	%	87	N/A	85	N/A	90	N/A	90	N/A	A673482
D8-NAPHTHALENE (sur.)	%	80	N/A	76	N/A	81	N/A	81	N/A	A673482
TERPHENYL-D14 (sur.)	%	113	N/A	112	N/A	121	N/A	119	N/A	A673482

RDL = Reportable Detection Limit
N/A = Not Applicable

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AZF958			AZF959		
Sampling Date		2022/08/06 16:20			2022/08/07 08:40		
COC Number		1 of 1			1 of 1		
	UNITS	BH22-45-01	RDL	QC Batch	BH22-46-01	RDL	QC Batch
Polycyclic Aromatics							
Acenaphthene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
B[a]P TPE Total Potency Equivalents	mg/kg	<0.016	0.016	A676126	<0.024	0.024	A676126
Acenaphthylene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Acridine	mg/kg	<0.022 (1)	0.022	A673482	<0.034 (1)	0.034	A674718
Anthracene	mg/kg	<0.0088 (1)	0.0088	A673482	<0.014 (1)	0.014	A674718
Benzo(a)anthracene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Benzo(b&j)fluoranthene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Benzo(k)fluoranthene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Benzo(g,h,i)perylene	mg/kg	0.036 (1)	0.011	A673482	0.031 (1)	0.017	A674718
Benzo(c)phenanthrene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Benzo(a)pyrene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Benzo(e)pyrene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Chrysene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Dibenz(a,h)anthracene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Fluoranthene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Fluorene	mg/kg	0.037 (1)	0.011	A673482	0.086 (1)	0.017	A674718
Indeno(1,2,3-cd)pyrene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
1-Methylnaphthalene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
2-Methylnaphthalene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Naphthalene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Phenanthrene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Perylene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Pyrene	mg/kg	<0.011 (1)	0.011	A673482	<0.017 (1)	0.017	A674718
Quinoline	mg/kg	<0.022 (1)	0.022	A673482	<0.034 (1)	0.034	A674718
Surrogate Recovery (%)							
D10-ANTHRACENE (sur.)	%	94	N/A	A673482	95	N/A	A674718
D8-ACENAPHTHYLENE (sur.)	%	89	N/A	A673482	89	N/A	A674718
D8-NAPHTHALENE (sur.)	%	89	N/A	A673482	86	N/A	A674718

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AZF958			AZF959		
Sampling Date		2022/08/06 16:20			2022/08/07 08:40		
COC Number		1 of 1			1 of 1		
	UNITS	**BH22-45-01**	**RDL**	**QC Batch**	**BH22-46-01**	**RDL**	**QC Batch**
TERPHENYL-D14 (sur.)	%	134 (1)	N/A	A673482	136 (1)	N/A	A674718

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.3°C

Version #2: Report reissued to amend client sample ID on AZF957 from BH22-43-01 to MW22-43-01 as per the original Chain of Custody.

Version 3: Report reissued to include Chromatogram analysis on below samples as per client request received 2022/08/18.
AZF958/BH22-45-01
AZF959/BH22-46-01
AZF961/DUP A

CCME REGULATED METALS - SOILS (SOIL) Comments

Sample AZF958 [BH22-45-01] Elements by ICPMS - Soils: Detection limits raised due to sample matrix.
Sample AZF959 [BH22-46-01] Elements by ICPMS - Soils: Detection limits raised due to sample matrix.

Results relate only to the items tested.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A673482	NK3	Matrix Spike	D10-ANTHRACENE (sur.)	2022/08/10		106	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/10		101	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/10		97	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/10		134 (1)	%	50 - 130
			Acenaphthene	2022/08/10		90	%	50 - 130
			Acenaphthylene	2022/08/10		88	%	50 - 130
			Acridine	2022/08/10		66	%	50 - 130
			Anthracene	2022/08/10		91	%	50 - 130
			Benzo(a)anthracene	2022/08/10		108	%	50 - 130
			Benzo(b&j)fluoranthene	2022/08/10		105	%	50 - 130
			Benzo(k)fluoranthene	2022/08/10		98	%	50 - 130
			Benzo(g,h,i)perylene	2022/08/10		96	%	50 - 130
			Benzo(c)phenanthrene	2022/08/10		108	%	50 - 130
			Benzo(a)pyrene	2022/08/10		101	%	50 - 130
			Benzo(e)pyrene	2022/08/10		92	%	50 - 130
			Chrysene	2022/08/10		99	%	50 - 130
			Dibenz(a,h)anthracene	2022/08/10		98	%	50 - 130
			Fluoranthene	2022/08/10		99	%	50 - 130
			Fluorene	2022/08/10		95	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2022/08/10		96	%	50 - 130
			1-Methylnaphthalene	2022/08/10		74	%	50 - 130
			2-Methylnaphthalene	2022/08/10		96	%	50 - 130
			Naphthalene	2022/08/10		88	%	50 - 130
			Phenanthrene	2022/08/10		93	%	50 - 130
			Perylene	2022/08/10		85	%	50 - 130
			Pyrene	2022/08/10		98	%	50 - 130
			Quinoline	2022/08/10		82	%	50 - 130
A673482	NK3	Spiked Blank	D10-ANTHRACENE (sur.)	2022/08/10		99	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/10		95	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/10		93	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/10		122	%	50 - 130
			Acenaphthene	2022/08/10		94	%	50 - 130
			Acenaphthylene	2022/08/10		92	%	50 - 130
			Acridine	2022/08/10		71	%	50 - 130
			Anthracene	2022/08/10		92	%	50 - 130
			Benzo(a)anthracene	2022/08/10		111	%	50 - 130
			Benzo(b&j)fluoranthene	2022/08/10		109	%	50 - 130
			Benzo(k)fluoranthene	2022/08/10		106	%	50 - 130
			Benzo(g,h,i)perylene	2022/08/10		102	%	50 - 130
			Benzo(c)phenanthrene	2022/08/10		112	%	50 - 130
			Benzo(a)pyrene	2022/08/10		104	%	50 - 130
			Benzo(e)pyrene	2022/08/10		95	%	50 - 130
			Chrysene	2022/08/10		103	%	50 - 130
			Dibenz(a,h)anthracene	2022/08/10		101	%	50 - 130
			Fluoranthene	2022/08/10		102	%	50 - 130
			Fluorene	2022/08/10		99	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2022/08/10		96	%	50 - 130
			1-Methylnaphthalene	2022/08/10		78	%	50 - 130
			2-Methylnaphthalene	2022/08/10		101	%	50 - 130
			Naphthalene	2022/08/10		92	%	50 - 130
			Phenanthrene	2022/08/10		98	%	50 - 130
			Perylene	2022/08/10		89	%	50 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Pyrene	2022/08/10		101	%	50 - 130
			Quinoline	2022/08/10		90	%	50 - 130
A673482	NK3	Method Blank	D10-ANTHRACENE (sur.)	2022/08/10		99	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/10		89	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/10		88	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/10		129	%	50 - 130
			Acenaphthene	2022/08/10	<0.0050		mg/kg	
			Acenaphthylene	2022/08/10	<0.0050		mg/kg	
			Acridine	2022/08/10	<0.010		mg/kg	
			Anthracene	2022/08/10	<0.0040		mg/kg	
			Benzo(a)anthracene	2022/08/10	<0.0050		mg/kg	
			Benzo(b&j)fluoranthene	2022/08/10	<0.0050		mg/kg	
			Benzo(k)fluoranthene	2022/08/10	<0.0050		mg/kg	
			Benzo(g,h,i)perylene	2022/08/10	<0.0050		mg/kg	
			Benzo(c)phenanthrene	2022/08/10	<0.0050		mg/kg	
			Benzo(a)pyrene	2022/08/10	<0.0050		mg/kg	
			Benzo(e)pyrene	2022/08/10	<0.0050		mg/kg	
			Chrysene	2022/08/10	<0.0050		mg/kg	
			Dibenz(a,h)anthracene	2022/08/10	<0.0050		mg/kg	
			Fluoranthene	2022/08/10	<0.0050		mg/kg	
			Fluorene	2022/08/10	<0.0050		mg/kg	
			Indeno(1,2,3-cd)pyrene	2022/08/10	<0.0050		mg/kg	
			1-Methylnaphthalene	2022/08/10	<0.0050		mg/kg	
			2-Methylnaphthalene	2022/08/10	<0.0050		mg/kg	
			Naphthalene	2022/08/10	<0.0050		mg/kg	
			Phenanthrene	2022/08/10	<0.0050		mg/kg	
			Perylene	2022/08/10	<0.0050		mg/kg	
			Pyrene	2022/08/10	<0.0050		mg/kg	
			Quinoline	2022/08/10	<0.010		mg/kg	
A673482	NK3	RPD	Acenaphthene	2022/08/10	NC		%	50
			Acenaphthylene	2022/08/10	NC		%	50
			Acridine	2022/08/10	NC		%	50
			Anthracene	2022/08/10	NC		%	50
			Benzo(a)anthracene	2022/08/10	NC		%	50
			Benzo(b&j)fluoranthene	2022/08/10	NC		%	50
			Benzo(k)fluoranthene	2022/08/10	NC		%	50
			Benzo(g,h,i)perylene	2022/08/10	NC		%	50
			Benzo(c)phenanthrene	2022/08/10	NC		%	50
			Benzo(a)pyrene	2022/08/10	NC		%	50
			Benzo(e)pyrene	2022/08/10	NC		%	50
			Chrysene	2022/08/10	NC		%	50
			Dibenz(a,h)anthracene	2022/08/10	NC		%	50
			Fluoranthene	2022/08/10	NC		%	50
			Fluorene	2022/08/10	NC		%	50
			Indeno(1,2,3-cd)pyrene	2022/08/10	NC		%	50
			1-Methylnaphthalene	2022/08/10	NC		%	50
			2-Methylnaphthalene	2022/08/10	NC		%	50
			Naphthalene	2022/08/10	NC		%	50
			Phenanthrene	2022/08/10	34		%	50
			Perylene	2022/08/10	NC		%	50
			Pyrene	2022/08/10	7.5		%	50
			Quinoline	2022/08/10	NC		%	50

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A674718	NK3	Matrix Spike	D10-ANTHRACENE (sur.)	2022/08/11		95	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/11		92	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/11		85	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/11		117	%	50 - 130
			Acenaphthene	2022/08/11		77	%	50 - 130
			Acenaphthylene	2022/08/11		80	%	50 - 130
			Acridine	2022/08/11		57	%	50 - 130
			Anthracene	2022/08/11		84	%	50 - 130
			Benzo(a)anthracene	2022/08/11		85	%	50 - 130
			Benzo(b&j)fluoranthene	2022/08/11		82	%	50 - 130
			Benzo(k)fluoranthene	2022/08/11		74	%	50 - 130
			Benzo(g,h,i)perylene	2022/08/11		74	%	50 - 130
			Benzo(c)phenanthrene	2022/08/11		82	%	50 - 130
			Benzo(a)pyrene	2022/08/11		82	%	50 - 130
			Benzo(e)pyrene	2022/08/11		71	%	50 - 130
			Chrysene	2022/08/11		73	%	50 - 130
			Dibenz(a,h)anthracene	2022/08/11		79	%	50 - 130
			Fluoranthene	2022/08/11		82	%	50 - 130
			Fluorene	2022/08/11		81	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2022/08/11		83	%	50 - 130
			1-Methylnaphthalene	2022/08/11		65	%	50 - 130
			2-Methylnaphthalene	2022/08/11		84	%	50 - 130
			Naphthalene	2022/08/11		75	%	50 - 130
			Phenanthrene	2022/08/11		80	%	50 - 130
			Perylene	2022/08/11		69	%	50 - 130
			Pyrene	2022/08/11		80	%	50 - 130
			Quinoline	2022/08/11		86	%	50 - 130
A674718	NK3	Spiked Blank	D10-ANTHRACENE (sur.)	2022/08/11		101	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/11		97	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/11		88	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/11		129	%	50 - 130
			Acenaphthene	2022/08/11		78	%	50 - 130
			Acenaphthylene	2022/08/11		79	%	50 - 130
			Acridine	2022/08/11		61	%	50 - 130
			Anthracene	2022/08/11		84	%	50 - 130
			Benzo(a)anthracene	2022/08/11		89	%	50 - 130
			Benzo(b&j)fluoranthene	2022/08/11		83	%	50 - 130
			Benzo(k)fluoranthene	2022/08/11		80	%	50 - 130
			Benzo(g,h,i)perylene	2022/08/11		78	%	50 - 130
			Benzo(c)phenanthrene	2022/08/11		87	%	50 - 130
			Benzo(a)pyrene	2022/08/11		88	%	50 - 130
			Benzo(e)pyrene	2022/08/11		75	%	50 - 130
			Chrysene	2022/08/11		78	%	50 - 130
			Dibenz(a,h)anthracene	2022/08/11		79	%	50 - 130
			Fluoranthene	2022/08/11		83	%	50 - 130
			Fluorene	2022/08/11		83	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2022/08/11		80	%	50 - 130
			1-Methylnaphthalene	2022/08/11		65	%	50 - 130
			2-Methylnaphthalene	2022/08/11		83	%	50 - 130
			Naphthalene	2022/08/11		75	%	50 - 130
			Phenanthrene	2022/08/11		80	%	50 - 130
			Perylene	2022/08/11		71	%	50 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Pyrene	2022/08/11		81	%	50 - 130
			Quinoline	2022/08/11		87	%	50 - 130
A674718	NK3	Method Blank	D10-ANTHRACENE (sur.)	2022/08/11		102	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/11		95	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/11		90	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/11		124	%	50 - 130
			Acenaphthene	2022/08/11	<0.0050		mg/kg	
			Acenaphthylene	2022/08/11	<0.0050		mg/kg	
			Acridine	2022/08/11	<0.010		mg/kg	
			Anthracene	2022/08/11	<0.0040		mg/kg	
			Benzo(a)anthracene	2022/08/11	<0.0050		mg/kg	
			Benzo(b&j)fluoranthene	2022/08/11	<0.0050		mg/kg	
			Benzo(k)fluoranthene	2022/08/11	<0.0050		mg/kg	
			Benzo(g,h,i)perylene	2022/08/11	<0.0050		mg/kg	
			Benzo(c)phenanthrene	2022/08/11	<0.0050		mg/kg	
			Benzo(a)pyrene	2022/08/11	<0.0050		mg/kg	
			Benzo(e)pyrene	2022/08/11	<0.0050		mg/kg	
			Chrysene	2022/08/11	<0.0050		mg/kg	
			Dibenz(a,h)anthracene	2022/08/11	<0.0050		mg/kg	
			Fluoranthene	2022/08/11	<0.0050		mg/kg	
			Fluorene	2022/08/11	<0.0050		mg/kg	
			Indeno(1,2,3-cd)pyrene	2022/08/11	<0.0050		mg/kg	
			1-Methylnaphthalene	2022/08/11	<0.0050		mg/kg	
			2-Methylnaphthalene	2022/08/11	<0.0050		mg/kg	
			Naphthalene	2022/08/11	<0.0050		mg/kg	
			Phenanthrene	2022/08/11	<0.0050		mg/kg	
			Perylene	2022/08/11	<0.0050		mg/kg	
			Pyrene	2022/08/11	<0.0050		mg/kg	
			Quinoline	2022/08/11	<0.010		mg/kg	
A674718	NK3	RPD	Acenaphthene	2022/08/11	NC		%	50
			Acenaphthylene	2022/08/11	NC		%	50
			Acridine	2022/08/11	NC		%	50
			Anthracene	2022/08/11	NC		%	50
			Benzo(a)anthracene	2022/08/11	NC		%	50
			Benzo(b&j)fluoranthene	2022/08/11	NC		%	50
			Benzo(k)fluoranthene	2022/08/11	NC		%	50
			Benzo(g,h,i)perylene	2022/08/11	NC		%	50
			Benzo(c)phenanthrene	2022/08/11	NC		%	50
			Benzo(a)pyrene	2022/08/11	NC		%	50
			Benzo(e)pyrene	2022/08/11	NC		%	50
			Chrysene	2022/08/11	NC		%	50
			Dibenz(a,h)anthracene	2022/08/11	NC		%	50
			Fluoranthene	2022/08/11	NC		%	50
			Fluorene	2022/08/11	NC		%	50
			Indeno(1,2,3-cd)pyrene	2022/08/11	NC		%	50
			1-Methylnaphthalene	2022/08/11	NC		%	50
			2-Methylnaphthalene	2022/08/11	12		%	50
			Naphthalene	2022/08/11	26		%	50
			Phenanthrene	2022/08/11	18		%	50
			Perylene	2022/08/11	NC		%	50
			Pyrene	2022/08/11	NC		%	50
			Quinoline	2022/08/11	NC		%	50

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A676506	CAU	Matrix Spike	O-TERPHENYL (sur.)	2022/08/11		140	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/11		141 (1)	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/11		134	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/11		140	%	60 - 140
A676506	CAU	Spiked Blank	O-TERPHENYL (sur.)	2022/08/11		94	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/11		88	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/11		93	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/11		93	%	60 - 140
A676506	CAU	Method Blank	O-TERPHENYL (sur.)	2022/08/11		102	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/11	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2022/08/11	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2022/08/11	<50		mg/kg	
A676506	CAU	RPD	F2 (C10-C16 Hydrocarbons)	2022/08/11	13		%	40
			F3 (C16-C34 Hydrocarbons)	2022/08/11	23		%	40
			F4 (C34-C50 Hydrocarbons)	2022/08/11	22		%	40
A676508	WLE	Method Blank	Moisture	2022/08/11	<0.30		%	
A676508	WLE	RPD	Moisture	2022/08/11	2.5		%	20
A676514	WLE	Method Blank	Moisture	2022/08/11	<0.30		%	
A676514	WLE	RPD	Moisture	2022/08/11	11		%	20
A676660	NQU	QC Standard	Saturation %	2022/08/11		101	%	75 - 125
A676660	NQU	RPD	Saturation %	2022/08/11	8.0		%	12
A676662	LZ3	QC Standard	Soluble (CaCl2) pH	2022/08/11		98	%	97 - 103
A676662	LZ3	Spiked Blank	Soluble (CaCl2) pH	2022/08/11		100	%	97 - 103
A676662	LZ3	RPD	Soluble (CaCl2) pH	2022/08/11	0.29		%	N/A
A676666	WPK	Matrix Spike [AZF954-02]	1,4-Difluorobenzene (sur.)	2022/08/11		112	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/11		80	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/11		99	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/11		107	%	50 - 140
			Benzene	2022/08/11		98	%	50 - 140
			Toluene	2022/08/11		89	%	50 - 140
			Ethylbenzene	2022/08/11		83	%	50 - 140
			m & p-Xylene	2022/08/11		81	%	50 - 140
			o-Xylene	2022/08/11		78	%	50 - 140
			F1 (C6-C10)	2022/08/11		101	%	60 - 140
A676666	WPK	Spiked Blank	1,4-Difluorobenzene (sur.)	2022/08/11		121	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/11		100	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/11		106	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/11		117	%	50 - 140
			Benzene	2022/08/11		104	%	60 - 130
			Toluene	2022/08/11		99	%	60 - 130
			Ethylbenzene	2022/08/11		86	%	60 - 130
			m & p-Xylene	2022/08/11		93	%	60 - 130
			o-Xylene	2022/08/11		83	%	60 - 130
			F1 (C6-C10)	2022/08/11		112	%	60 - 140
A676666	WPK	Method Blank	1,4-Difluorobenzene (sur.)	2022/08/11		130	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/11		93	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/11		91	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/11		127	%	50 - 140
			Benzene	2022/08/11	<0.0050		mg/kg	
			Toluene	2022/08/11	<0.050		mg/kg	
			Ethylbenzene	2022/08/11	<0.010		mg/kg	
			m & p-Xylene	2022/08/11	<0.040		mg/kg	

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			o-Xylene	2022/08/11	<0.020		mg/kg	
			F1 (C6-C10)	2022/08/11	<10		mg/kg	
A676666	WPK	RPD [AZF954-02]	Benzene	2022/08/11	NC		%	50
			Toluene	2022/08/11	NC (2)		%	50
			Ethylbenzene	2022/08/11	NC		%	50
			m & p-Xylene	2022/08/11	NC		%	50
			o-Xylene	2022/08/11	NC		%	50
			F1 (C6-C10)	2022/08/11	NC (2)		%	30
A676768	NQU	QC Standard	Saturation %	2022/08/11		99	%	75 - 125
A676768	NQU	RPD	Saturation %	2022/08/11	4.1		%	12
A676771	LZ3	QC Standard	Soluble (CaCl2) pH	2022/08/11		97	%	97 - 103
A676771	LZ3	Spiked Blank	Soluble (CaCl2) pH	2022/08/11		99	%	97 - 103
A676771	LZ3	RPD	Soluble (CaCl2) pH	2022/08/11	0.53		%	N/A
A676884	MKJ	Matrix Spike	Total Antimony (Sb)	2022/08/11		99	%	75 - 125
			Total Arsenic (As)	2022/08/11		96	%	75 - 125
			Total Barium (Ba)	2022/08/11		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/11		98	%	75 - 125
			Total Cadmium (Cd)	2022/08/11		97	%	75 - 125
			Total Chromium (Cr)	2022/08/11		128 (1)	%	75 - 125
			Total Cobalt (Co)	2022/08/11		95	%	75 - 125
			Total Copper (Cu)	2022/08/11		95	%	75 - 125
			Total Lead (Pb)	2022/08/11		94	%	75 - 125
			Total Mercury (Hg)	2022/08/11		100	%	75 - 125
			Total Molybdenum (Mo)	2022/08/11		102	%	75 - 125
			Total Nickel (Ni)	2022/08/11		104	%	75 - 125
			Total Selenium (Se)	2022/08/11		97	%	75 - 125
			Total Silver (Ag)	2022/08/11		97	%	75 - 125
			Total Thallium (Tl)	2022/08/11		95	%	75 - 125
			Total Tin (Sn)	2022/08/11		99	%	75 - 125
			Total Uranium (U)	2022/08/11		91	%	75 - 125
			Total Vanadium (V)	2022/08/11		119	%	75 - 125
			Total Zinc (Zn)	2022/08/11		NC	%	75 - 125
A676884	MKJ	QC Standard	Total Antimony (Sb)	2022/08/11		127	%	15 - 182
			Total Arsenic (As)	2022/08/11		114	%	53 - 147
			Total Barium (Ba)	2022/08/11		113	%	80 - 119
			Total Cadmium (Cd)	2022/08/11		111	%	72 - 128
			Total Chromium (Cr)	2022/08/11		113	%	59 - 141
			Total Cobalt (Co)	2022/08/11		108	%	58 - 142
			Total Copper (Cu)	2022/08/11		112	%	83 - 117
			Total Lead (Pb)	2022/08/11		119	%	79 - 121
			Total Molybdenum (Mo)	2022/08/11		131	%	67 - 133
			Total Nickel (Ni)	2022/08/11		119	%	79 - 121
			Total Silver (Ag)	2022/08/11		146	%	47 - 153
			Total Tin (Sn)	2022/08/11		109	%	67 - 133
			Total Uranium (U)	2022/08/11		101	%	77 - 123
			Total Vanadium (V)	2022/08/11		115	%	79 - 121
			Total Zinc (Zn)	2022/08/11		115	%	79 - 121
A676884	MKJ	Spiked Blank	Total Antimony (Sb)	2022/08/11		105	%	80 - 120
			Total Arsenic (As)	2022/08/11		97	%	80 - 120
			Total Barium (Ba)	2022/08/11		98	%	80 - 120
			Total Beryllium (Be)	2022/08/11		96	%	80 - 120
			Total Cadmium (Cd)	2022/08/11		97	%	80 - 120

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Chromium (Cr)	2022/08/11		97	%	80 - 120
			Total Cobalt (Co)	2022/08/11		98	%	80 - 120
			Total Copper (Cu)	2022/08/11		98	%	80 - 120
			Total Lead (Pb)	2022/08/11		98	%	80 - 120
			Total Mercury (Hg)	2022/08/11		109	%	80 - 120
			Total Molybdenum (Mo)	2022/08/11		99	%	80 - 120
			Total Nickel (Ni)	2022/08/11		97	%	80 - 120
			Total Selenium (Se)	2022/08/11		101	%	80 - 120
			Total Silver (Ag)	2022/08/11		98	%	80 - 120
			Total Thallium (Tl)	2022/08/11		98	%	80 - 120
			Total Tin (Sn)	2022/08/11		98	%	80 - 120
			Total Uranium (U)	2022/08/11		97	%	80 - 120
			Total Vanadium (V)	2022/08/11		98	%	80 - 120
			Total Zinc (Zn)	2022/08/11		99	%	80 - 120
A676884	MKJ	Method Blank	Total Antimony (Sb)	2022/08/11	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/11	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/11	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/11	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/11	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/11	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/11	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/11	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/11	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/11	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/11	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/11	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/11	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/11	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/11	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/11	<1.0		mg/kg	
			Total Uranium (U)	2022/08/11	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/11	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/11	<10		mg/kg	
A676884	MKJ	RPD	Total Antimony (Sb)	2022/08/11	NC		%	30
			Total Arsenic (As)	2022/08/11	4.0		%	30
			Total Barium (Ba)	2022/08/11	0.54		%	35
			Total Beryllium (Be)	2022/08/11	5.7		%	30
			Total Cadmium (Cd)	2022/08/11	1.6		%	30
			Total Chromium (Cr)	2022/08/11	2.4		%	30
			Total Cobalt (Co)	2022/08/11	8.8		%	30
			Total Copper (Cu)	2022/08/11	2.5		%	30
			Total Lead (Pb)	2022/08/11	6.7		%	35
			Total Molybdenum (Mo)	2022/08/11	2.4		%	35
			Total Nickel (Ni)	2022/08/11	5.1		%	30
			Total Selenium (Se)	2022/08/11	NC		%	30
			Total Silver (Ag)	2022/08/11	NC		%	35
			Total Thallium (Tl)	2022/08/11	2.0		%	30
			Total Tin (Sn)	2022/08/11	NC		%	35
			Total Uranium (U)	2022/08/11	6.0		%	30
			Total Vanadium (V)	2022/08/11	0.28		%	30
			Total Zinc (Zn)	2022/08/11	8.3		%	30
A677124	MKJ	Matrix Spike	Total Antimony (Sb)	2022/08/11		93	%	75 - 125

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Arsenic (As)	2022/08/11		92	%	75 - 125
			Total Barium (Ba)	2022/08/11		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/11		94	%	75 - 125
			Total Cadmium (Cd)	2022/08/11		94	%	75 - 125
			Total Chromium (Cr)	2022/08/11		92	%	75 - 125
			Total Cobalt (Co)	2022/08/11		93	%	75 - 125
			Total Copper (Cu)	2022/08/11		92	%	75 - 125
			Total Lead (Pb)	2022/08/11		92	%	75 - 125
			Total Mercury (Hg)	2022/08/11		97	%	75 - 125
			Total Molybdenum (Mo)	2022/08/11		97	%	75 - 125
			Total Nickel (Ni)	2022/08/11		91	%	75 - 125
			Total Selenium (Se)	2022/08/11		98	%	75 - 125
			Total Silver (Ag)	2022/08/11		94	%	75 - 125
			Total Thallium (Tl)	2022/08/11		93	%	75 - 125
			Total Tin (Sn)	2022/08/11		97	%	75 - 125
			Total Uranium (U)	2022/08/11		86	%	75 - 125
			Total Vanadium (V)	2022/08/11		93	%	75 - 125
			Total Zinc (Zn)	2022/08/11		NC	%	75 - 125
A677124	MKJ	QC Standard	Total Antimony (Sb)	2022/08/11		113	%	15 - 182
			Total Arsenic (As)	2022/08/11		97	%	53 - 147
			Total Barium (Ba)	2022/08/11		96	%	80 - 119
			Total Cadmium (Cd)	2022/08/11		94	%	72 - 128
			Total Chromium (Cr)	2022/08/11		93	%	59 - 141
			Total Cobalt (Co)	2022/08/11		91	%	58 - 142
			Total Copper (Cu)	2022/08/11		96	%	83 - 117
			Total Lead (Pb)	2022/08/11		103	%	79 - 121
			Total Molybdenum (Mo)	2022/08/11		116	%	67 - 133
			Total Nickel (Ni)	2022/08/11		102	%	79 - 121
			Total Silver (Ag)	2022/08/11		103	%	47 - 153
			Total Tin (Sn)	2022/08/11		94	%	67 - 133
			Total Uranium (U)	2022/08/11		84	%	77 - 123
			Total Vanadium (V)	2022/08/11		97	%	79 - 121
			Total Zinc (Zn)	2022/08/11		95	%	79 - 121
A677124	MKJ	Spiked Blank	Total Antimony (Sb)	2022/08/11		107	%	80 - 120
			Total Arsenic (As)	2022/08/11		98	%	80 - 120
			Total Barium (Ba)	2022/08/11		100	%	80 - 120
			Total Beryllium (Be)	2022/08/11		99	%	80 - 120
			Total Cadmium (Cd)	2022/08/11		100	%	80 - 120
			Total Chromium (Cr)	2022/08/11		99	%	80 - 120
			Total Cobalt (Co)	2022/08/11		99	%	80 - 120
			Total Copper (Cu)	2022/08/11		99	%	80 - 120
			Total Lead (Pb)	2022/08/11		100	%	80 - 120
			Total Mercury (Hg)	2022/08/11		112	%	80 - 120
			Total Molybdenum (Mo)	2022/08/11		102	%	80 - 120
			Total Nickel (Ni)	2022/08/11		100	%	80 - 120
			Total Selenium (Se)	2022/08/11		103	%	80 - 120
			Total Silver (Ag)	2022/08/11		100	%	80 - 120
			Total Thallium (Tl)	2022/08/11		100	%	80 - 120
			Total Tin (Sn)	2022/08/11		101	%	80 - 120
			Total Uranium (U)	2022/08/11		99	%	80 - 120
			Total Vanadium (V)	2022/08/11		100	%	80 - 120
			Total Zinc (Zn)	2022/08/11		100	%	80 - 120

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A677124	MKJ	Method Blank	Total Antimony (Sb)	2022/08/11	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/11	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/11	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/11	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/11	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/11	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/11	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/11	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/11	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/11	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/11	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/11	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/11	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/11	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/11	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/11	<1.0		mg/kg	
			Total Uranium (U)	2022/08/11	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/11	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/11	<10		mg/kg	
A677124	MKJ	RPD	Total Antimony (Sb)	2022/08/11	11		%	30
			Total Arsenic (As)	2022/08/11	0.52		%	30
			Total Barium (Ba)	2022/08/11	4.1		%	35
			Total Beryllium (Be)	2022/08/11	1.7		%	30
			Total Cadmium (Cd)	2022/08/11	9.4		%	30
			Total Chromium (Cr)	2022/08/11	2.7		%	30
			Total Cobalt (Co)	2022/08/11	5.8		%	30
			Total Copper (Cu)	2022/08/11	0.63		%	30
			Total Lead (Pb)	2022/08/11	1.3		%	35
			Total Mercury (Hg)	2022/08/11	10		%	35
			Total Molybdenum (Mo)	2022/08/11	1.7		%	35
			Total Nickel (Ni)	2022/08/11	4.4		%	30
			Total Selenium (Se)	2022/08/11	4.1		%	30
			Total Silver (Ag)	2022/08/11	NC		%	35
			Total Thallium (Tl)	2022/08/11	0.45		%	30
			Total Tin (Sn)	2022/08/11	NC		%	35
			Total Uranium (U)	2022/08/11	0.82		%	30
			Total Vanadium (V)	2022/08/11	0.92		%	30
			Total Zinc (Zn)	2022/08/11	0.29		%	30
A677150	FM0	Matrix Spike [AZF957-03]	Hex. Chromium (Cr 6+)	2022/08/11		84	%	75 - 125
A677150	FM0	Spiked Blank	Hex. Chromium (Cr 6+)	2022/08/11		102	%	80 - 120
A677150	FM0	Method Blank	Hex. Chromium (Cr 6+)	2022/08/11	<0.080		mg/kg	
A677150	FM0	RPD [AZF957-03]	Hex. Chromium (Cr 6+)	2022/08/11	NC		%	35
A677176	MPU	Matrix Spike	Soluble (Hot water) Boron (B)	2022/08/11		108	%	75 - 125
A677176	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/11		102	%	80 - 120
A677176	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/11	<0.10		mg/kg	
A677176	MPU	RPD	Soluble (Hot water) Boron (B)	2022/08/11	27		%	35
A677260	PL	Matrix Spike	Soluble Calcium (Ca)	2022/08/11		100	%	75 - 125
			Soluble Magnesium (Mg)	2022/08/11		103	%	75 - 125
			Soluble Sodium (Na)	2022/08/11		95	%	75 - 125
			Soluble Potassium (K)	2022/08/11		98	%	75 - 125
A677260	PL	QC Standard	Soluble Calcium (Ca)	2022/08/11		99	%	75 - 125
			Soluble Magnesium (Mg)	2022/08/11		97	%	75 - 125

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			Soluble Sodium (Na)	2022/08/11		91	%	75 - 125
			Soluble Potassium (K)	2022/08/11		95	%	75 - 125
			Soluble Sulphate (SO4)	2022/08/11		97	%	75 - 125
A677260	PL	Spiked Blank	Soluble Calcium (Ca)	2022/08/11		103	%	80 - 120
			Soluble Magnesium (Mg)	2022/08/11		103	%	80 - 120
			Soluble Sodium (Na)	2022/08/11		95	%	80 - 120
			Soluble Potassium (K)	2022/08/11		98	%	80 - 120
A677260	PL	Method Blank	Soluble Calcium (Ca)	2022/08/11	<1.5		mg/L	
			Soluble Magnesium (Mg)	2022/08/11	<1.0		mg/L	
			Soluble Sodium (Na)	2022/08/11	<2.5		mg/L	
			Soluble Potassium (K)	2022/08/11	<1.3		mg/L	
			Soluble Sulphate (SO4)	2022/08/11	<5.0		mg/L	
A677260	PL	RPD	Soluble Calcium (Ca)	2022/08/11	3.7		%	30
			Soluble Magnesium (Mg)	2022/08/11	3.7		%	30
			Soluble Sodium (Na)	2022/08/11	3.5		%	30
			Soluble Potassium (K)	2022/08/11	4.1		%	30
			Soluble Sulphate (SO4)	2022/08/11	5.3		%	30
A677396	PL	Matrix Spike	Soluble Calcium (Ca)	2022/08/11		96	%	75 - 125
			Soluble Magnesium (Mg)	2022/08/11		101	%	75 - 125
			Soluble Sodium (Na)	2022/08/11		94	%	75 - 125
			Soluble Potassium (K)	2022/08/11		96	%	75 - 125
A677396	PL	QC Standard	Soluble Calcium (Ca)	2022/08/11		105	%	75 - 125
			Soluble Magnesium (Mg)	2022/08/11		103	%	75 - 125
			Soluble Sodium (Na)	2022/08/11		94	%	75 - 125
			Soluble Potassium (K)	2022/08/11		93	%	75 - 125
			Soluble Sulphate (SO4)	2022/08/11		101	%	75 - 125
A677396	PL	Spiked Blank	Soluble Calcium (Ca)	2022/08/11		100	%	80 - 120
			Soluble Magnesium (Mg)	2022/08/11		101	%	80 - 120
			Soluble Sodium (Na)	2022/08/11		94	%	80 - 120
			Soluble Potassium (K)	2022/08/11		96	%	80 - 120
A677396	PL	Method Blank	Soluble Calcium (Ca)	2022/08/11	<1.5		mg/L	
			Soluble Magnesium (Mg)	2022/08/11	<1.0		mg/L	
			Soluble Sodium (Na)	2022/08/11	<2.5		mg/L	
			Soluble Potassium (K)	2022/08/11	<1.3		mg/L	
			Soluble Sulphate (SO4)	2022/08/11	<5.0		mg/L	
A677396	PL	RPD	Soluble Calcium (Ca)	2022/08/11	0.014		%	30
			Soluble Magnesium (Mg)	2022/08/11	1.3		%	30
			Soluble Sodium (Na)	2022/08/11	1.2		%	30
			Soluble Potassium (K)	2022/08/11	1.2		%	30
			Soluble Sulphate (SO4)	2022/08/11	0.17		%	30
A677413	TOR	Matrix Spike	Soluble Chloride (Cl)	2022/08/11		108	%	75 - 125
A677413	TOR	QC Standard	Soluble Chloride (Cl)	2022/08/11		88	%	75 - 125
A677413	TOR	Spiked Blank	Soluble Chloride (Cl)	2022/08/11		105	%	80 - 120
A677413	TOR	Method Blank	Soluble Chloride (Cl)	2022/08/11	<10		mg/L	
A677413	TOR	RPD	Soluble Chloride (Cl)	2022/08/11	7.2		%	30
A677416	ZI	QC Standard	Soluble Conductivity	2022/08/11		101	%	75 - 125
A677416	ZI	Spiked Blank	Soluble Conductivity	2022/08/11		100	%	90 - 110
A677416	ZI	Method Blank	Soluble Conductivity	2022/08/11	<0.020		dS/m	
A677416	ZI	RPD	Soluble Conductivity	2022/08/11	7.3		%	20
A677437	ZI	QC Standard	Soluble Conductivity	2022/08/11		98	%	75 - 125
A677437	ZI	Spiked Blank	Soluble Conductivity	2022/08/11		100	%	90 - 110
A677437	ZI	Method Blank	Soluble Conductivity	2022/08/11	<0.020		dS/m	

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A677437	ZI	RPD	Soluble Conductivity	2022/08/11	3.2		%	20
A677512	TOR	Matrix Spike	Soluble Chloride (Cl)	2022/08/11		110	%	75 - 125
A677512	TOR	QC Standard	Soluble Chloride (Cl)	2022/08/11		100	%	75 - 125
A677512	TOR	Spiked Blank	Soluble Chloride (Cl)	2022/08/11		110	%	80 - 120
A677512	TOR	Method Blank	Soluble Chloride (Cl)	2022/08/11	<10		mg/L	
A677512	TOR	RPD	Soluble Chloride (Cl)	2022/08/11	14		%	30
A677996	JHC	QC Standard	Saturation %	2022/08/12		94	%	75 - 125
A677996	JHC	RPD	Saturation %	2022/08/12	1.2		%	12
A677998	AL7	QC Standard	Soluble (CaCl2) pH	2022/08/12		98	%	97 - 103
A677998	AL7	Spiked Blank	Soluble (CaCl2) pH	2022/08/12		100	%	97 - 103
A677998	AL7	RPD	Soluble (CaCl2) pH	2022/08/12	0.47		%	N/A
A678276	KGR	Matrix Spike [AZF959-03]	Total Antimony (Sb)	2022/08/12		98	%	75 - 125
			Total Arsenic (As)	2022/08/12		95	%	75 - 125
			Total Barium (Ba)	2022/08/12		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/12		97	%	75 - 125
			Total Cadmium (Cd)	2022/08/12		97	%	75 - 125
			Total Chromium (Cr)	2022/08/12		106	%	75 - 125
			Total Cobalt (Co)	2022/08/12		98	%	75 - 125
			Total Copper (Cu)	2022/08/12		99	%	75 - 125
			Total Lead (Pb)	2022/08/12		98	%	75 - 125
			Total Mercury (Hg)	2022/08/12		98	%	75 - 125
			Total Molybdenum (Mo)	2022/08/12		98	%	75 - 125
			Total Nickel (Ni)	2022/08/12		100	%	75 - 125
			Total Selenium (Se)	2022/08/12		99	%	75 - 125
			Total Silver (Ag)	2022/08/12		92	%	75 - 125
			Total Thallium (Tl)	2022/08/12		97	%	75 - 125
			Total Tin (Sn)	2022/08/12		98	%	75 - 125
			Total Uranium (U)	2022/08/12		94	%	75 - 125
			Total Vanadium (V)	2022/08/12		114	%	75 - 125
			Total Zinc (Zn)	2022/08/12		105	%	75 - 125
A678276	KGR	QC Standard	Total Antimony (Sb)	2022/08/12		112	%	15 - 182
			Total Arsenic (As)	2022/08/12		103	%	53 - 147
			Total Barium (Ba)	2022/08/12		100	%	80 - 119
			Total Cadmium (Cd)	2022/08/12		99	%	72 - 128
			Total Chromium (Cr)	2022/08/12		98	%	59 - 141
			Total Cobalt (Co)	2022/08/12		98	%	58 - 142
			Total Copper (Cu)	2022/08/12		104	%	83 - 117
			Total Lead (Pb)	2022/08/12		110	%	79 - 121
			Total Molybdenum (Mo)	2022/08/12		124	%	67 - 133
			Total Nickel (Ni)	2022/08/12		110	%	79 - 121
			Total Silver (Ag)	2022/08/12		104	%	47 - 153
			Total Tin (Sn)	2022/08/12		112	%	67 - 133
			Total Uranium (U)	2022/08/12		90	%	77 - 123
			Total Vanadium (V)	2022/08/12		101	%	79 - 121
			Total Zinc (Zn)	2022/08/12		106	%	79 - 121
A678276	KGR	Spiked Blank	Total Antimony (Sb)	2022/08/12		103	%	80 - 120
			Total Arsenic (As)	2022/08/12		96	%	80 - 120
			Total Barium (Ba)	2022/08/12		97	%	80 - 120
			Total Beryllium (Be)	2022/08/12		96	%	80 - 120
			Total Cadmium (Cd)	2022/08/12		97	%	80 - 120
			Total Chromium (Cr)	2022/08/12		98	%	80 - 120
			Total Cobalt (Co)	2022/08/12		98	%	80 - 120

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			Total Copper (Cu)	2022/08/12		99	%	80 - 120
			Total Lead (Pb)	2022/08/12		98	%	80 - 120
			Total Mercury (Hg)	2022/08/12		104	%	80 - 120
			Total Molybdenum (Mo)	2022/08/12		99	%	80 - 120
			Total Nickel (Ni)	2022/08/12		98	%	80 - 120
			Total Selenium (Se)	2022/08/12		100	%	80 - 120
			Total Silver (Ag)	2022/08/12		99	%	80 - 120
			Total Thallium (Tl)	2022/08/12		98	%	80 - 120
			Total Tin (Sn)	2022/08/12		98	%	80 - 120
			Total Uranium (U)	2022/08/12		97	%	80 - 120
			Total Vanadium (V)	2022/08/12		99	%	80 - 120
			Total Zinc (Zn)	2022/08/12		97	%	80 - 120
A678276	KGR	Method Blank	Total Antimony (Sb)	2022/08/12	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/12	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/12	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/12	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/12	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/12	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/12	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/12	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/12	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/12	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/12	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/12	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/12	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/12	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/12	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/12	<1.0		mg/kg	
			Total Uranium (U)	2022/08/12	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/12	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/12	<10		mg/kg	
A678276	KGR	RPD [AZF959-03]	Total Antimony (Sb)	2022/08/12	NC		%	30
			Total Arsenic (As)	2022/08/12	1.5		%	30
			Total Barium (Ba)	2022/08/12	2.4		%	35
			Total Beryllium (Be)	2022/08/12	NC		%	30
			Total Cadmium (Cd)	2022/08/12	1.4		%	30
			Total Chromium (Cr)	2022/08/12	21		%	30
			Total Cobalt (Co)	2022/08/12	7.1		%	30
			Total Copper (Cu)	2022/08/12	15		%	30
			Total Lead (Pb)	2022/08/12	0.98		%	35
			Total Mercury (Hg)	2022/08/12	NC		%	35
			Total Molybdenum (Mo)	2022/08/12	13		%	35
			Total Nickel (Ni)	2022/08/12	18		%	30
			Total Selenium (Se)	2022/08/12	NC		%	30
			Total Silver (Ag)	2022/08/12	NC		%	35
			Total Thallium (Tl)	2022/08/12	NC		%	30
			Total Tin (Sn)	2022/08/12	NC		%	35
			Total Uranium (U)	2022/08/12	1.6		%	30
			Total Vanadium (V)	2022/08/12	7.3		%	30
			Total Zinc (Zn)	2022/08/12	5.7		%	30
A678625	MPU	Matrix Spike [AZF959-03]	Soluble (Hot water) Boron (B)	2022/08/12		101	%	75 - 125
A678625	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/12		102	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A678625	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/12	<0.10		mg/kg	
A678625	MPU	RPD [AZF959-03]	Soluble (Hot water) Boron (B)	2022/08/12	0.38		%	35
A678849	PL	Matrix Spike	Soluble Calcium (Ca)	2022/08/12		99	%	75 - 125
			Soluble Magnesium (Mg)	2022/08/12		109	%	75 - 125
			Soluble Sodium (Na)	2022/08/12		76	%	75 - 125
			Soluble Potassium (K)	2022/08/12		108	%	75 - 125
A678849	PL	QC Standard	Soluble Calcium (Ca)	2022/08/12		102	%	75 - 125
			Soluble Magnesium (Mg)	2022/08/12		103	%	75 - 125
			Soluble Sodium (Na)	2022/08/12		95	%	75 - 125
			Soluble Potassium (K)	2022/08/12		89	%	75 - 125
			Soluble Sulphate (SO4)	2022/08/12		103	%	75 - 125
A678849	PL	Spiked Blank	Soluble Calcium (Ca)	2022/08/12		115	%	80 - 120
			Soluble Magnesium (Mg)	2022/08/12		118	%	80 - 120
			Soluble Sodium (Na)	2022/08/12		102	%	80 - 120
			Soluble Potassium (K)	2022/08/12		114	%	80 - 120
A678849	PL	Method Blank	Soluble Calcium (Ca)	2022/08/12	<1.5		mg/L	
			Soluble Magnesium (Mg)	2022/08/12	<1.0		mg/L	
			Soluble Sodium (Na)	2022/08/12	<2.5		mg/L	
			Soluble Potassium (K)	2022/08/12	<1.3		mg/L	
			Soluble Sulphate (SO4)	2022/08/12	<5.0		mg/L	
A678849	PL	RPD	Soluble Calcium (Ca)	2022/08/12	0.48		%	30
			Soluble Magnesium (Mg)	2022/08/12	0.28		%	30
			Soluble Sodium (Na)	2022/08/12	0.39		%	30
			Soluble Potassium (K)	2022/08/12	2.5		%	30
			Soluble Sulphate (SO4)	2022/08/12	2.5		%	30
A678876	TOR	Matrix Spike	Soluble Chloride (Cl)	2022/08/12		NC	%	75 - 125
A678876	TOR	QC Standard	Soluble Chloride (Cl)	2022/08/12		83	%	75 - 125
A678876	TOR	Spiked Blank	Soluble Chloride (Cl)	2022/08/12		108	%	80 - 120
A678876	TOR	Method Blank	Soluble Chloride (Cl)	2022/08/12	<10		mg/L	
A678876	TOR	RPD	Soluble Chloride (Cl)	2022/08/12	5.8		%	30
A678998	ZI	QC Standard	Soluble Conductivity	2022/08/12		96	%	75 - 125
A678998	ZI	Spiked Blank	Soluble Conductivity	2022/08/12		101	%	90 - 110
A678998	ZI	Method Blank	Soluble Conductivity	2022/08/12	<0.020		dS/m	
A678998	ZI	RPD	Soluble Conductivity	2022/08/12	5.7		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) Detection limit reported based on MDL and sample weight used for analysis.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C259075
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Gita Pokhrel, Laboratory Supervisor

Janet Gao, B.Sc., QP, Supervisor, Organics

Suwan (Sze Yeung) Fock, B.Sc., Scientific Specialist

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

Bureau Veritas Proprietary Software
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Automated Statchk

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

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Winnipeg, MB: D-675 Berry St. R3H 1A7 Toll Free (866) 800-6208

0428

CHAIN OF CUSTODY RECORD

ENV COC - 00013v3

Invoice Information	Invoice to (requires report) ☐	Report Information (if differs from invoice)		Project Information	
Company:	Client #254, Golder Associates	Company:	Golder Associates	Quotation #:	Shell
Contact Name:	237 - 4 Ave SW Suite 3300	Contact Name:	Aurelie Bellavance	P.O. #/ AFE#:	22525414-[illegible] -1100 -1104
Street Address:		Street Address:		Project #:	22525414-[illegible] -1000
City:	Calgary Prov: AB Postal Code:	City:	Calgary AB Postal Code: T2P 4K3	Site #:	NA
Phone:		Phone:	403-299-5600	Site Location:	Camp Farewell [illegible], NT
Email:	Canada Account Payable	Email:	aurelie.bellavance@wsp.com peter.tan@wsp.com	Site Location Province:	NT
Copies:		Copies:		Sampled By:	Melissa Lord, Harmanjeet Kaur

LAB USE ONLY - PLACE STICKER HERE

Rush Confirmation #:

Regulatory Criteria

☐ AT1 ☐ CCME ☐ Drinking Water - Canada ☐ Drinking Water - Manitoba
☐ Saskatchewan ☐ Drinking Water - Alberta ☒ Other AMSRP

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX F1-F4	5 PAHs	6 BTEX F1-F2	7 BARIUM TRUE TOTAL	8 Routine water	9 Regulated metals - total	10 Regulated metals - dissolved	11 Mercury - total	12 Mercury - dissolved	13 Salinity 4	14 Sieve (75 micron)	15 Texture (% sand, silt, clay)	16 Basic class II landfill	17	18	19 Headspace present	20 LIMITED SAMPLE	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE
1	BH22-42-01	22	08	06	14	50	Soil				X	X				X				X						X	X	5	
2	BH22-42-02	22	08	06	14	55	Soil				X	X				X				X						X	X	5	
3	BH22-43-01	22	08	06	16	10	Soil				X	X				X				X						X	X	5	
4	MW22-43-01	22	08	06	15	35	Soil				X	X				X				X						X	X	5	
5	BH22-45-01	22	08	06	16	20	Soil				X	X				X				X						X	X	5	
6	BH22-46-01	22	08	07	08	40	Soil				X	X				X				X						X	X	5	
7	BH22-41-01	22	08	06	14	10	Soil				X	[illegible]														X		3	
8	DUP A	22	08	06	14	10	Soil				X															X		3	
9																													
10																													
11																													
12																													

Regular Turnaround Time (TAT)
☐ 5 to 7 Day ☐ 10 Day

Rush Turnaround Time (TAT) Surcharges apply
☐ Same Day ☒ 1 Day ☐ 2 Day ☐ 3 Day ☐ 4 Day

Date Required: YY MM DD

Comments

also email report to:
gld.SHELL DQR@equis.com
gld.iol-equis@wsp.com
Upload to facility code
41259544

Received in Yellowknife
By: J. McCann
@ 4:45 pm
AUG 09 2022
Ice-yes / cs-ye
Temp: 7.9 6

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS AND CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No	°C				Temperature reading by:
Seal present	✓			2.5	3.0	2.5	
Seal intact	✓			1	2	3	
Cooling media present	✓						

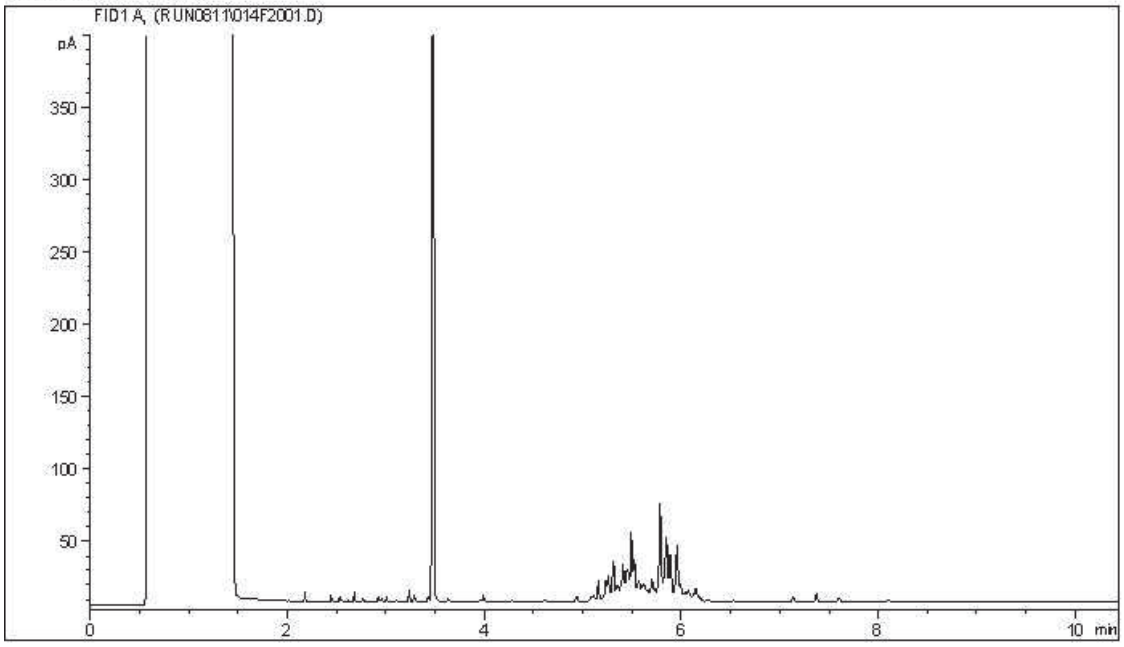
LAB USE ONLY	Yes	No	°C			
Seal present						
Seal intact				1	2	3
Cooling media present						

LAB USE ONLY	Yes	No	°C			
Seal present						
Seal intact				1	2	3
Cooling media present						

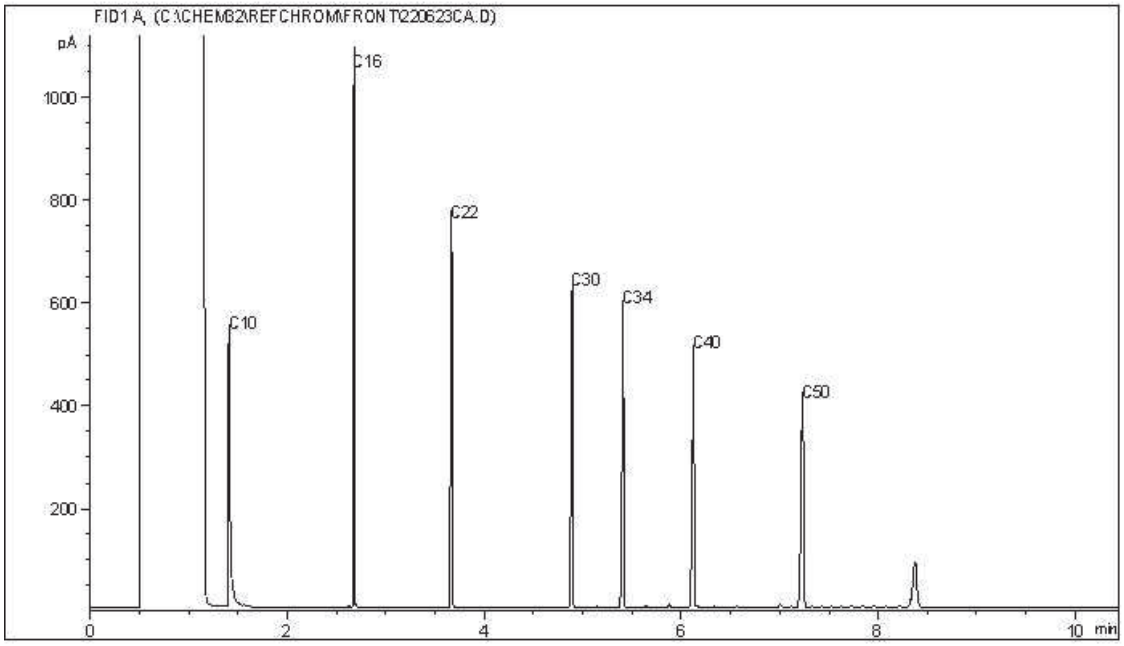
	Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Received by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Special Instructions
1	Melissa Lord	22	08	07	15	00	1 Megan Fraser Megan Fraser	22	08	10	15	30	C259075
2							2						

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



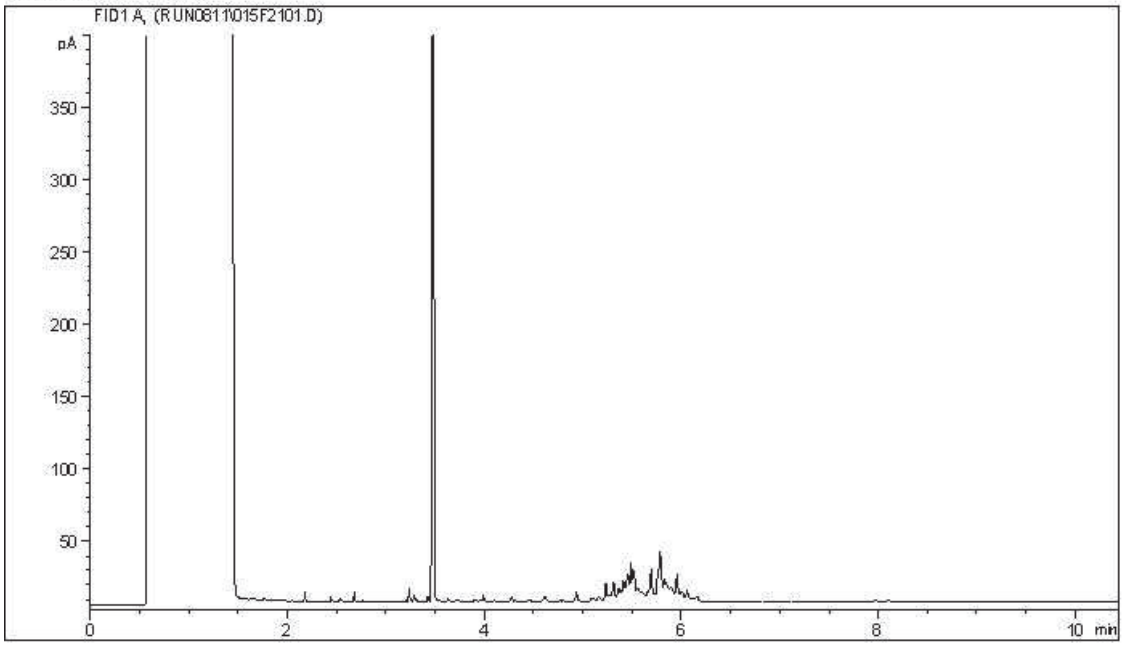
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

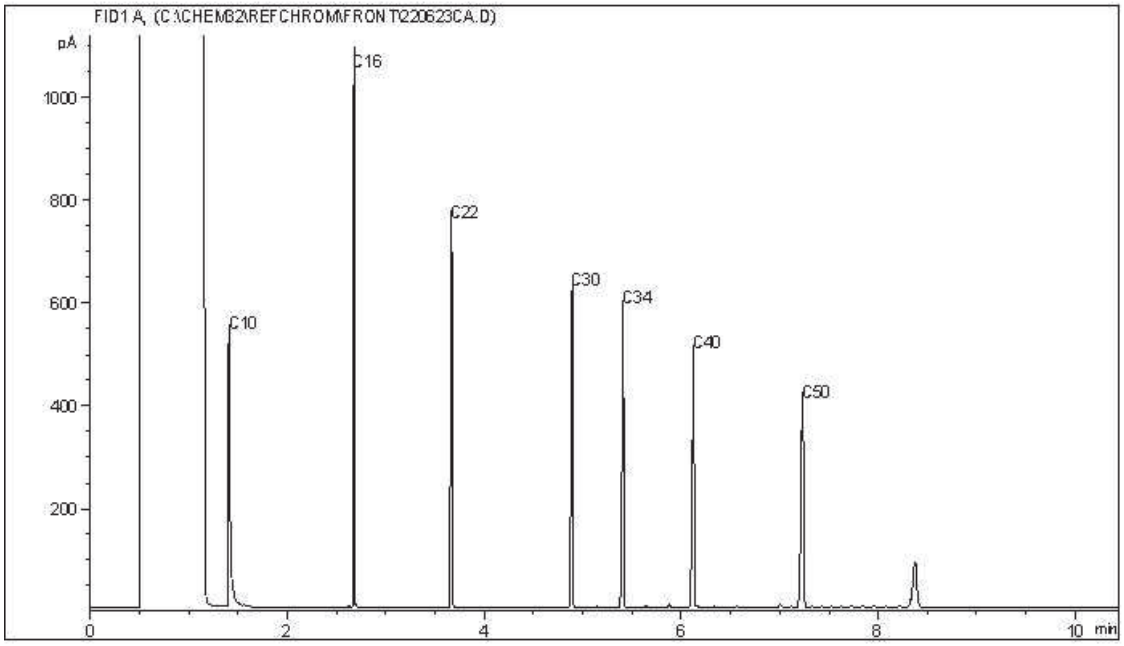
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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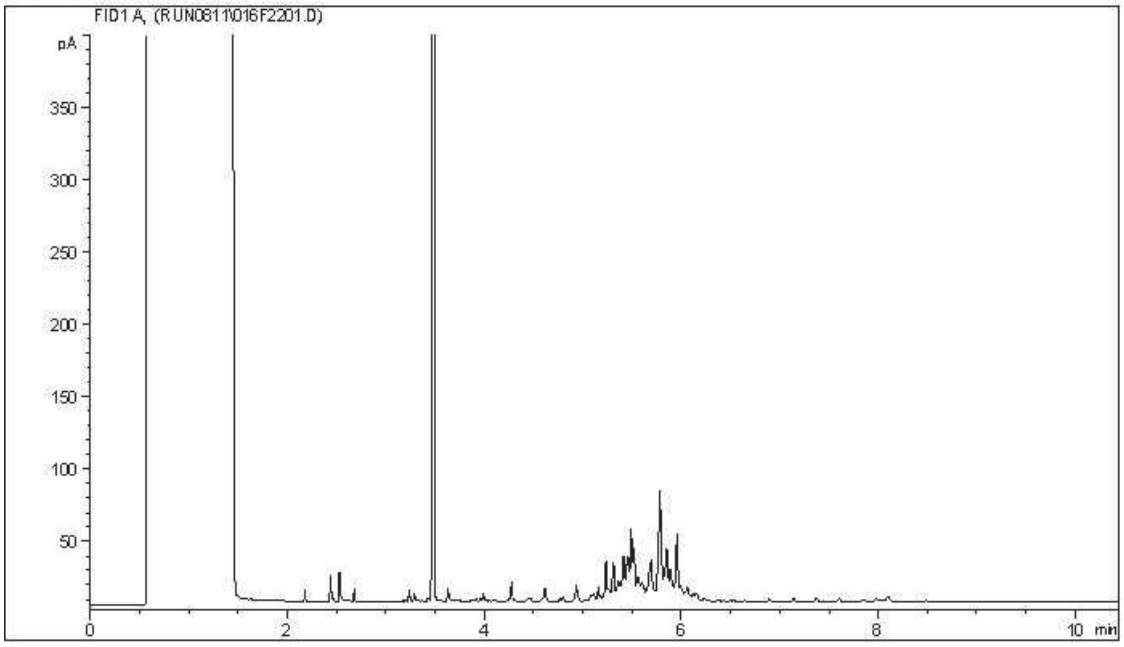
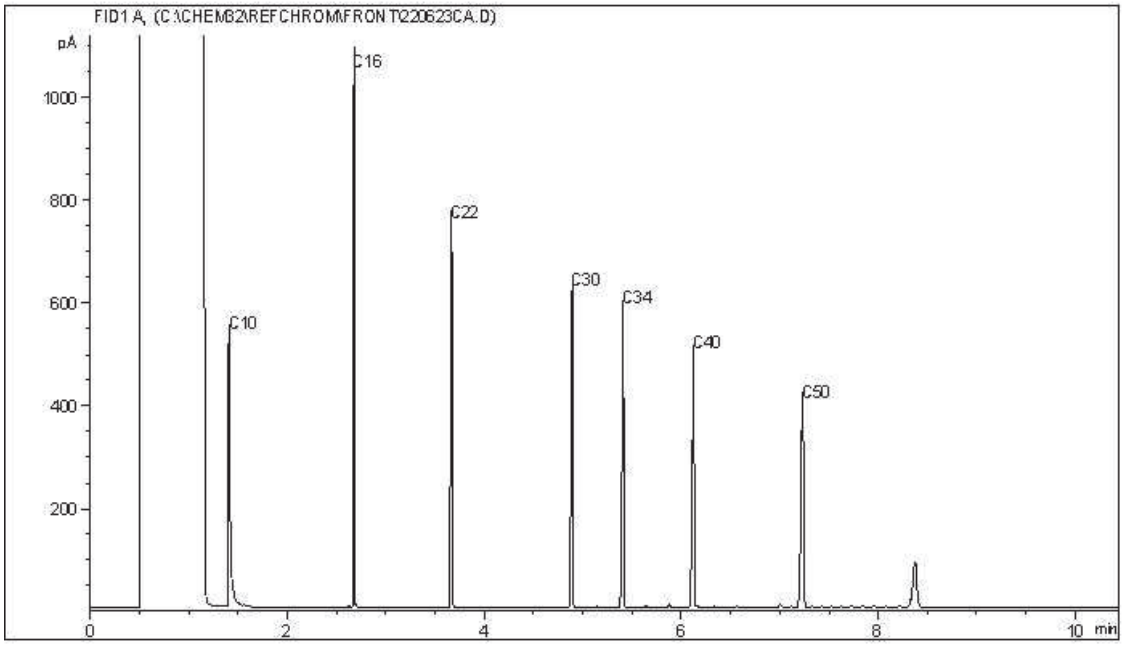
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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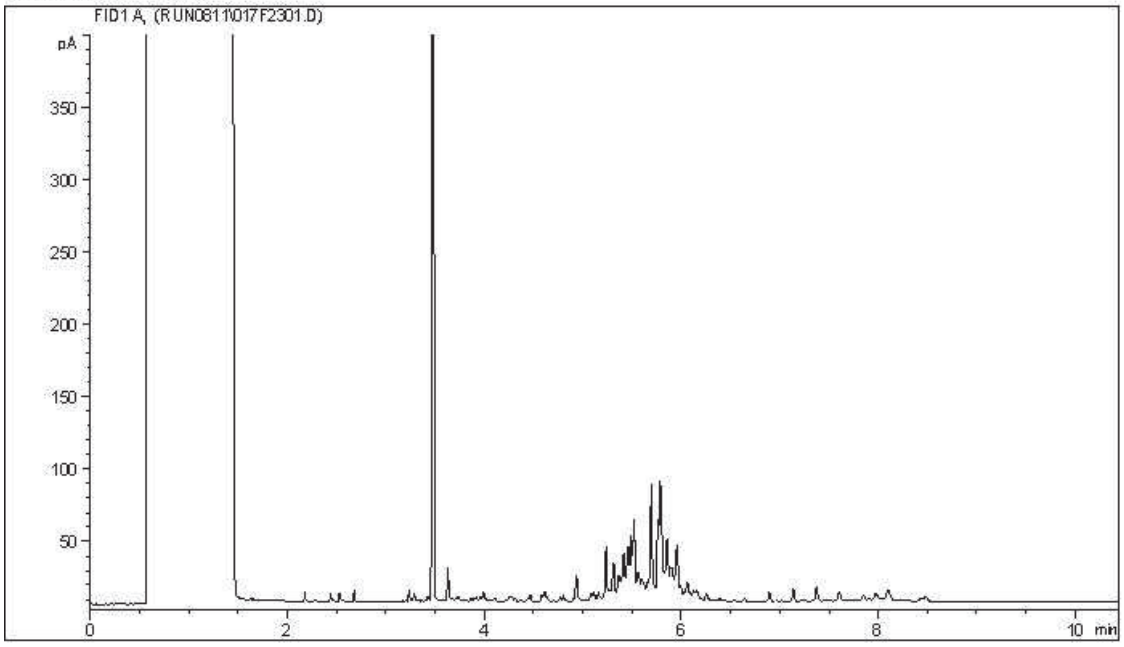
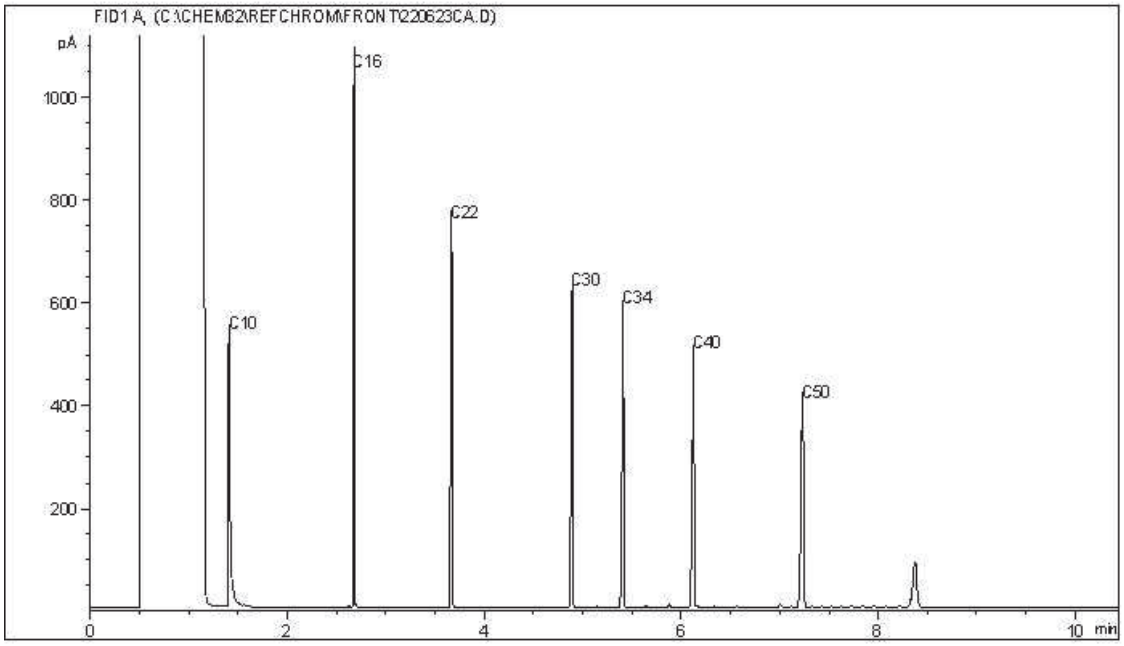
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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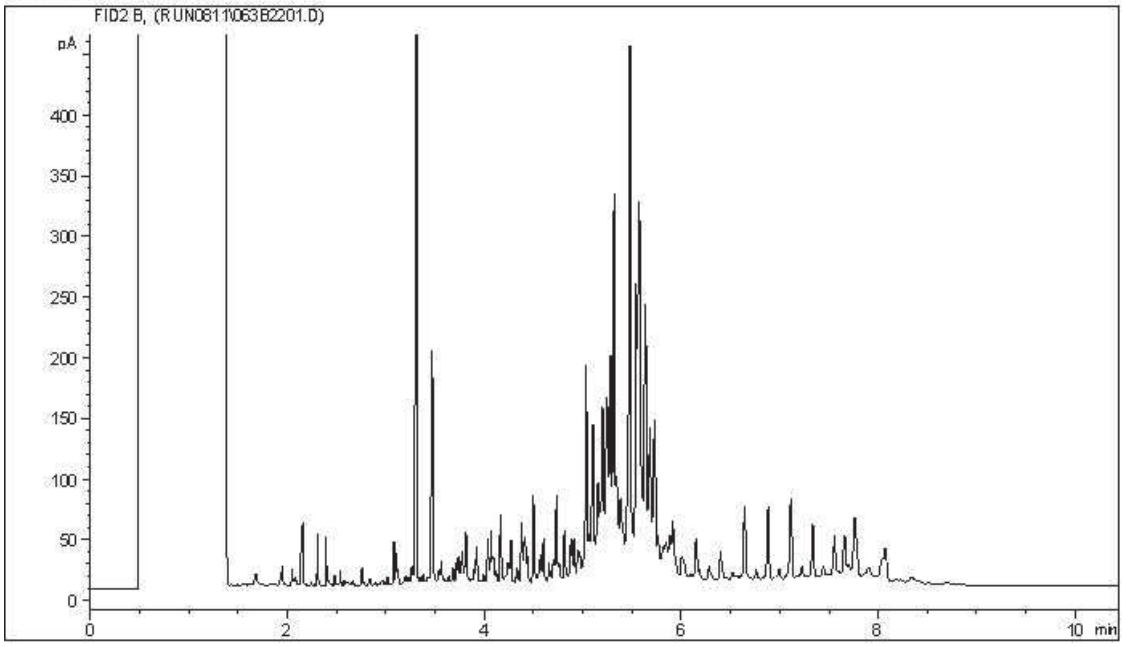
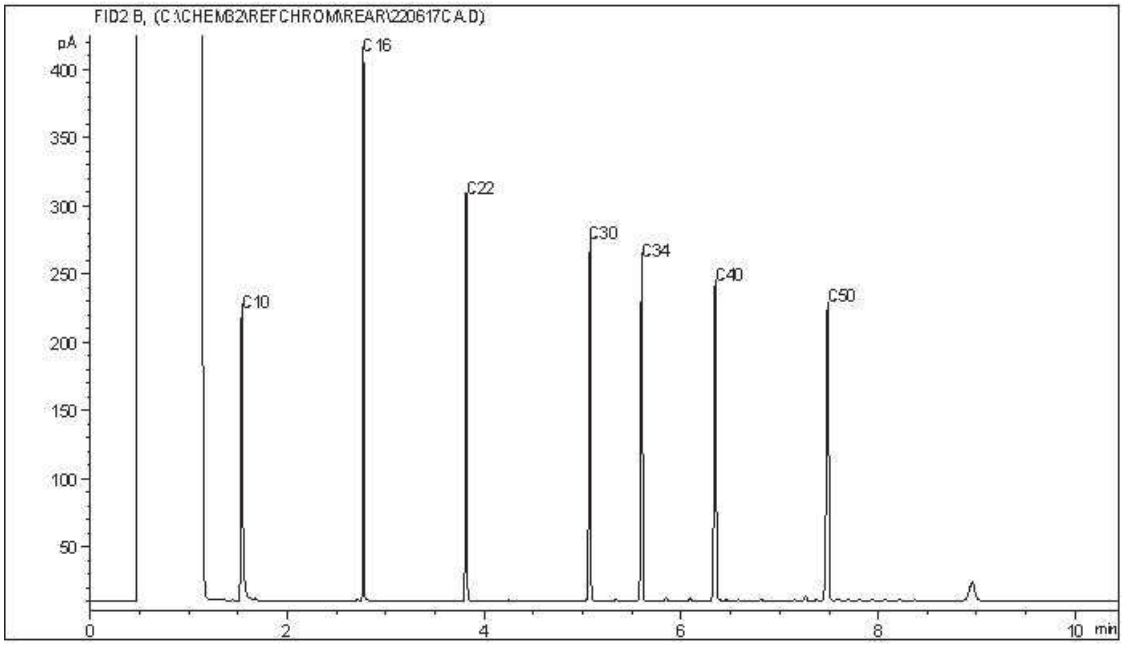
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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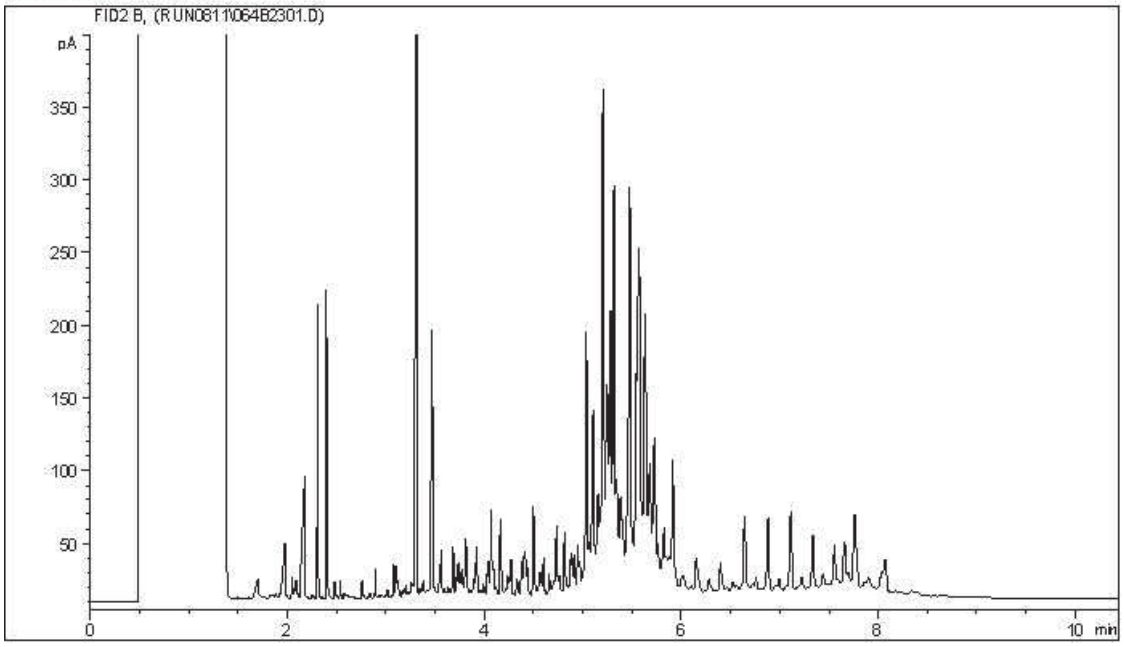
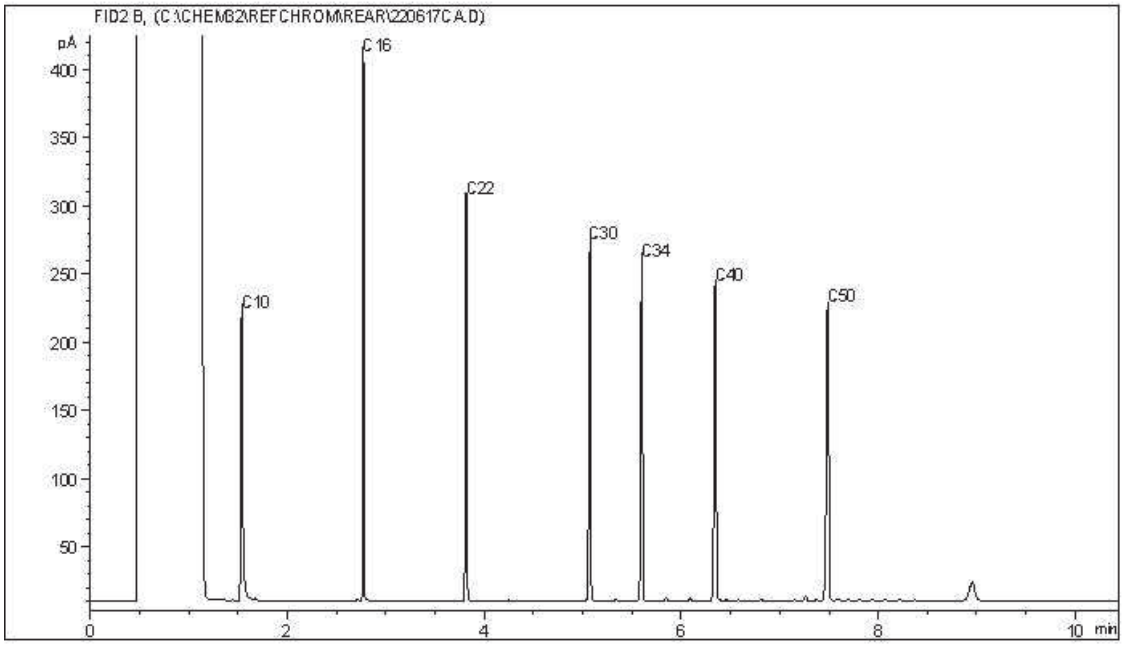
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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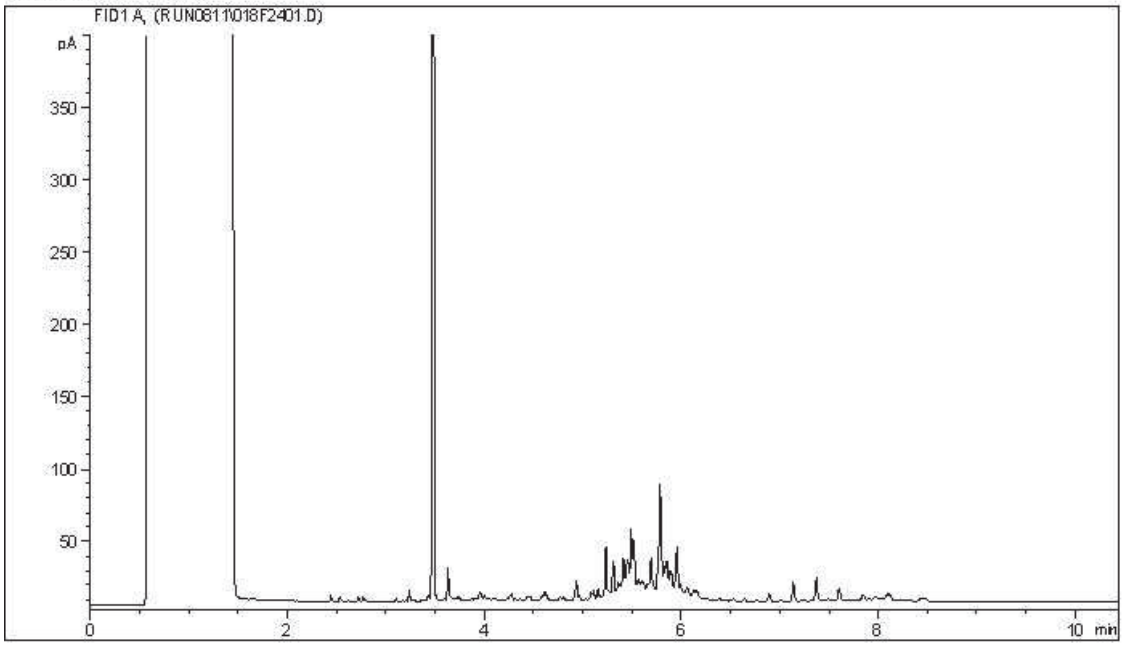
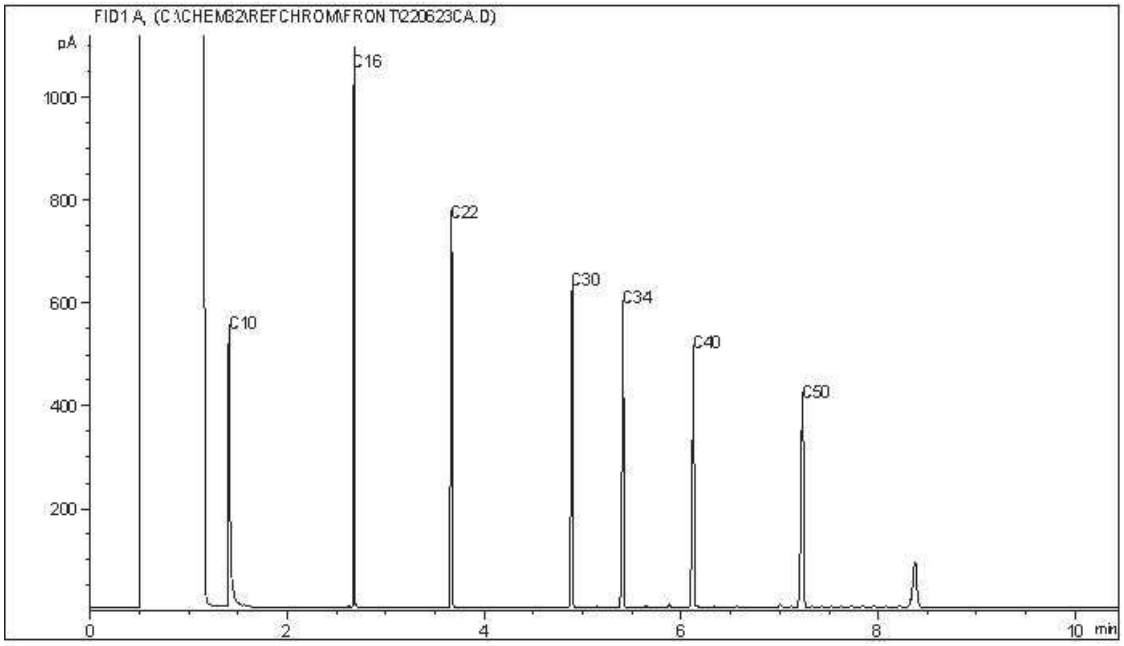
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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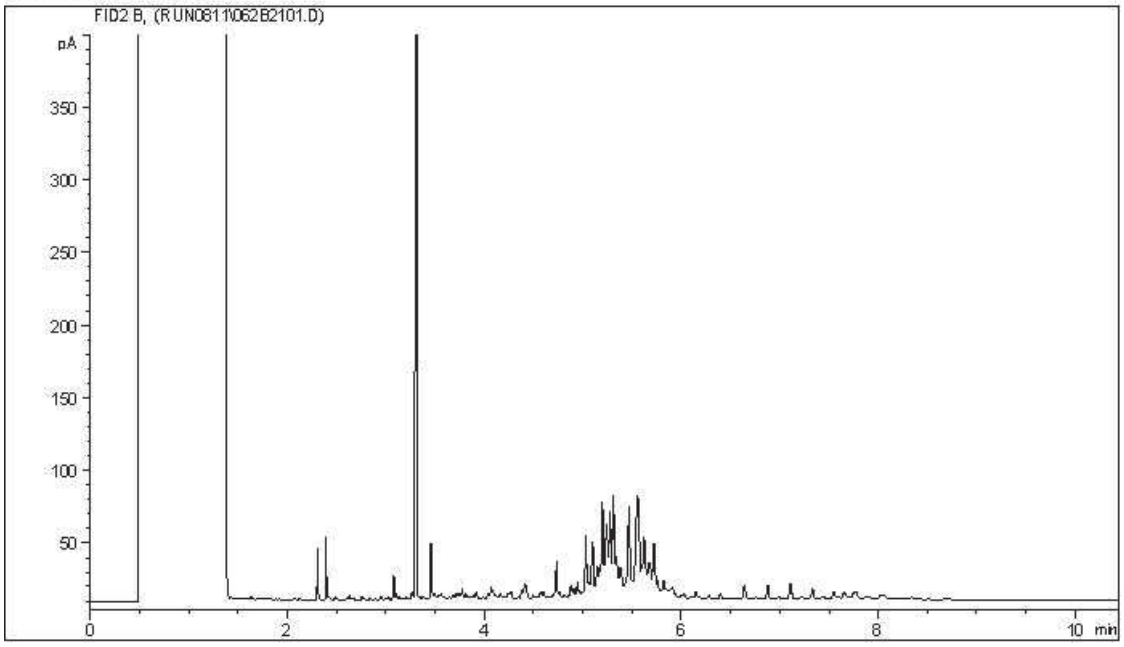
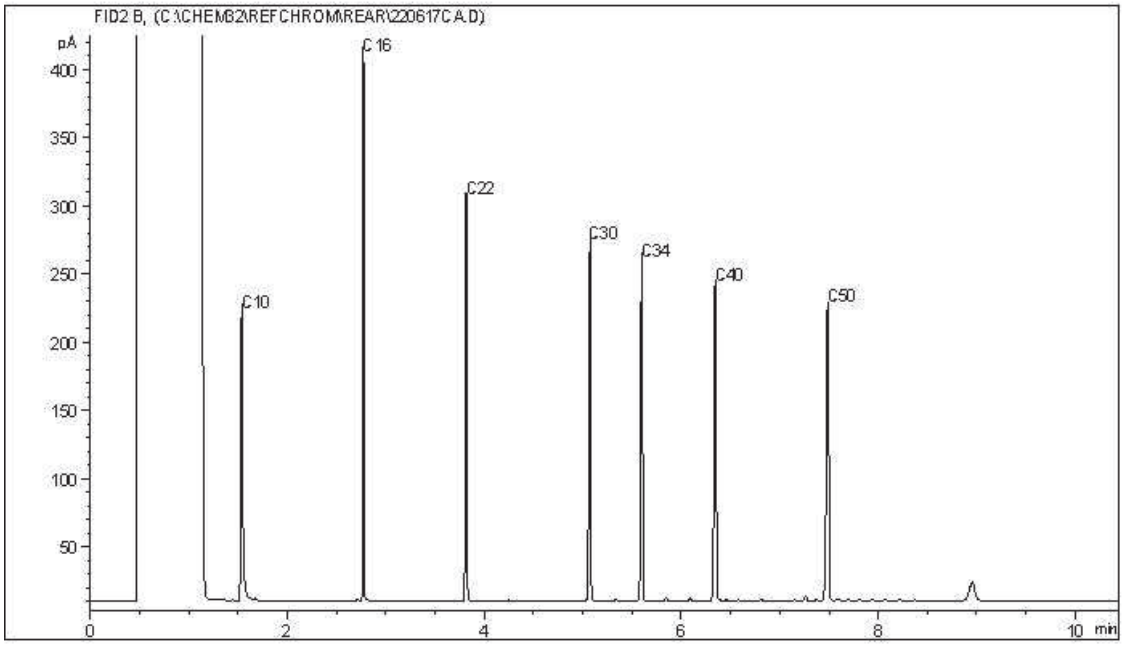
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

August 19, 2022

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB, T2P 2W2

Attention: Aurelie Bellavance

Re: Chromatogram Interpretation of CAMP FAREWELL, NT; Project 22525414-1000
Bureau Veritas Job No.: C259075

Bureau Veritas was retained by Golder Associates Ltd. to provide hydrocarbon interpretations concerning the likely origin of hydrocarbons quantified within CCME fraction(s) F2, F3 and/or F4.

Analytical Method

Petroleum hydrocarbon analyses at Bureau Veritas are conducted in accordance with the analytical specifications required by the prescriptive and performance-based (where appropriate) elements of the CCME Tier I protocols for hydrocarbon determination[1] in soil samples.

Chromatogram Interpretation

A comprehensive qualitative assessment of the resultant gas chromatograms in the F2-F4 ranges was performed. The chromatograms were inspected for specific peak profiles that would indicate the possible origin of the hydrocarbons present in the sample. The presence and nature of specific aliphatic compounds (n-alkanes), the presence of characteristic unresolved complex mixtures (UCMs) or "humps" and the relative abundance (ratios) of specific compounds are reviewed as part of the evaluation.

[1] Canadian Council of Ministers of the Environment: "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil – Tier I Method" 2001

Data Interpretation

Table 1. Qualitative Data Summary – Chromatogram Interpretation

Lab ID	Sample ID	Chromatogram Interpretation
AZF958	BH22-45-01	The CCME F2-F4 chromatographic peak profile is consistent with biogenic organic material (e.g. peat). Chromatograms of biogenic organic material may contain peak patterns spanning the C10 to C50 range, but they are most commonly characterized by a profile of unevenly distributed sharp peaks between C28 and C34. The impacts are not consistent with a petroleum product or crude oil.
AZF959	BH22-46-01	
AZF960	BH22-41-01	

If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,
Bureau Veritas Laboratories

Michael Sheppard, B.Sc., P.Bio., QP
Consulting Scientist
Environmental Services

Scott Cantwell, CET, B.Sc., P.Chem.
Director and General Manager – Western Canada
Environmental Services

Disclaimer

Hydrocarbon Resemblance
Characterization by way of visual evaluation of the sample chromatogram may not be conclusive and is only indicative of substances that may be present. The resemblance information must be regarded as approximate and qualitative.

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell, NT

Sampling Date: August 6 and 7, 2022

Golder Project Number: 22525414-1000

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C259075

Was the Cooler Received at the lab under a sealed and intact custody seal?	Yes
Was proper chain of custody of the samples documented and kept?	Yes
Were sample temperatures acceptable when they reached lab?:	Yes
Were all samples analyzed and extracted within hold times?:	Yes
Has lab warranted all tests were in statistical control in CoA?:	Yes
Was sufficient sample provided for the requested analysis?	Yes
Has lab warranted all samples were analyzed with limited headspace present?:	Yes

Are All Laboratory QC Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery		X		All remaining laboratory QC results are within
Method Blank Concentration	X			acceptance criteria, please see QA/QC
Laboratory Duplicate RPD	X			appendix.
Matrix Spike Recovery		X		
Blank Spike Recovery	X			

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	All field QC samples are within
Trip Blank Concentration			X	alert limits.
Field Duplicate RPD	X			

Is data considered reliable (Yes/No/Suspect)?: Yes

If answer is "No" or "Suspect", describe and provide rationale:

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: August 15, 2022

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-100
Site Location: CAMP FAREWELL, NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/08/19
Report #: R3218814
Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C259077
Received: 2022/08/09, 11:30

Sample Matrix: Soil
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	10	N/A	2022/08/11	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	10	N/A	2022/08/11		Auto Calc
CCME Hydrocarbons (F2-F4 in soil) (1, 3)	10	2022/08/10	2022/08/11	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F4G in soil) (1, 3)	1	2022/08/10	2022/08/11	AB SOP-00036 AB SOP-00040	CCME PHC-CWS m
Moisture (1)	10	N/A	2022/08/11	AB SOP-00002	CCME PHC-CWS m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(3) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-100
Site Location: CAMP FAREWELL, NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/08/19
Report #: R3218814
Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C259077
Received: 2022/08/09, 11:30

Encryption Key

Bureau Veritas
22 Aug 2022 17:35:26

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Cynny Hagen, Key Account Specialist
Email: Cynny.HAGEN@bureauveritas.com
Phone# (403)735-2273

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C259077
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-100
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZF963			AZF964		AZF965			AZF966		
Sampling Date		2022/08/07 09:05			2022/08/07 09:05		2022/08/07 09:20			2022/08/07 09:50		
COC Number		1 of 1			1 of 1		1 of 1			1 of 1		
	UNITS	BH22-01-01	RDL	QC Batch	DUP B	RDL	MW22-02-01	RDL	QC Batch	BH22-03-01	RDL	QC Batch
Ext. Pet. Hydrocarbon												
F2 (C10-C16 Hydrocarbons)	mg/kg	<31 (1)	31	A676506	<33 (1)	33	110 (1)	26	A676506	280 (1)	35	A676506
F3 (C16-C34 Hydrocarbons)	mg/kg	290 (1)	150	A676506	310 (1)	170	2200 (1)	130	A676506	4800 (1)	170	A676506
F4 (C34-C50 Hydrocarbons)	mg/kg	<150 (1)	150	A676506	<170 (1)	170	750 (1)	130	A676506	2000 (1)	170	A676506
Reached Baseline at C50	mg/kg	Yes	N/A	A676506	Yes	N/A	Yes	N/A	A676506	No	N/A	A676506
Physical Properties												
Moisture	%	67	0.30	A676514	70	0.30	61	0.30	A676508	71	0.30	A676514
Volatiles												
Xylenes (Total)	mg/kg	<0.25	0.25	A676395	<0.25	0.25	<0.17	0.17	A676395	<0.23	0.23	A676395
F1 (C6-C10) - BTEX	mg/kg	<35	35	A676395	<36	36	<24	24	A676395	<33	33	A676395
Field Preserved Volatiles												
Benzene	mg/kg	<0.028 (2)	0.028	A676666	<0.028 (2)	0.028	<0.019 (2)	0.019	A676666	<0.026 (2)	0.026	A676666
Toluene	mg/kg	<0.050 (3)	0.050	A676666	<0.050 (3)	0.050	<0.050 (3)	0.050	A676666	4.0 (2)	0.26	A676666
Ethylbenzene	mg/kg	<0.056 (2)	0.056	A676666	<0.057 (2)	0.057	<0.037 (2)	0.037	A676666	<0.052 (2)	0.052	A676666
m & p-Xylene	mg/kg	<0.22 (2)	0.22	A676666	<0.23 (2)	0.23	<0.15 (2)	0.15	A676666	<0.21 (2)	0.21	A676666
o-Xylene	mg/kg	<0.11 (2)	0.11	A676666	<0.11 (2)	0.11	<0.074 (2)	0.074	A676666	<0.10 (2)	0.10	A676666
F1 (C6-C10)	mg/kg	<35 (3)	35	A676666	<36 (3)	36	<24 (3)	24	A676666	<33 (3)	33	A676666
Surrogate Recovery (%)												
1,4-Difluorobenzene (sur.)	%	108	N/A	A676666	123	N/A	116	N/A	A676666	124	N/A	A676666
4-Bromofluorobenzene (sur.)	%	87	N/A	A676666	87	N/A	93	N/A	A676666	89	N/A	A676666
D10-o-Xylene (sur.)	%	96	N/A	A676666	101	N/A	100	N/A	A676666	117	N/A	A676666
D4-1,2-Dichloroethane (sur.)	%	103	N/A	A676666	111	N/A	110	N/A	A676666	109	N/A	A676666
O-TERPHENYL (sur.)	%	96	N/A	A676506	97	N/A	95	N/A	A676506	98	N/A	A676506

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.
(2) Detection limits raised based on sample weight used for analysis.
(3) Detection limit reported based on MDL and sample weight used for analysis.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C259077
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-100
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZF967	AZF967		AZF968		AZF969	AZF970	AZF970		
Sampling Date		2022/08/07 10:05	2022/08/07 10:05		2022/08/07 10:20		2022/08/07 10:25	2022/08/07 10:35	2022/08/07 10:35		
COC Number		1 of 1	1 of 1		1 of 1		1 of 1	1 of 1	1 of 1		
	UNITS	BH22-04-01	BH22-04-01 Lab-Dup	RDL	BH22-05-01	RDL	BH22-05-02	BH22-06-02	BH22-06-02 Lab-Dup	RDL	QC Batch
Ext. Pet. Hydrocarbon											
F2 (C10-C16 Hydrocarbons)	mg/kg	<20 (1)	N/A	20	<28 (1)	28	34	56 (2)	49	10	A676506
F3 (C16-C34 Hydrocarbons)	mg/kg	310 (1)	N/A	100	400 (1)	140	730	530	420	50	A676506
F4 (C34-C50 Hydrocarbons)	mg/kg	<100 (1)	N/A	100	<140 (1)	140	170	120	100	50	A676506
Reached Baseline at C50	mg/kg	Yes	N/A	N/A	Yes	N/A	Yes	Yes	Yes	N/A	A676506
Physical Properties											
Moisture	%	50	45	0.30	65	0.30	39	31	N/A	0.30	A676514
Volatiles											
Xylenes (Total)	mg/kg	<0.15	N/A	0.15	<0.18	0.18	<0.045	<0.045	N/A	0.045	A676395
F1 (C6-C10) - BTEX	mg/kg	<24	N/A	24	<25	25	<10	<10	N/A	10	A676395
Field Preserved Volatiles											
Benzene	mg/kg	<0.017 (3)	N/A	0.017	<0.020 (3)	0.020	<0.0050	<0.0050	N/A	0.0050	A676666
Toluene	mg/kg	<0.050 (4)	N/A	0.050	<0.050 (4)	0.050	<0.050	<0.050	N/A	0.050	A676666
Ethylbenzene	mg/kg	<0.034 (3)	N/A	0.034	<0.039 (3)	0.039	<0.010	<0.010	N/A	0.010	A676666
m & p-Xylene	mg/kg	<0.14 (3)	N/A	0.14	<0.16 (3)	0.16	<0.040	<0.040	N/A	0.040	A676666
o-Xylene	mg/kg	<0.068 (3)	N/A	0.068	<0.079 (3)	0.079	<0.020	<0.020	N/A	0.020	A676666
F1 (C6-C10)	mg/kg	<24 (4)	N/A	24	<25 (4)	25	<10	<10	N/A	10	A676666
Surrogate Recovery (%)											
1,4-Difluorobenzene (sur.)	%	105	N/A	N/A	117	N/A	111	126	N/A	N/A	A676666
4-Bromofluorobenzene (sur.)	%	85	N/A	N/A	97	N/A	86	87	N/A	N/A	A676666
D10-o-Xylene (sur.)	%	100	N/A	N/A	123	N/A	108	103	N/A	N/A	A676666
D4-1,2-Dichloroethane (sur.)	%	103	N/A	N/A	117	N/A	104	120	N/A	N/A	A676666
O-TERPHENYL (sur.)	%	91	N/A	N/A	90	N/A	102	100	93	N/A	A676506

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.
(2) Matrix spike exceeds acceptance limits due to probable matrix interference.
(3) Detection limits raised based on sample weight used for analysis.
(4) Detection limit reported based on MDL and sample weight used for analysis.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-100
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZF971		AZF972		
Sampling Date		2022/08/07 10:50		2022/08/07 11:10		
COC Number		1 of 1		1 of 1		
	UNITS	BH22-07-01	RDL	BH22-08-01	RDL	QC Batch
Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	27 (1)	22	110 (1)	29	A676506
F3 (C16-C34 Hydrocarbons)	mg/kg	410 (1)	110	1300 (1)	150	A676506
F4 (C34-C50 Hydrocarbons)	mg/kg	110 (1)	110	450 (1)	150	A676506
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	A676506
Physical Properties						
Moisture	%	54	0.30	66	0.30	A676514
Volatiles						
Xylenes (Total)	mg/kg	<0.14	0.14	<0.18	0.18	A676395
F1 (C6-C10) - BTEX	mg/kg	<24	24	<26	26	A676395
Field Preserved Volatiles						
Benzene	mg/kg	<0.016 (2)	0.016	<0.021 (2)	0.021	A676666
Toluene	mg/kg	<0.050 (3)	0.050	<0.050 (3)	0.050	A676666
Ethylbenzene	mg/kg	<0.031 (2)	0.031	<0.041 (2)	0.041	A676666
m & p-Xylene	mg/kg	<0.13 (2)	0.13	<0.17 (2)	0.17	A676666
o-Xylene	mg/kg	<0.063 (2)	0.063	<0.083 (2)	0.083	A676666
F1 (C6-C10)	mg/kg	<24 (3)	24	<26 (3)	26	A676666
Surrogate Recovery (%)						
1,4-Difluorobenzene (sur.)	%	114	N/A	98	N/A	A676666
4-Bromofluorobenzene (sur.)	%	81	N/A	86	N/A	A676666
D10-o-Xylene (sur.)	%	98	N/A	111	N/A	A676666
D4-1,2-Dichloroethane (sur.)	%	104	N/A	102	N/A	A676666
O-TERPHENYL (sur.)	%	89	N/A	93	N/A	A676506

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.
(2) Detection limits raised based on sample weight used for analysis.
(3) Detection limit reported based on MDL and sample weight used for analysis.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-100
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		AZF966		
Sampling Date		2022/08/07 09:50		
COC Number		1 of 1		
	UNITS	**BH22-03-01**	**RDL**	**QC Batch**
Ext. Pet. Hydrocarbon				
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	9200	1700	A677163
RDL = Reportable Detection Limit				

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.0°C

Version #4: Report reissued with Bio-Toluene report on sample AZF966 as per request from client. 20220818

Version #3: Report reissued to include chromatogram review and report as per client request received 20220815

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A676506	CAU	Matrix Spike [AZF970-01]	O-TERPHENYL (sur.)	2022/08/11		140	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/11		141 (1)	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/11		134	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/11		140	%	60 - 140
A676506	CAU	Spiked Blank	O-TERPHENYL (sur.)	2022/08/11		94	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/11		88	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/11		93	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/11		93	%	60 - 140
A676506	CAU	Method Blank	O-TERPHENYL (sur.)	2022/08/11		102	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/11	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2022/08/11	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2022/08/11	<50		mg/kg	
A676506	CAU	RPD [AZF970-01]	F2 (C10-C16 Hydrocarbons)	2022/08/11	13		%	40
			F3 (C16-C34 Hydrocarbons)	2022/08/11	23		%	40
			F4 (C34-C50 Hydrocarbons)	2022/08/11	22		%	40
A676508	WLE	Method Blank	Moisture	2022/08/11	<0.30		%	
A676508	WLE	RPD	Moisture	2022/08/11	2.5		%	20
A676514	WLE	Method Blank	Moisture	2022/08/11	<0.30		%	
A676514	WLE	RPD [AZF967-01]	Moisture	2022/08/11	11		%	20
A676666	WPK	Matrix Spike	1,4-Difluorobenzene (sur.)	2022/08/11		112	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/11		80	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/11		99	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/11		107	%	50 - 140
			Benzene	2022/08/11		98	%	50 - 140
			Toluene	2022/08/11		89	%	50 - 140
			Ethylbenzene	2022/08/11		83	%	50 - 140
			m & p-Xylene	2022/08/11		81	%	50 - 140
			o-Xylene	2022/08/11		78	%	50 - 140
			F1 (C6-C10)	2022/08/11		101	%	60 - 140
A676666	WPK	Spiked Blank	1,4-Difluorobenzene (sur.)	2022/08/11		121	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/11		100	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/11		106	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/11		117	%	50 - 140
			Benzene	2022/08/11		104	%	60 - 130
			Toluene	2022/08/11		99	%	60 - 130
			Ethylbenzene	2022/08/11		86	%	60 - 130
			m & p-Xylene	2022/08/11		93	%	60 - 130
			o-Xylene	2022/08/11		83	%	60 - 130
			F1 (C6-C10)	2022/08/11		112	%	60 - 140
A676666	WPK	Method Blank	1,4-Difluorobenzene (sur.)	2022/08/11		130	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/11		93	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/11		91	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/11		127	%	50 - 140
			Benzene	2022/08/11	<0.0050		mg/kg	
			Toluene	2022/08/11	<0.050		mg/kg	
			Ethylbenzene	2022/08/11	<0.010		mg/kg	
			m & p-Xylene	2022/08/11	<0.040		mg/kg	
			o-Xylene	2022/08/11	<0.020		mg/kg	
			F1 (C6-C10)	2022/08/11	<10		mg/kg	
A676666	WPK	RPD	Benzene	2022/08/11	NC		%	50
			Toluene	2022/08/11	NC (2)		%	50
			Ethylbenzene	2022/08/11	NC		%	50

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			m & p-Xylene	2022/08/11	NC		%	50
			o-Xylene	2022/08/11	NC		%	50
			F1 (C6-C10)	2022/08/11	NC (2)		%	30
A677163	JLJ	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2022/08/11		95	%	60 - 140
A677163	JLJ	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2022/08/11	<500		mg/kg	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) Detection limit reported based on MDL and sample weight used for analysis.

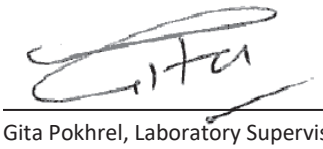
Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C259077
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-100
Site Location: CAMP FAREWELL, NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Gita Pokhrel, Laboratory Supervisor

Janet Gao, B.Sc., QP, Supervisor, Organics

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

(2)

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CHAIN OF CUSTODY RECORD
ENV COC - 00013v3

Invoice Information		Report Information (if differs from invoice)		Project Information	
Invoice to (requires report) ☐					
Company:	Client #254, Golder Associates	Company:	Golder Associates	Quotation #:	Shell
Contact Name:	237 - 4 Ave SW Suite 3300	Contact Name:	Aurelie Bellavance	P.O. #/ AFE#:	22525414-~~0000/1104~~ -1100 -1104
Street Address:		Street Address:		Project #:	22525414-~~0000~~ -1000
City:	Calgary Prov: AB Postal Code:	City:	Calgary AB Postal Code: T2P 4K3	Site #:	NA
Phone:		Phone:	403-299-5600	Site Location:	Camp Farewell ~~WEST CHANNEL~~, NT
Email:	Canada Account Payable	Email:	aurelie.bellavance@wsp.com peter.tan@wsp.com	Site Location Province:	NT
Copies:		Copies:		Sampled By:	Melissa Lord, Harmanjeet Kaur

LAB USE ONLY - PLACE STICKER HERE

Rush Confirmation #:

Regulatory Criteria

☐ AT1 ☐ CCME ☐ Drinking Water - Canada ☐ Drinking Water - Manitoba ☐ Saskatchewan ☐ Drinking Water - Alberta ☒ Other AMSRP

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX F1-F4	5 PAHS	6 BTEX F1-F2	7 BARIUM TRUE TOTAL	8 Routine water	9 Regulated metals - total	10 Regulated metals - dissolved	11 Mercury - total	12 Mercury - dissolved	13 Salinity 4	14 Sieve (75 micron)	15 Texture (% sand, silt, clay)	16 Basic class II landfill	17	18	19 Headspace present	20 LIMITED SAMPLE	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE
1	BH22-01-01	22	08	07	09	05	Soil				X															X		3	
2	DUP B	22	08	07	09	05	Soil				X															X		3	
3	MW22-02-01	22	08	07	09	20	Soil				X															X		3	
4	BH22-03-01	22	08	07	09	50	Soil				X															X		3	
5	BH22-04-01	22	08	07	10	05	Soil				X															X		3	
6	BH22-05-01	22	08	07	10	20	Soil				X															X		3	
7	BH22-05-02	22	08	07	10	25	Soil				X															X		3	
8	BH22-06-02	22	08	07	10	35	Soil				X															X		3	
9	BH22-07-01	22	08	07	10	50	Soil				X															X		3	
10	BH22-08-01	22	08	07	11	10	Soil				X															X		3	
11																													
12																													

Received in Yellowknife
By: J. Meriano
@ 11:45 AM
AUG 09 2022
Ice yes - cs4g
Temp: 4 | 3 | 2

Regular Turnaround Time (TAT)
☐ 5 to 7 Day ☐ 10 Day

Rush Turnaround Time (TAT) Surcharges apply
☐ Same Day ☒ 1 Day ☐ 2 Day ☐ 3 Day ☐ 4 Day

Date Required: YY MM DD

Comments

also email report to:
gld.SHELLDQR@equis.com
gld.iol_equis@wsp.com
Upload to facility code
41259544

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS AND CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present	✓					
Seal intact						
Cooling media present	✓					
				0.5	0	1.0

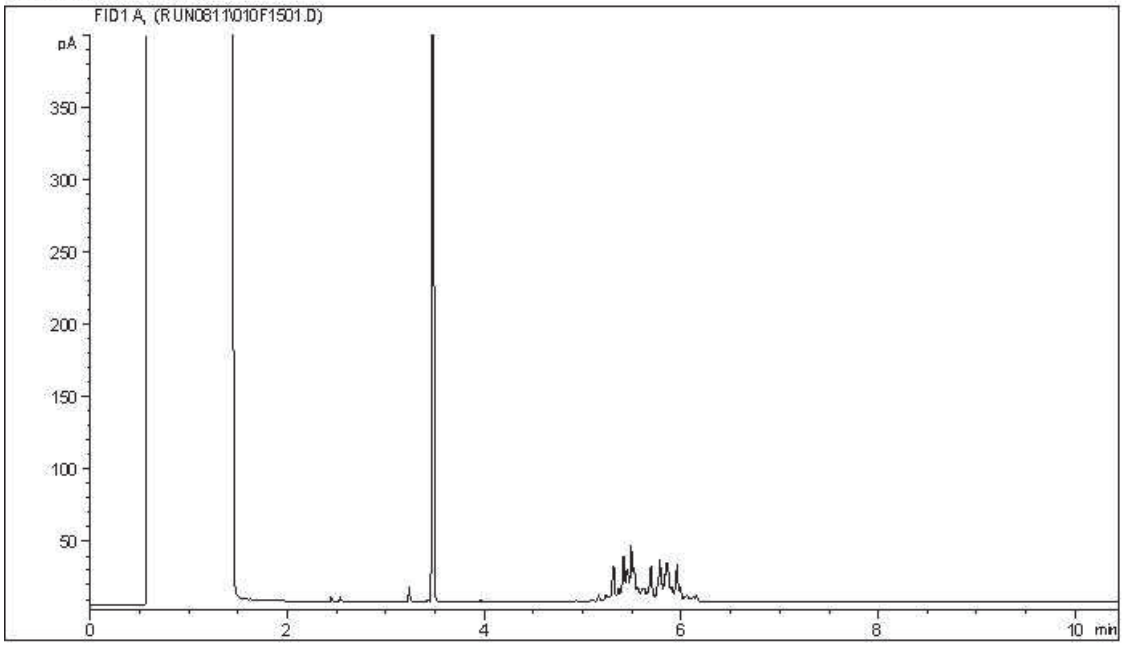
LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling media present						

LAB USE ONLY	Yes	No	°C	1	2	3	Temperature reading by:
Seal present							
Seal intact							
Cooling media present							

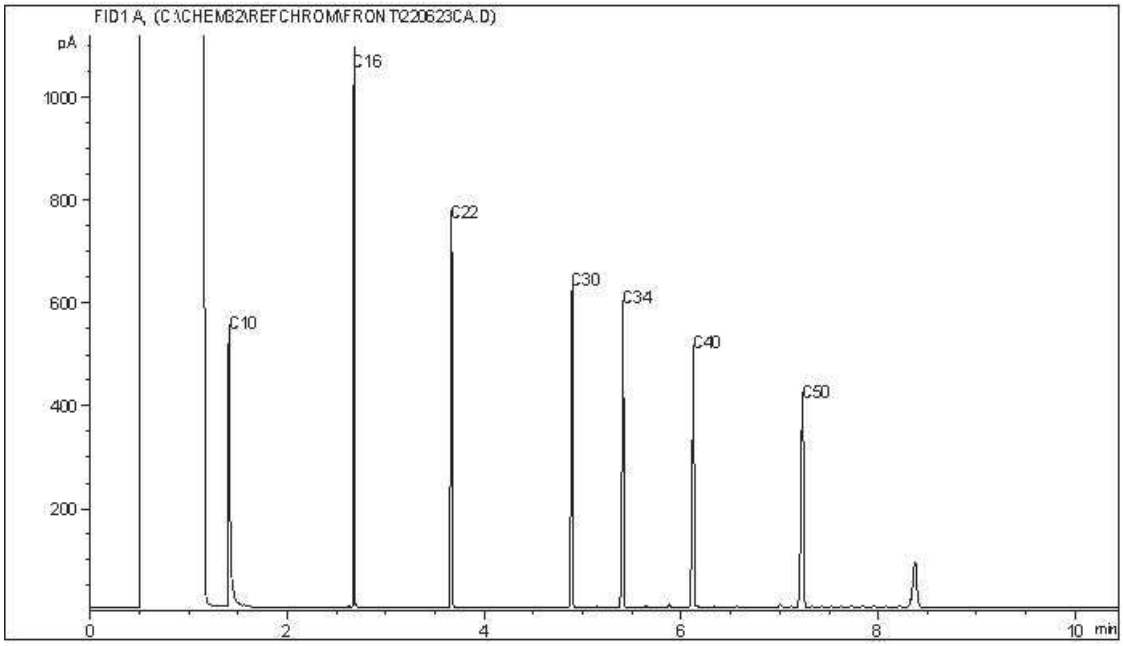
	Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Received by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Special instructions
1	Melissa Lord/Melissa Lord	22	08	07	15	00	1 Megan Foran Megan Foran	22	08	10	15	30	C259077
2							2						

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



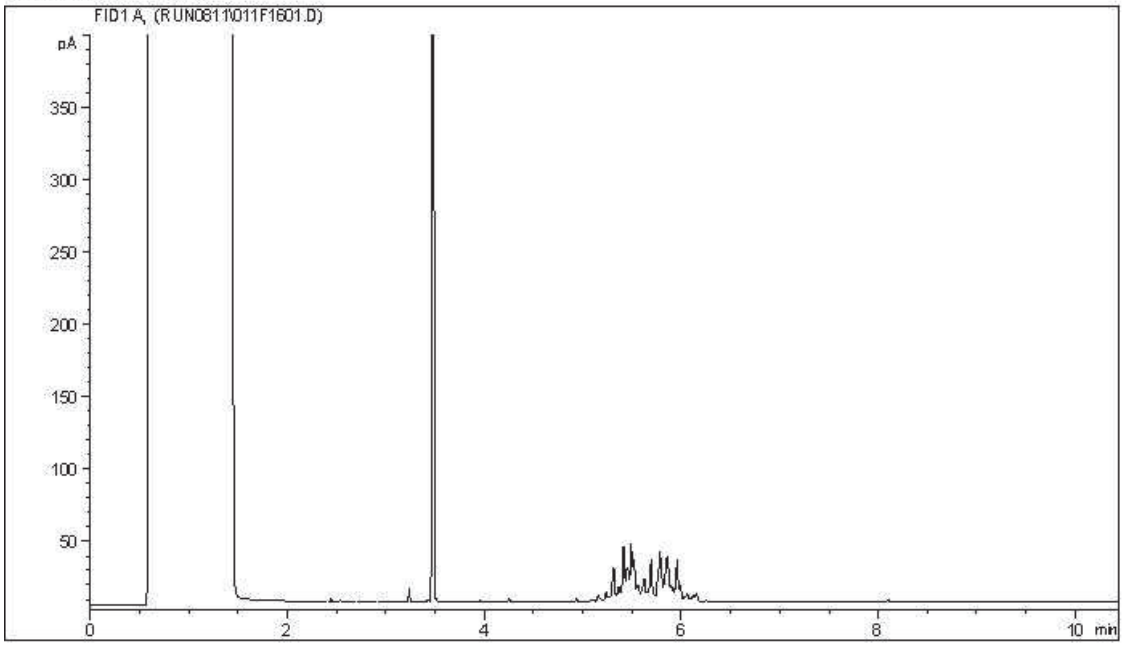
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



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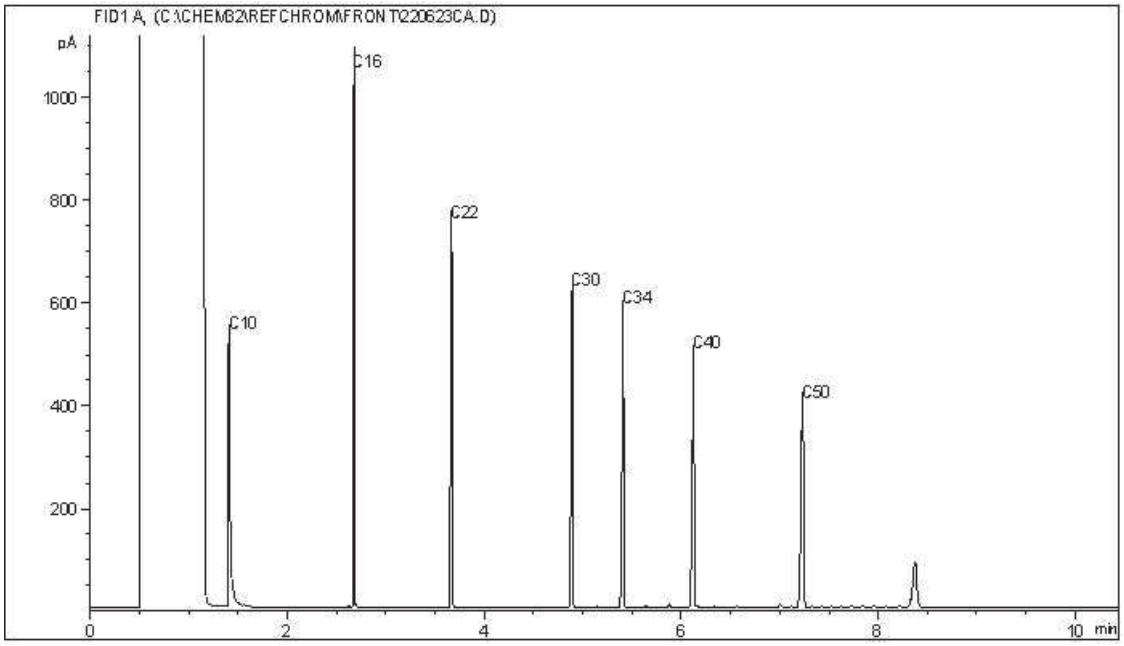

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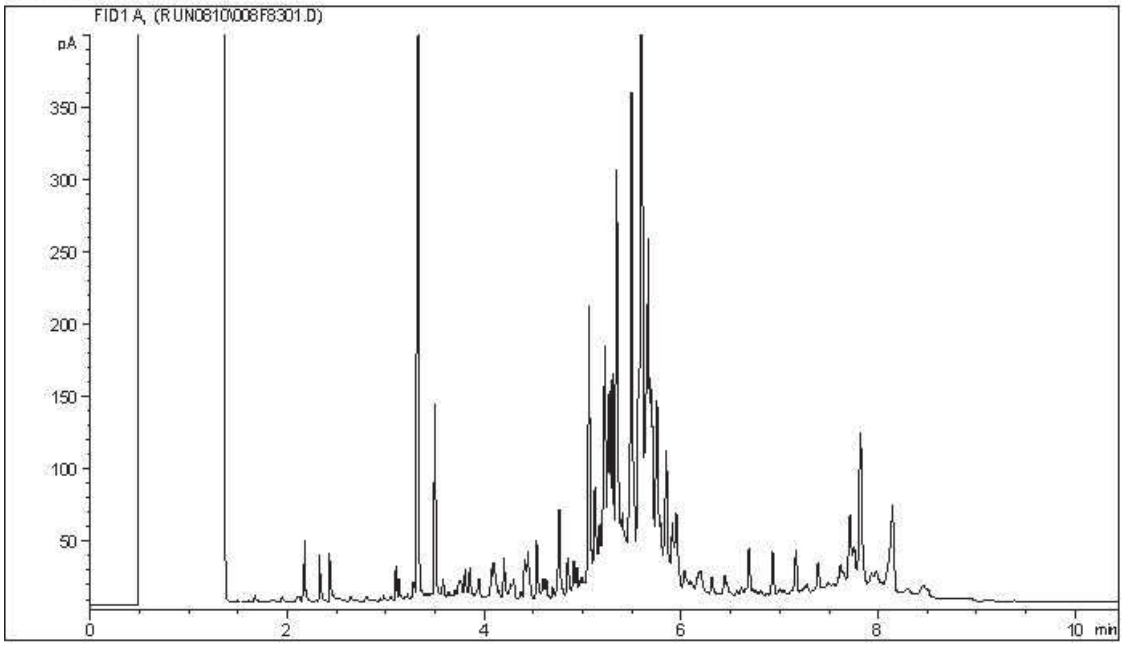
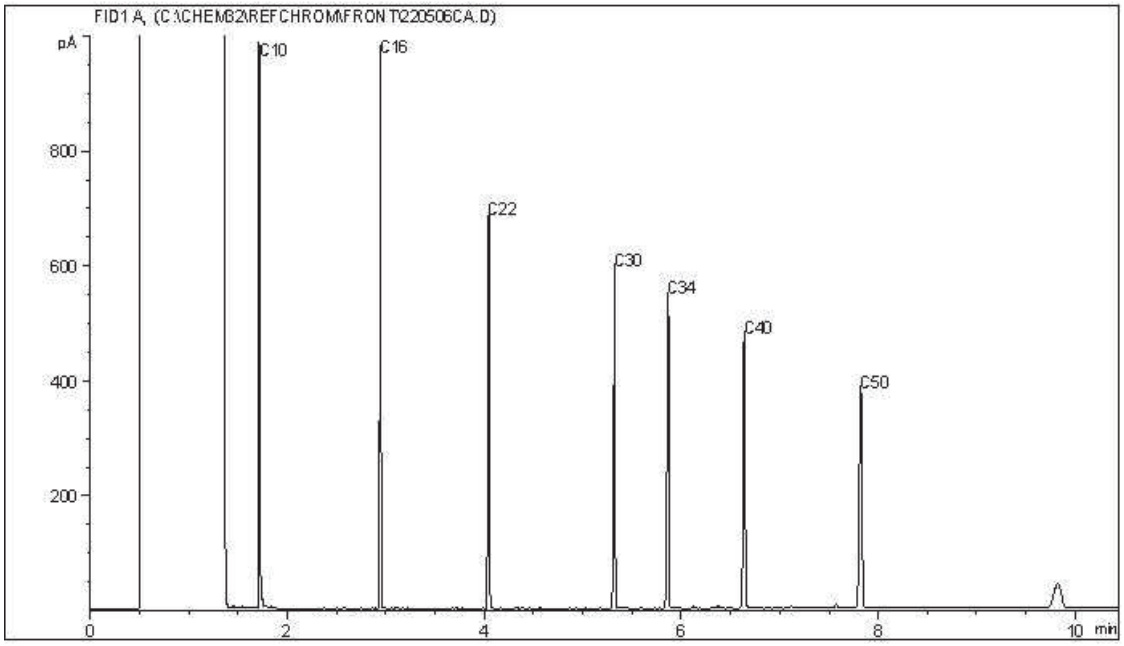
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC21



Carbon Range Distribution - Reference Chromatogram



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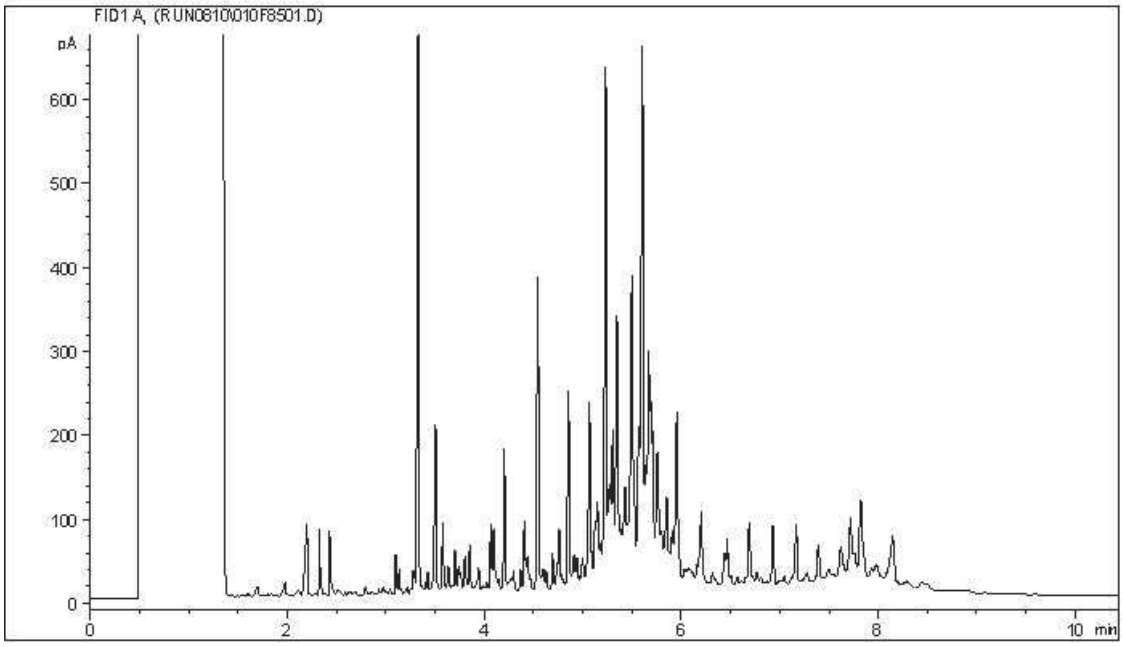
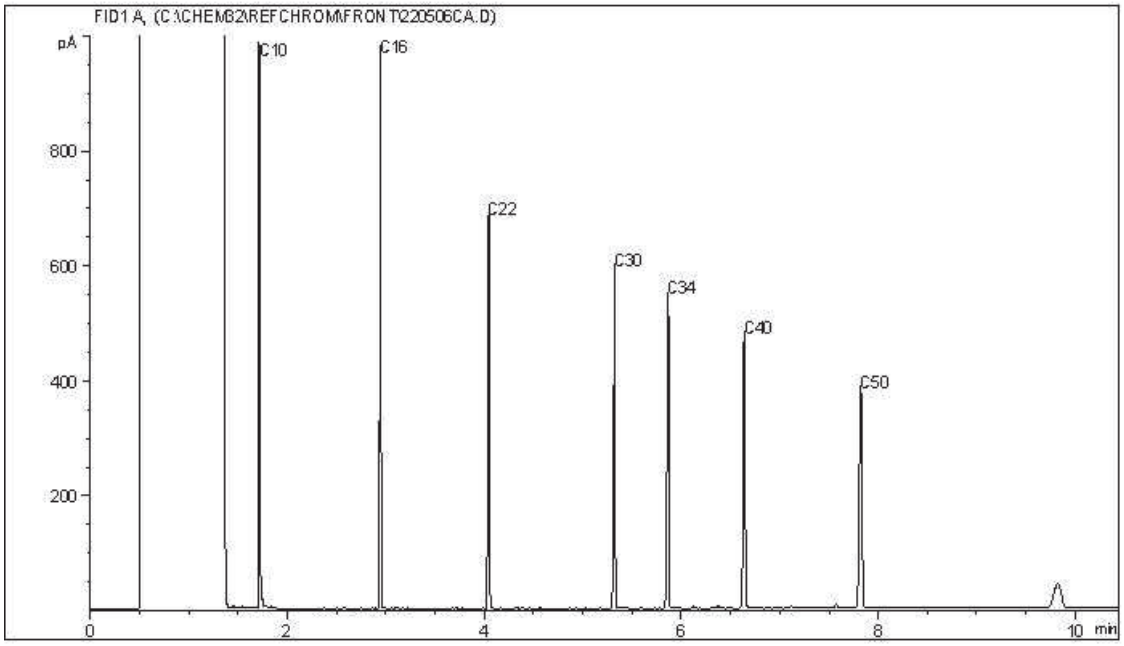
Instrument: GC21



Carbon Range Distribution - Reference Chromatogram



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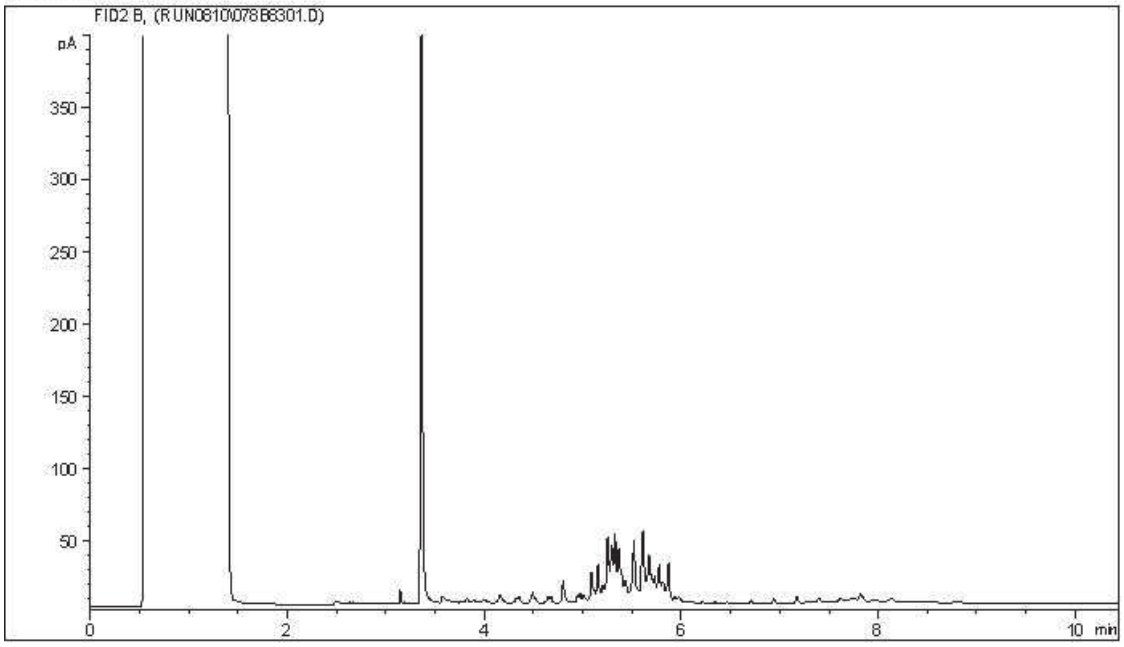

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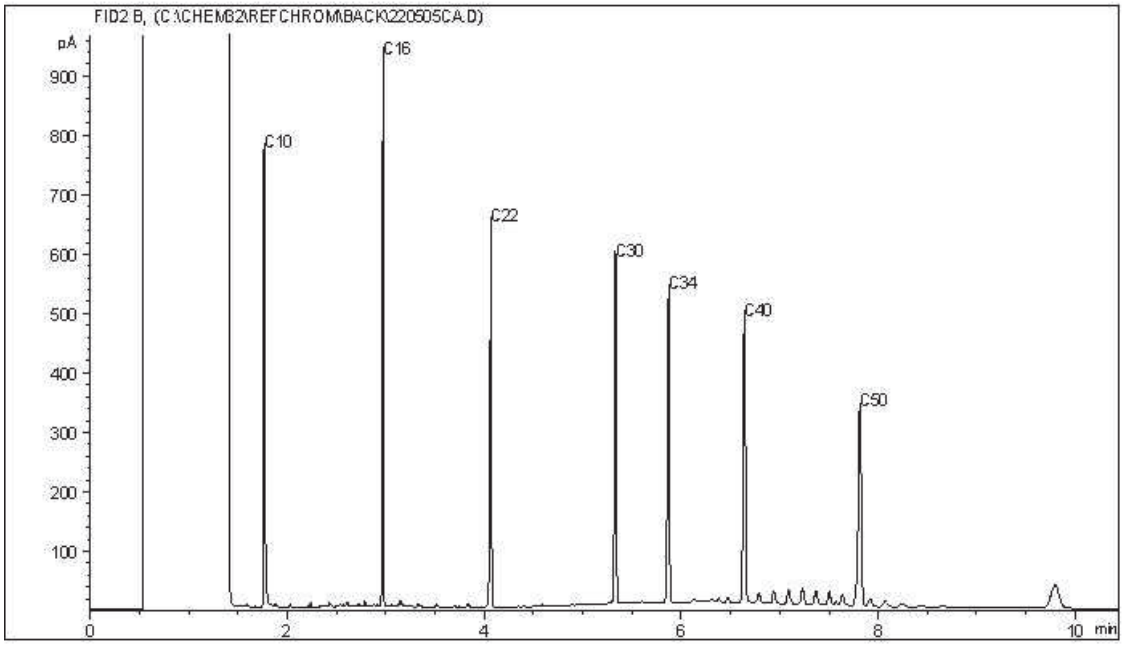

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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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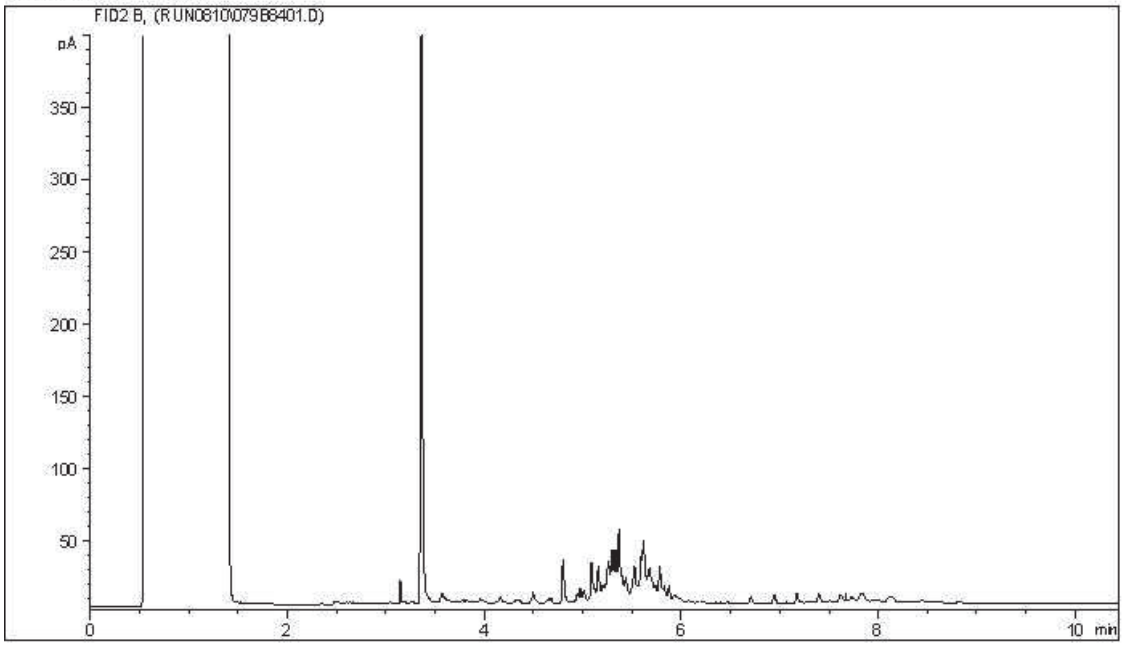

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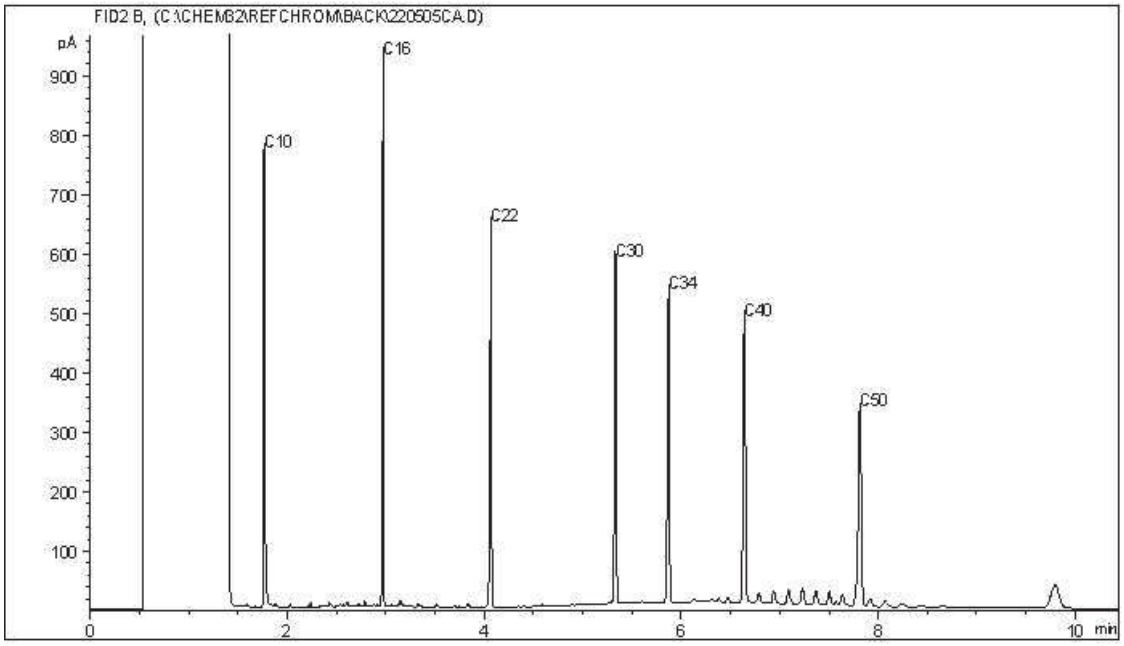

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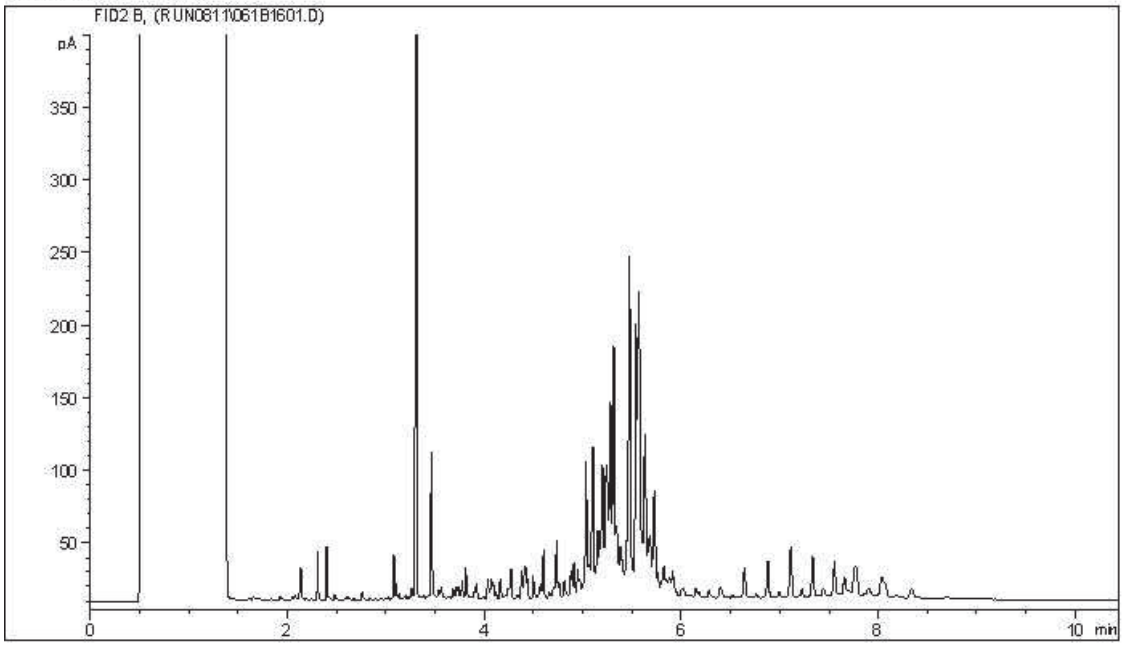

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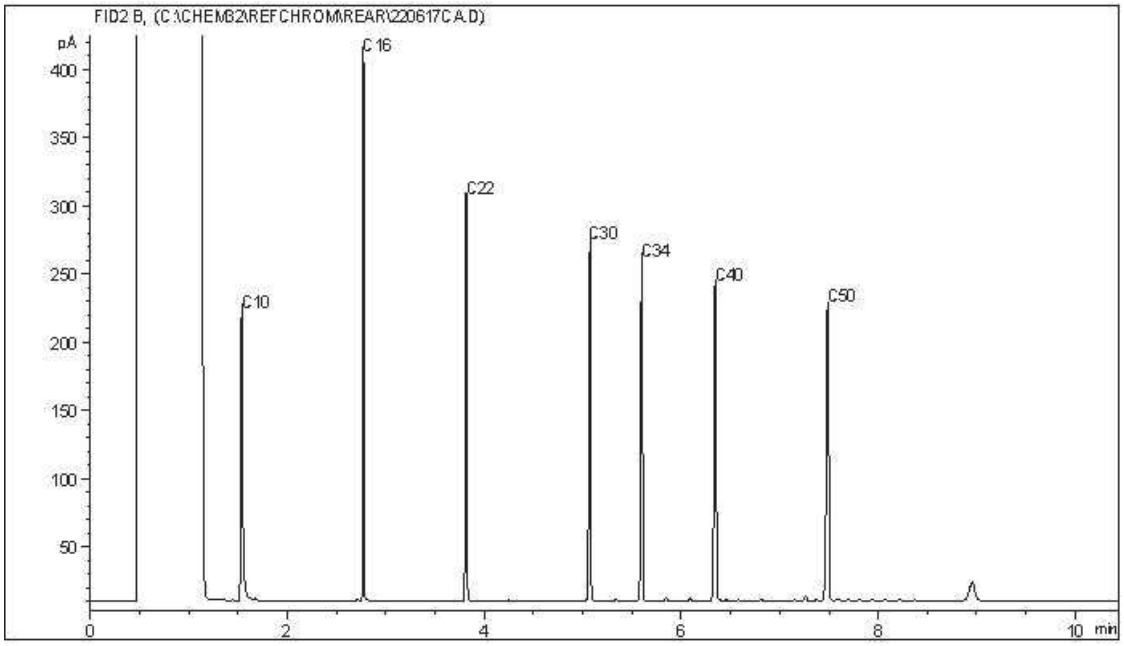

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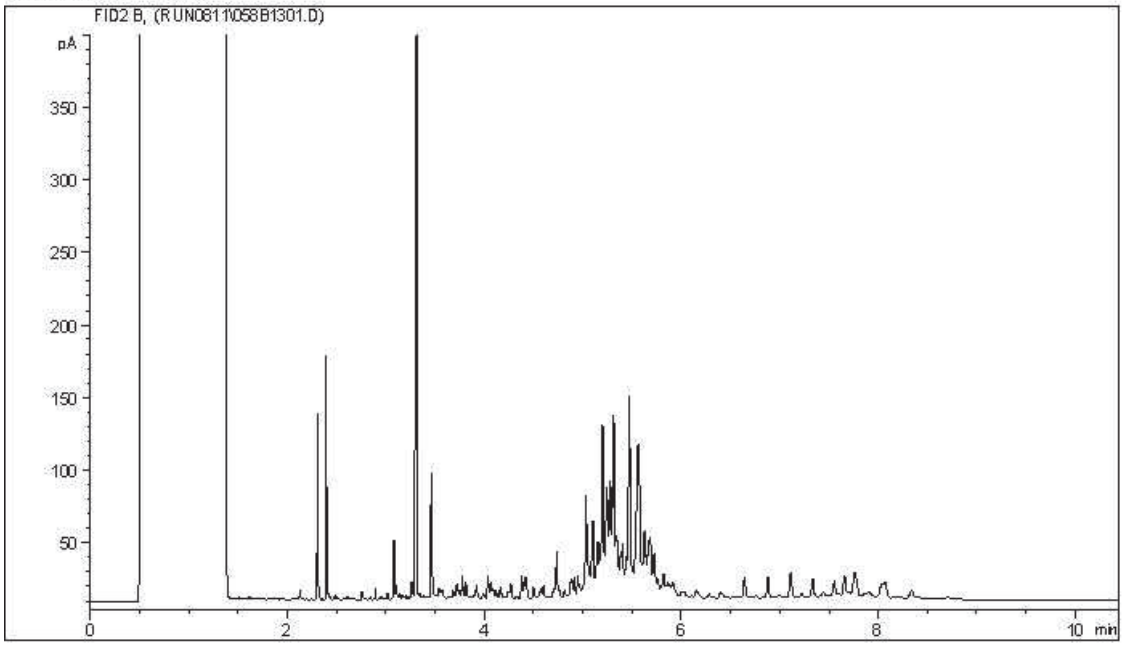

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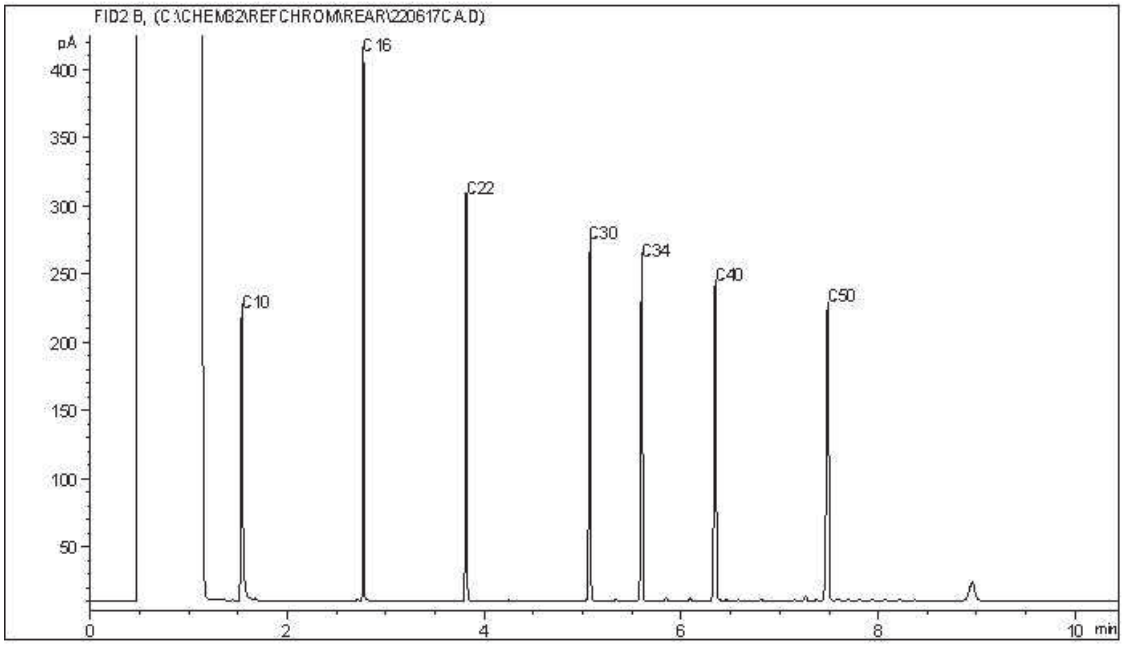

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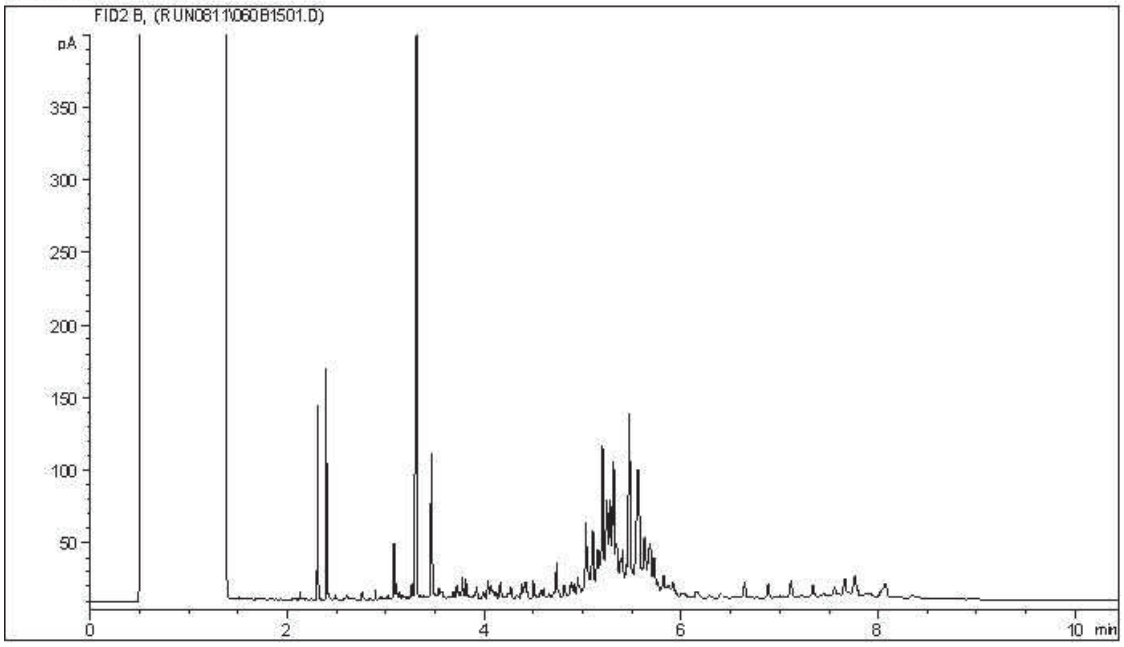

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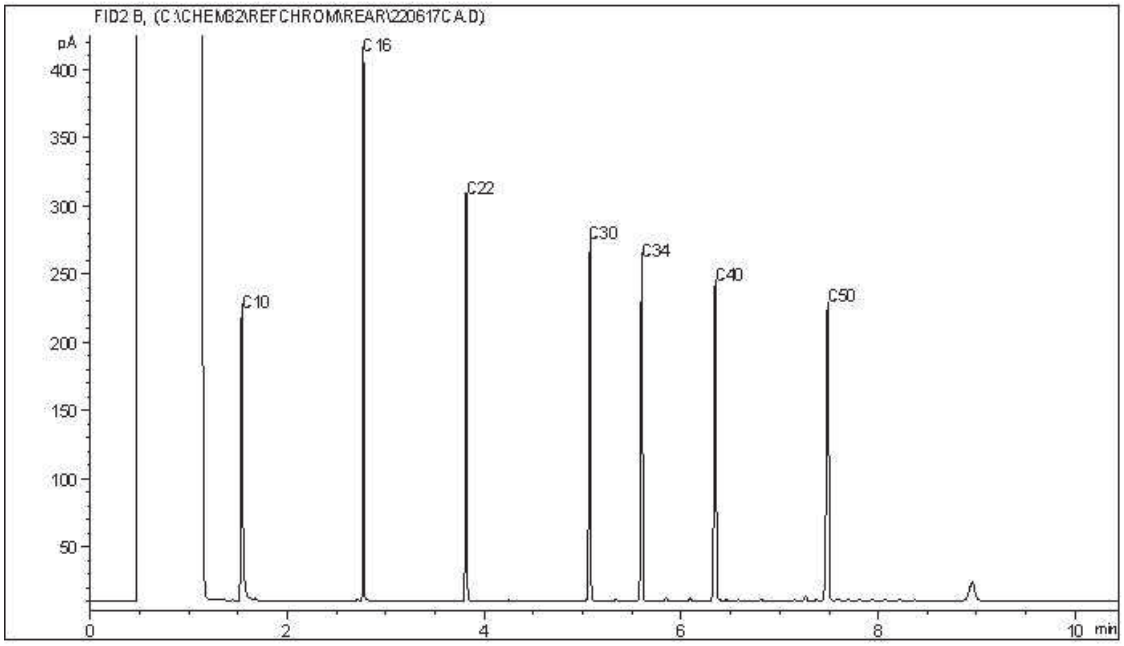

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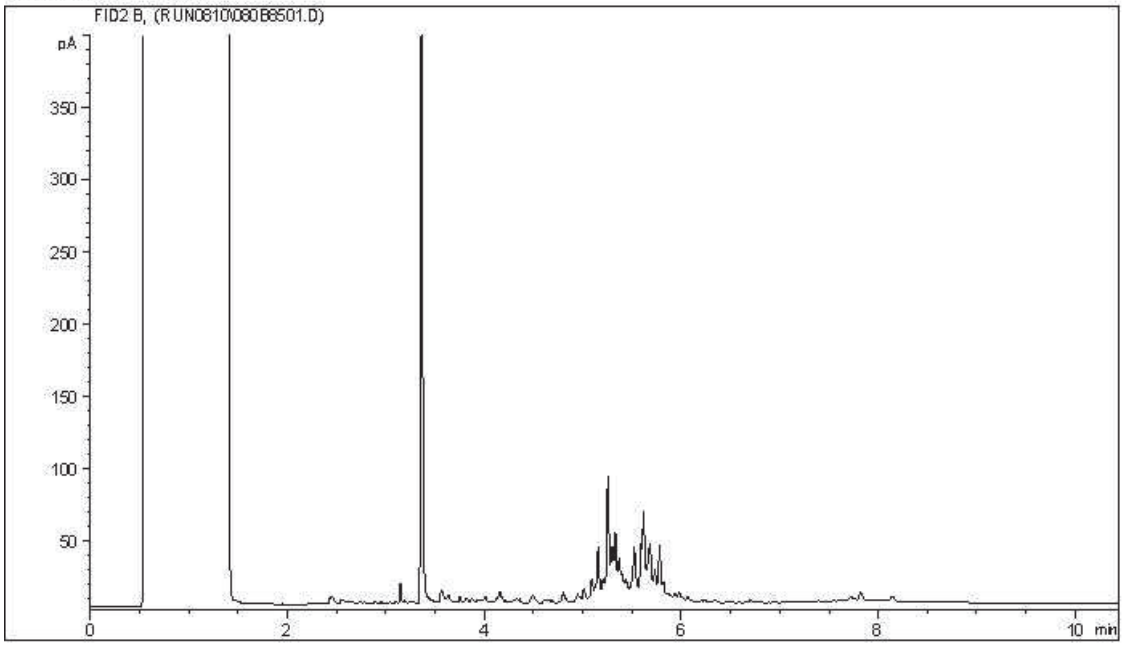

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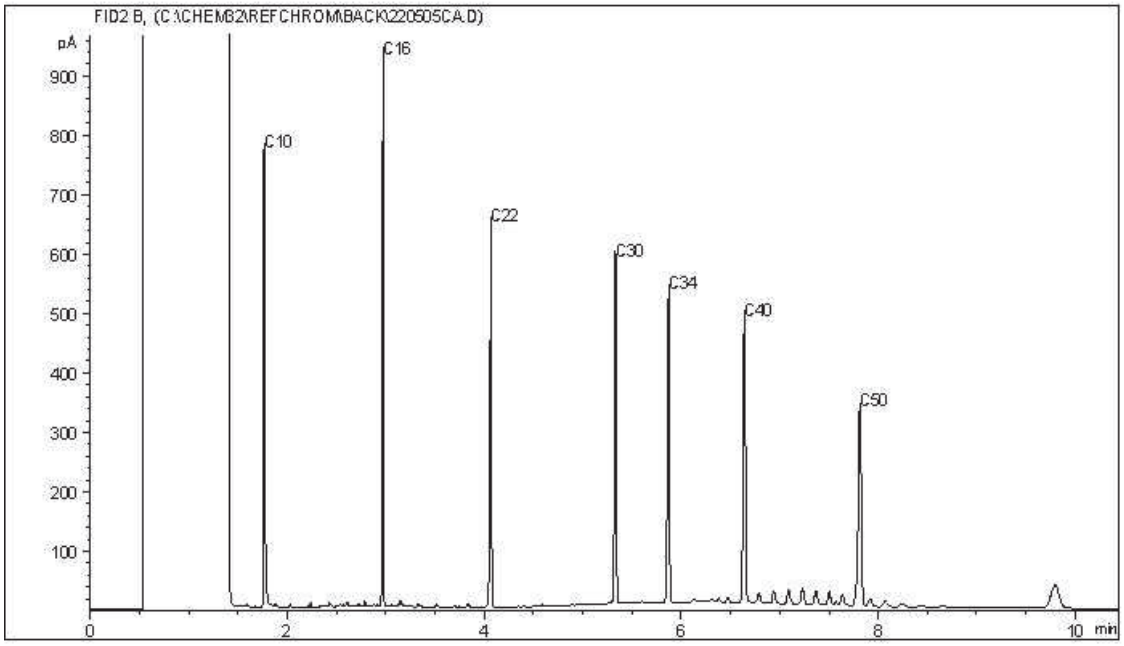

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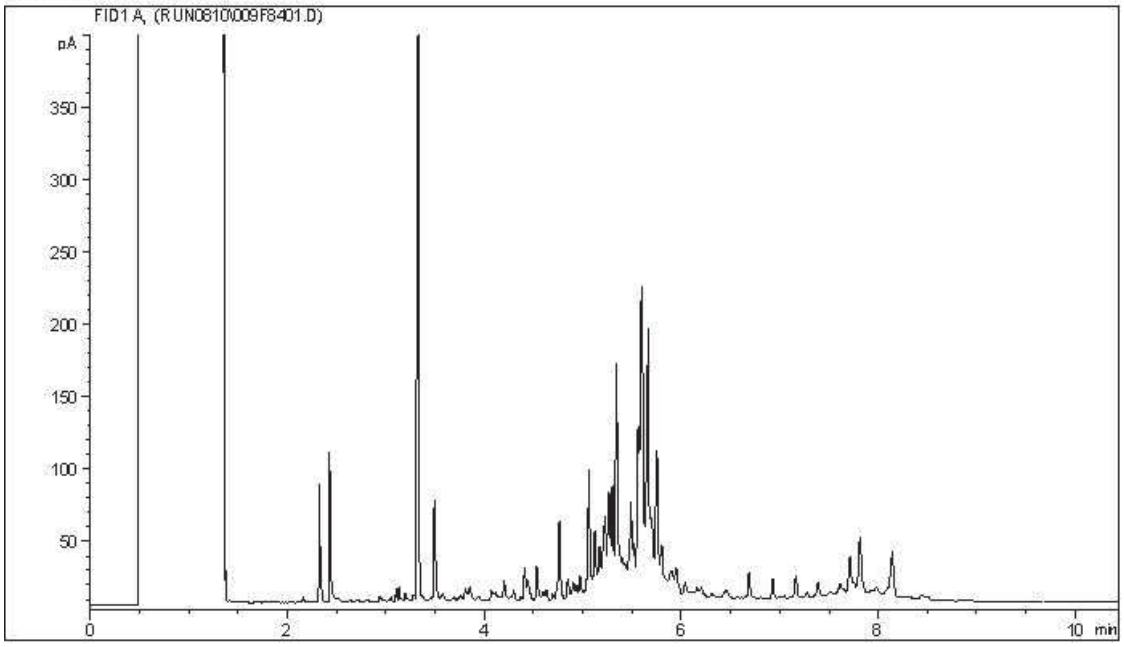

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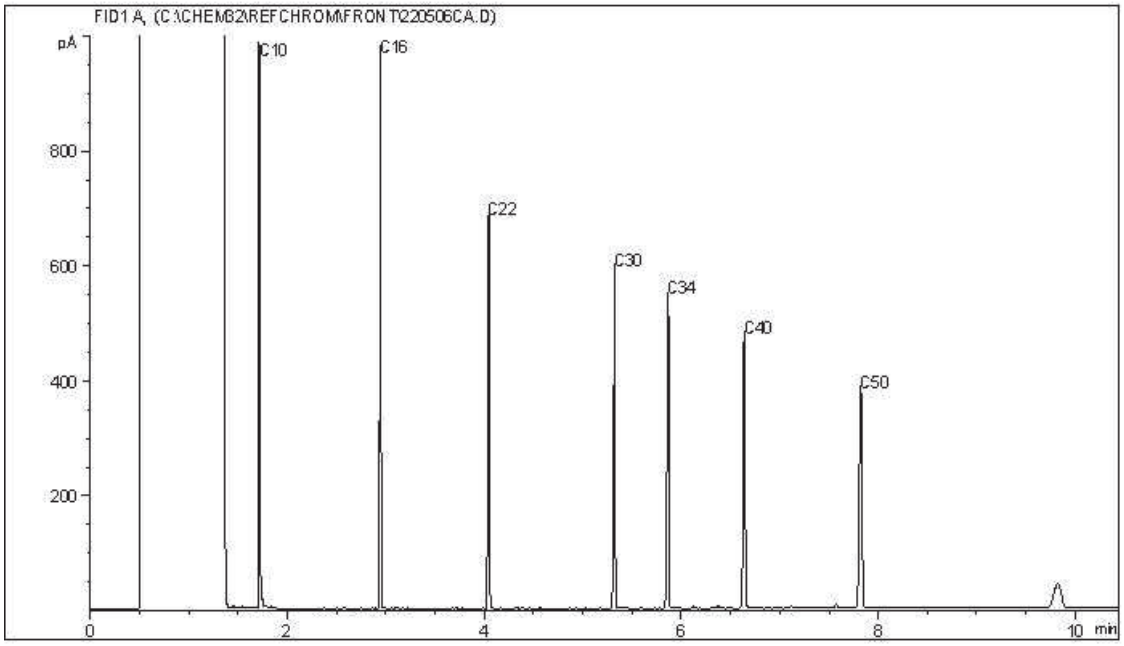

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Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

August 15, 2022

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB, T2P 2W2

Attention: Aurelie Bellavance

Re: Chromatogram Interpretation of CAMP FAREWELL, NT; Project 22525414-100
Bureau Veritas Job No.: C259077

Bureau Veritas was retained by Golder Associates Ltd. to provide hydrocarbon interpretations concerning the likely origin of hydrocarbons quantified within CCME fraction(s) F2, F3 and/or F4.

Analytical Method

Petroleum hydrocarbon analyses at Bureau Veritas are conducted in accordance with the analytical specifications required by the prescriptive and performance-based (where appropriate) elements of the CCME Tier I protocols for hydrocarbon determination[1] in soil samples.

Chromatogram Interpretation

A comprehensive qualitative assessment of the resultant gas chromatograms in the F2-F4 ranges was performed. The chromatograms were inspected for specific peak profiles that would indicate the possible origin of the hydrocarbons present in the sample. The presence and nature of specific aliphatic compounds (n-alkanes), the presence of characteristic unresolved complex mixtures (UCMs) or "humps" and the relative abundance (ratios) of specific compounds are reviewed as part of the evaluation.

[1] Canadian Council of Ministers of the Environment: "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil – Tier I Method" 2001

Data Interpretation

Table 1. Qualitative Data Summary – Chromatogram Interpretation

Lab ID	Sample ID	Chromatogram Interpretation
AZF965	MW22-02-01	The CCME F2-F4 chromatographic peak profile is consistent with biogenic organic material (e.g. peat). Chromatograms of biogenic organic material may contain peak patterns spanning the C10 to C50 range, but they are most commonly characterized by a profile of unevenly distributed sharp peaks between C28 and C34. The impacts are not consistent with a petroleum product or crude oil.
AZF966	BH22-03-01	
AZF969	BH22-05-02	
AZF970	BH22-06-02	
AZF971	BH22-07-01	
AZF972	BH22-08-01	

If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,
Bureau Veritas Laboratories

Michael Sheppard, B.Sc., P.Bio., QP
Consulting Scientist
Environmental Services

Scott Cantwell, CET, B.Sc., P.Chem.
Director and General Manager – Western Canada
Environmental Services

Disclaimer

Hydrocarbon Resemblance
Characterization by way of visual evaluation of the sample chromatogram may not be conclusive and is only indicative of substances that may be present. The resemblance information must be regarded as approximate and qualitative.

August 19, 2022

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB, T2P 2W2

Attention: Aurelie Bellavance

Re: Biogenic Toluene Assessment of Camp Farewell, NT; Project 22525414-100
Bureau Veritas Job No.: C259077

Bureau Veritas Environmental & Specialty Services Laboratories (BV Labs) was retained by Golder Associated Ltd. to provide an interpretation concerning the likely origin of toluene quantified within CCME Fraction 1 (nC6-nC10).

Analytical Method

Petroleum hydrocarbon analyses at BV Labs are conducted in accordance with the analytical specifications required by the prescriptive and performance-based (where appropriate) elements of the CCME Tier I protocols for hydrocarbon determination[1] in soil samples.

Biogenic Toluene

The sample extract is analyzed by volatile organic compound (VOC) analysis in selected ion monitoring (SIM) mode to determine the origin of the quantified toluene. The presence of specific marker compounds, both biogenic and petrogenic, along with a series of associated parameters are reviewed as part of this evaluation. Diagnostic parameters of primary interest and the ranges typically associated with biogenic toluene samples are listed below[2]:

- Moisture: typically ≥70%
- Absence of an Unresolved Complex Mixture (UCM) within CCME Fractions F2 or F3.
- Presence of a "Biogenic Cluster" within CCME Fraction 3 (F3Bc); specifically F3B, nC32-nC34
- Presence of biogenic monoterpene compound(s)[3]
- Toluene ratio (T_{ratio}): Ratio between Toluene and sum of all BTEX compounds; typically >0.7
- Cymene ratio (C_{ratio}): Ratio between p-Cymene and the sum of all three isomers; typically >0.8
- Additional diagnostic parameters may be included in the assessment if deemed beneficial (examples include: Carbon Preference Index (CPI), isoprenoid ratios, BIC, etc.)

[1] **Canadian Council of Ministers of the Environment: "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil – Tier I Method" 2001**

[2] **Bureau Veritas Laboratories Canada: threshold values derived internally (assessment of long-term data set)**

[3] **Target compounds: α/β-Pinene, Camphene, (+)-3-Carene, α-Terpinene, Limonene, o/m/p-Cymene, γ-Terpinene and α-Terpinolene (list may be amended from time-to-time without notice)**

Data Interpretation

Table 1. Data Summary – Biogenic Toluene Evaluation

Lab ID	Sample ID	Diagnostic Parameters[4]						Conclusion[5]
		Moist	UCM	$F3B_c$	Mono	T_{ratio}	C_{ratio}	
AZF966	BH22-03-01	H	No	Yes	No	1.0	NC	Inconclusive (neither)

NC: Unable to Calculate

If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,

Bureau Veritas Environmental & Specialty Services Laboratories

Michael Sheppard, B.Sc., P.Bio, QP
Consulting Scientist
Environmental Services

Scott Cantwell, CET, B.Sc., P.Chem.
Director and General Manager – Western Canada
Environmental Services

Disclaimer

Biogenic Toluene
A detailed assessment of Selective Ion Monitoring (SIM) GC-MS, and associated project data was completed to provide further information relating to the biogenic and/or petrogenic origin of compounds or fractions quantified as part of the CCME Tier I protocol. All statements must be regarded as approximate and qualitative.

[4] **Diagnostic Parameters**
Moist: Moisture; H (≥70%), M (<70 & ≥20%), L (<20%)
UCM: Presence/Position of Unresolved Complex Mixture
F3Bc: Presence of a biogenic cluster within F3B
Mono: Biogenic monoterpenes (excluding cymenes)
T_{ratio}: Toluene Ratio (T/ΣBTEX)
C_{ratio}: Cymene Ratio (p-Cymene/ΣCymene isomers)

[5] **Conclusions**
Biogenic Toluene: Quantified toluene likely of biogenic origin
Petrogenic Toluene: Quantified toluene likely of petrogenic origin
Inconclusive (both): Presence of both biogenic and petrogenic diagnostic parameters (CSIA recommended)
Inconclusive (neither): Insufficient evidence to support Biogenic or Petrogenic origin (CSIA recommended)

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell, NT

Sampling Date: August 7, 2022

Golder Project Number: 22525414-1000

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C259077

Was the Cooler Received at the lab under a sealed and intact custody seal?	Yes
Was proper chain of custody of the samples documented and kept?	Yes
Were sample temperatures acceptable when they reached lab?:	Yes
Were all samples analyzed and extracted within hold times?:	Yes
Has lab warranted all tests were in statistical control in CoA?:	Yes
Was sufficient sample provided for the requested analysis?	Yes
Has lab warranted all samples were analyzed with limited headspace present?:	Yes

Are All Laboratory QC Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery	X			Matrix spike recovery for F2 (141%) exceeded the
Method Blank Concentration	X			acceptance criteria of (60-140%).
Laboratory Duplicate RPD	X			All remaining laboratory QC results are within
Matrix Spike Recovery		X		acceptance criteria.
Blank Spike Recovery	X			

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	All field QC samples are within
Trip Blank Concentration			X	alert limits.
Field Duplicate RPD	X			

Is data considered reliable (Yes/No/Suspect)?: Yes

If answer is "No" or "Suspect", describe and provide rationale:

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: August 12, 2022

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/09/21
Report #: R3235977
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260012
Received: 2022/08/12, 09:00

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble) (1)	4	2022/08/16	2022/08/16	AB SOP-00034 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 3)	4	N/A	2022/08/16	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	4	N/A	2022/08/17		Auto Calc
Hexavalent Chromium (1, 4)	4	2022/08/16	2022/08/16	AB SOP-00063	SM 23 3500-Cr B m
Barium on ICP using Fusion Extraction (2)	1	N/A	2022/09/21		
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	3	2022/08/15	2022/08/16	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	1	2022/08/17	2022/08/17	AB SOP-00036	CCME PHC-CWS m
Elements by ICPMS - Soils (1)	4	2022/08/16	2022/08/17	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Moisture (1)	4	N/A	2022/08/16	AB SOP-00002	CCME PHC-CWS m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/09/21
Report #: R3235977
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260012
Received: 2022/08/12, 09:00

(2) This test was performed by AGAT - Calgary, 2910 12th Street NE , Calgary, AB, T2E 7P7
(3) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(4) Some soil samples may react with the Cr(VI) spike reducing it to Cr(III). These samples are highly unlikely to contain native hexavalent chromium. Thus a failed spike recovery does not invalidate a negative result on the native sample.
(5) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
22 Sep 2022 15:39:33

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Cynny Hagen, Key Account Soecialist
Email: Cynny.HAGEN@bureauveritas.com
Phone# (403)735-2273

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C260012
Report Date: 2022/09/21

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM154	AZM154		AZM155	AZM156	AZM157		
Sampling Date		2022/08/08 14:00	2022/08/08 14:00		2022/08/08 14:05	2022/08/08 14:10	2022/08/08 14:15		
COC Number		1 of 1	1 of 1		1 of 1	1 of 1	1 of 1		
	UNITS	BH22-17-01	BH22-17-01 Lab-Dup	RDL	BH22-17-02	BH22-17-03	BH22-17-04	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<24 (1)	N/A	24	<10	<10	<10	10	A681385
F3 (C16-C34 Hydrocarbons)	mg/kg	370 (1)	N/A	120	180	<50	<50	50	A681385
F4 (C34-C50 Hydrocarbons)	mg/kg	120 (1)	N/A	120	<50	<50	<50	50	A681385
Reached Baseline at C50	mg/kg	Yes	N/A	N/A	Yes	Yes	Yes	N/A	A681385
Physical Properties									
Moisture	%	59	N/A	0.30	30	19	17	0.30	A681498
Volatiles									
Xylenes (Total)	mg/kg	<0.17	N/A	0.17	<0.045	<0.045	<0.045	0.045	A679841
F1 (C6-C10) - BTEX	mg/kg	<18	N/A	18	<10	<10	<10	10	A679841
Field Preserved Volatiles									
Benzene	mg/kg	<0.017 (2)	0.019	0.017	<0.0050	<0.0050	<0.0050	0.0050	A680671
Toluene	mg/kg	<0.050 (2)	<0.050	0.050	<0.050	<0.050	<0.050	0.050	A680671
Ethylbenzene	mg/kg	<0.025 (2)	0.032	0.025	<0.010	<0.010	<0.010	0.010	A680671
m & p-Xylene	mg/kg	<0.15 (3)	<0.15	0.15	<0.040	<0.040	<0.040	0.040	A680671
o-Xylene	mg/kg	<0.074 (4)	<0.074	0.074	<0.020	<0.020	<0.020	0.020	A680671
F1 (C6-C10)	mg/kg	<18 (2)	<18	18	<10	<10	<10	10	A680671
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	96	100	N/A	98	97	97	N/A	A680671
4-Bromofluorobenzene (sur.)	%	100	106	N/A	99	99	101	N/A	A680671
D10-o-Xylene (sur.)	%	103	119	N/A	103	93	115	N/A	A680671
D4-1,2-Dichloroethane (sur.)	%	99	94	N/A	97	97	96	N/A	A680671
O-TERPHENYL (sur.)	%	139	N/A	N/A	100	141 (5)	132	N/A	A681385

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.
(2) Detection limit reported based on MDL and sample weight used for analysis.
(3) Detection limits raised based on sample weight used for analysis.
(4) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high. Detection limits raised based on sample weight used for analysis.
(5) Surrogate recovery exceeds acceptance criteria (high recovery). As results are non-detect, there is no impact on data quality.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260012
Report Date: 2022/09/21

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

CCME REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AZM154		AZM155	AZM156	AZM157	AZM157		
Sampling Date		2022/08/08 14:00		2022/08/08 14:05	2022/08/08 14:10	2022/08/08 14:15	2022/08/08 14:15		
COC Number		1 of 1		1 of 1	1 of 1	1 of 1	1 of 1		
	UNITS	BH22-17-01	RDL	BH22-17-02	BH22-17-03	BH22-17-04	BH22-17-04 Lab-Dup	RDL	QC Batch
Elements									
Soluble (Hot water) Boron (B)	mg/kg	1.7	0.30	<0.10	<0.10	<0.10	N/A	0.10	A683000
Hex. Chromium (Cr 6+)	mg/kg	<0.19 (1)	0.19	<0.080	<0.080	<0.080	<0.080	0.080	A682694
Total Antimony (Sb)	mg/kg	<1.0	1.0	<0.50	<0.50	<0.50	<0.50	0.50	A683223
Total Arsenic (As)	mg/kg	2.9	2.0	4.3	3.5	4.1	3.7	1.0	A683223
Total Barium (Ba)	mg/kg	770	2.0	110	62	82	71	1.0	A683223
Total Beryllium (Be)	mg/kg	<0.80	0.80	<0.40	<0.40	<0.40	<0.40	0.40	A683223
Total Cadmium (Cd)	mg/kg	0.18	0.10	0.081	0.085	0.069	0.069	0.050	A683223
Total Chromium (Cr)	mg/kg	6.9	2.0	6.4	4.6	7.0	6.4	1.0	A683223
Total Cobalt (Co)	mg/kg	5.2	1.0	3.3	2.6	3.0	2.8	0.50	A683223
Total Copper (Cu)	mg/kg	6.1	2.0	3.6	2.8	3.1	2.9	1.0	A683223
Total Lead (Pb)	mg/kg	7.2	1.0	3.5	2.7	2.9	2.8	0.50	A683223
Total Mercury (Hg)	mg/kg	<0.10	0.10	<0.050	<0.050	<0.050	<0.050	0.050	A683223
Total Molybdenum (Mo)	mg/kg	1.3	0.80	0.52	0.62	1.3	1.3	0.40	A683223
Total Nickel (Ni)	mg/kg	7.5	2.0	8.5	7.5	8.3	7.9	1.0	A683223
Total Selenium (Se)	mg/kg	<1.0	1.0	<0.50	<0.50	<0.50	<0.50	0.50	A683223
Total Silver (Ag)	mg/kg	<0.40	0.40	<0.20	<0.20	<0.20	<0.20	0.20	A683223
Total Thallium (Tl)	mg/kg	<0.20	0.20	<0.10	<0.10	<0.10	<0.10	0.10	A683223
Total Tin (Sn)	mg/kg	<2.0	2.0	<1.0	<1.0	<1.0	<1.0	1.0	A683223
Total Uranium (U)	mg/kg	<0.40	0.40	0.28	0.30	0.33	0.31	0.20	A683223
Total Vanadium (V)	mg/kg	10	2.0	12	8.4	10	9.3	1.0	A683223
Total Zinc (Zn)	mg/kg	28	20	19	18	20	19	10	A683223

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, samples contain => 50% moisture.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260012
Report Date: 2022/09/21

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

RESULTS OF CHEMICAL ANALYSES OF SOIL

Bureau Veritas ID		AZM154	
Sampling Date		2022/08/08 14:00	
COC Number		1 of 1	
	UNITS	**BH22-17-01**	**QC Batch**
Parameter			
Subcontract Parameter	N/A	ATTACHED	A725297

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.7°C

Version 2: Report reissued to include results for Barium-True Total on sample BH22-17-01/AZM154 as per client request received 2022/08/24.

Sample AZM154 [BH22-17-01] : Please see attachment for Barium on ICP using Fusion Extraction results.

CCME REGULATED METALS - SOILS (SOIL) Comments

Sample AZM154 [BH22-17-01] Boron (Hot Water Soluble): Detection limits raised based on sample weight used for analysis.
Sample AZM154 [BH22-17-01] Elements by ICPMS - Soils: Detection limits raised due to sample matrix.

Results relate only to the items tested.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260012
Report Date: 2022/09/21

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A680671	DO1	Matrix Spike [AZM154-03]	1,4-Difluorobenzene (sur.)	2022/08/16		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		100	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		105	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		99	%	50 - 140
			Benzene	2022/08/16		102	%	50 - 140
			Toluene	2022/08/16		100	%	50 - 140
			Ethylbenzene	2022/08/16		99	%	50 - 140
			m & p-Xylene	2022/08/16		100	%	50 - 140
			o-Xylene	2022/08/16		99	%	50 - 140
			F1 (C6-C10)	2022/08/16		104	%	60 - 140
A680671	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2022/08/16		97	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		100	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		93	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		99	%	50 - 140
			Benzene	2022/08/16		98	%	60 - 130
			Toluene	2022/08/16		94	%	60 - 130
			Ethylbenzene	2022/08/16		95	%	60 - 130
			m & p-Xylene	2022/08/16		93	%	60 - 130
			o-Xylene	2022/08/16		93	%	60 - 130
			F1 (C6-C10)	2022/08/16		97	%	60 - 140
A680671	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2022/08/17		98	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/17		106	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/17		104	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/17		96	%	50 - 140
			Benzene	2022/08/17	<0.0050		mg/kg	
			Toluene	2022/08/17	<0.050		mg/kg	
			Ethylbenzene	2022/08/17	<0.010		mg/kg	
			m & p-Xylene	2022/08/17	<0.040		mg/kg	
			o-Xylene	2022/08/17	<0.020		mg/kg	
			F1 (C6-C10)	2022/08/17	<10		mg/kg	
A680671	DO1	RPD [AZM154-03]	Benzene	2022/08/17	9.8		%	50
			Toluene	2022/08/17	NC		%	50
			Ethylbenzene	2022/08/17	24		%	50
			m & p-Xylene	2022/08/17	NC		%	50
			o-Xylene	2022/08/17	NC		%	50
			F1 (C6-C10)	2022/08/17	NC		%	30
A681385	VP4	Matrix Spike	O-TERPHENYL (sur.)	2022/08/16		134	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16		128	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/16		131	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/16		128	%	60 - 140
A681385	VP4	Spiked Blank	O-TERPHENYL (sur.)	2022/08/16		116	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16		113	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/16		117	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/16		114	%	60 - 140
A681385	VP4	Method Blank	O-TERPHENYL (sur.)	2022/08/16		128	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2022/08/16	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2022/08/16	<50		mg/kg	
A681385	VP4	RPD	F2 (C10-C16 Hydrocarbons)	2022/08/16	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2022/08/16	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2022/08/16	NC		%	40

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A681498	A1H	Method Blank	Moisture	2022/08/16	<0.30		%	
A681498	A1H	RPD	Moisture	2022/08/16	18		%	20
A682694	FM0	Matrix Spike [AZM157-01]	Hex. Chromium (Cr 6+)	2022/08/16		96	%	75 - 125
A682694	FM0	Spiked Blank	Hex. Chromium (Cr 6+)	2022/08/16		104	%	80 - 120
A682694	FM0	Method Blank	Hex. Chromium (Cr 6+)	2022/08/16	<0.080		mg/kg	
A682694	FM0	RPD [AZM157-01]	Hex. Chromium (Cr 6+)	2022/08/16	NC		%	35
A683000	MPU	Matrix Spike	Soluble (Hot water) Boron (B)	2022/08/16		95	%	75 - 125
A683000	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/16		89	%	80 - 120
A683000	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/16	<0.10		mg/kg	
A683000	MPU	RPD	Soluble (Hot water) Boron (B)	2022/08/16	4.3		%	35
A683223	KH2	Matrix Spike [AZM157-01]	Total Antimony (Sb)	2022/08/17		104	%	75 - 125
			Total Arsenic (As)	2022/08/17		100	%	75 - 125
			Total Barium (Ba)	2022/08/17		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/17		105	%	75 - 125
			Total Cadmium (Cd)	2022/08/17		101	%	75 - 125
			Total Chromium (Cr)	2022/08/17		113	%	75 - 125
			Total Cobalt (Co)	2022/08/17		102	%	75 - 125
			Total Copper (Cu)	2022/08/17		101	%	75 - 125
			Total Lead (Pb)	2022/08/17		103	%	75 - 125
			Total Mercury (Hg)	2022/08/17		101	%	75 - 125
			Total Molybdenum (Mo)	2022/08/17		106	%	75 - 125
			Total Nickel (Ni)	2022/08/17		106	%	75 - 125
			Total Selenium (Se)	2022/08/17		100	%	75 - 125
			Total Silver (Ag)	2022/08/17		104	%	75 - 125
			Total Thallium (Tl)	2022/08/17		102	%	75 - 125
			Total Tin (Sn)	2022/08/17		105	%	75 - 125
			Total Uranium (U)	2022/08/17		101	%	75 - 125
			Total Vanadium (V)	2022/08/17		131 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/17		113	%	75 - 125
A683223	KH2	QC Standard	Total Antimony (Sb)	2022/08/17		96	%	15 - 182
			Total Arsenic (As)	2022/08/17		73	%	53 - 147
			Total Barium (Ba)	2022/08/17		89	%	80 - 119
			Total Cadmium (Cd)	2022/08/17		85	%	72 - 128
			Total Chromium (Cr)	2022/08/17		78	%	59 - 141
			Total Cobalt (Co)	2022/08/17		73	%	58 - 142
			Total Copper (Cu)	2022/08/17		101	%	83 - 117
			Total Lead (Pb)	2022/08/17		98	%	79 - 121
			Total Molybdenum (Mo)	2022/08/17		112	%	67 - 133
			Total Nickel (Ni)	2022/08/17		81	%	79 - 121
			Total Silver (Ag)	2022/08/17		80	%	47 - 153
			Total Tin (Sn)	2022/08/17		86	%	67 - 133
			Total Uranium (U)	2022/08/17		81	%	77 - 123
			Total Vanadium (V)	2022/08/17		79	%	79 - 121
			Total Zinc (Zn)	2022/08/17		101	%	79 - 121
A683223	KH2	Spiked Blank	Total Antimony (Sb)	2022/08/17		101	%	80 - 120
			Total Arsenic (As)	2022/08/17		94	%	80 - 120
			Total Barium (Ba)	2022/08/17		97	%	80 - 120
			Total Beryllium (Be)	2022/08/17		98	%	80 - 120
			Total Cadmium (Cd)	2022/08/17		96	%	80 - 120
			Total Chromium (Cr)	2022/08/17		97	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Cobalt (Co)	2022/08/17		97	%	80 - 120
			Total Copper (Cu)	2022/08/17		97	%	80 - 120
			Total Lead (Pb)	2022/08/17		97	%	80 - 120
			Total Mercury (Hg)	2022/08/17		102	%	80 - 120
			Total Molybdenum (Mo)	2022/08/17		99	%	80 - 120
			Total Nickel (Ni)	2022/08/17		96	%	80 - 120
			Total Selenium (Se)	2022/08/17		96	%	80 - 120
			Total Silver (Ag)	2022/08/17		98	%	80 - 120
			Total Thallium (Tl)	2022/08/17		98	%	80 - 120
			Total Tin (Sn)	2022/08/17		97	%	80 - 120
			Total Uranium (U)	2022/08/17		98	%	80 - 120
			Total Vanadium (V)	2022/08/17		98	%	80 - 120
			Total Zinc (Zn)	2022/08/17		95	%	80 - 120
A683223	KH2	Method Blank	Total Antimony (Sb)	2022/08/17	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/17	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/17	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/17	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/17	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/17	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/17	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/17	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/17	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/17	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/17	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/17	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/17	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/17	<1.0		mg/kg	
			Total Uranium (U)	2022/08/17	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/17	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/17	<10		mg/kg	
A683223	KH2	RPD [AZM157-01]	Total Antimony (Sb)	2022/08/17	NC		%	30
			Total Arsenic (As)	2022/08/17	10		%	30
			Total Barium (Ba)	2022/08/17	14		%	35
			Total Beryllium (Be)	2022/08/17	NC		%	30
			Total Cadmium (Cd)	2022/08/17	0.64		%	30
			Total Chromium (Cr)	2022/08/17	7.9		%	30
			Total Cobalt (Co)	2022/08/17	7.9		%	30
			Total Copper (Cu)	2022/08/17	5.9		%	30
			Total Lead (Pb)	2022/08/17	3.3		%	35
			Total Mercury (Hg)	2022/08/17	NC		%	35
			Total Molybdenum (Mo)	2022/08/17	2.7		%	35
			Total Nickel (Ni)	2022/08/17	4.8		%	30
			Total Selenium (Se)	2022/08/17	NC		%	30
			Total Silver (Ag)	2022/08/17	NC		%	35
			Total Thallium (Tl)	2022/08/17	NC		%	30
			Total Tin (Sn)	2022/08/17	NC		%	35
			Total Uranium (U)	2022/08/17	5.0		%	30
			Total Vanadium (V)	2022/08/17	11		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Zinc (Zn)	2022/08/17	6.1		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

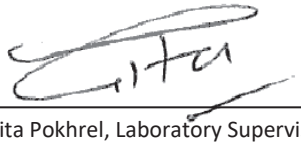
Bureau Veritas Job #: C260012
Report Date: 2022/09/21

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

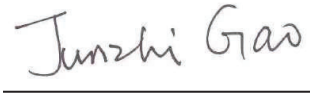
VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics



Gita Pokhrel, Laboratory Supervisor



Janet Gao, B.Sc., QP, Supervisor, Organics

Suwan (Sze Yeung) Fock, B.Sc., Scientific Specialist

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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BUREAU VERITAS

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #	
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Page ___ of ___	

(For coolers # 7 to 10)

COOLER OBSERVATIONS:

BV JOB#: C260012

	YES	NO	COOLER ID			
CUSTODY SEAL						
PRESENT	✓		TEMP	3	1	1
INTACT	✓			1	2	3
ICE PRESENT	✓					
CUSTODY SEAL						
PRESENT	✓		TEMP	6	3	9
INTACT	✓			1	2	3
ICE PRESENT	✓					
CUSTODY SEAL						
PRESENT	✓		TEMP	1	3	8
INTACT	✓			1	2	3
ICE PRESENT	✓					
CUSTODY SEAL						
PRESENT	✓		TEMP	6	6	9
INTACT	✓			1	2	3
ICE PRESENT	✓					
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
ICE PRESENT						
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
ICE PRESENT						
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
ICE PRESENT						
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
ICE PRESENT						
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
ICE PRESENT						
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
ICE PRESENT						

	YES	NO	COOLER ID			
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
ICE PRESENT						
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
ICE PRESENT						
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
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INTACT				1	2	3
ICE PRESENT						
CUSTODY SEAL						
PRESENT			TEMP			
INTACT				1	2	3
ICE PRESENT						

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
J. NCKATO	[signature]	2022/08/12	9:00h

634 Page 1 of 1

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CHAIN OF CUSTODY RECORD
ENV COC - 00013v3

12-Aug-22 09:00
Cynny Hagen
C260012
IKA INS-0001

Invoice Information	Invoice to (requires report) ☐	Report Information (if differs from invoice)		Project Information	
Company:	Client #254, Golder Associates	Company:	Golder Associates	Quotation #:	Shell
Contact Name:	237 - 4 Ave SW Suite 3300	Contact Name:	Aurelie Bellavance	P.O. #/ AFE#:	22525414-1100-1104
Street Address:		Street Address:		Project #:	22525414-1000
City:	Calgary Prov: AB Postal Code:	City:	Calgary AB Postal Code: T2P 4K3	Site #:	Camp Farewell ~~NA~~
Phone:		Phone:	403-299-5600	Site Location:	~~WEST CHANNEL~~, NT
Email:	Canada Account Payable	Email:	aurelie.bellavance@wsp.com	Site Location Province:	NT
Copies:		Copies:	peter.tan@wsp.com	Sampled By:	Melissa Lord, Harmanjeet Kaur

Regulatory Criteria: ☐ AT1 ☐ CCME ☐ Drinking Water - Canada ☐ Drinking Water - Manitoba ☐ Saskatchewan ☐ Drinking Water - Alberta ☒ Other AMSRP

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

Analyses (columns): 1 FIELD FILTERED; 2 FIELD PRESERVED; 3 LAB FILTRATION REQUIRED; 4 BTEX F1-F4; 5 PAHS; 6 BTEX F1-F2; 7 BARIUM TRUE TOTAL; 8 Routine water; 9 Regulated metals - total; 10 Regulated metals - dissolved; 11 Mercury - total; 12 Mercury - dissolved; 13 Salinity 4; 14 Sieve (75 micron); 15 Texture (% sand, silt, clay); 16 Basic class II landfill; 17; 18; 19 Headspace present; 20 LIMITED SAMPLE; 21 # OF CONTAINERS SUBMITTED; 22 HOLD - DO NOT ANALYZE

#	Sample Identification	YY	MM	DD	HH	MM	Matrix	4 BTEX F1-F4	9 Regulated metals - total	19 Headspace present	20 Limited sample	21 # of containers	Comments
1	BH22-17-01	22	08	08	14	00	Soil	X	X	X	X	4	email report to:
2	BH22-17-02	22	08	08	14	05	Soil	X	X	X	X	4	gld.SHELLDQR@equis.com
3	BH22-17-03	22	08	08	14	10	Soil	X	X	X	X	4	gld.iol-equis@wsp.com
4	BH22-17-04	22	08	08	14	15	Soil	X	X	X	X	4	Upload to Facility code 41259544
5													
6													
7													
8													
9													
10													
11													
12													

Regular Turnaround Time (TAT): ☐ 5 to 7 Day ☐ 10 Day
Rush Turnaround Time (TAT) Surcharges apply: ☐ Same Day ☐ 1 Day ☒ 2 Day ☐ 3 Day ☐ 4 Day
Date Required: YY MM DD

Received in Yellowknife
By: J. Mercer @ 9:03 AM
AUG 12 2022
Ice yes 105-4-5
Temp: 3/1/1

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No	°C
Seal present	✓		5.2 / 5.1 / 5.2
Seal intact	✓		
Cooling media present			

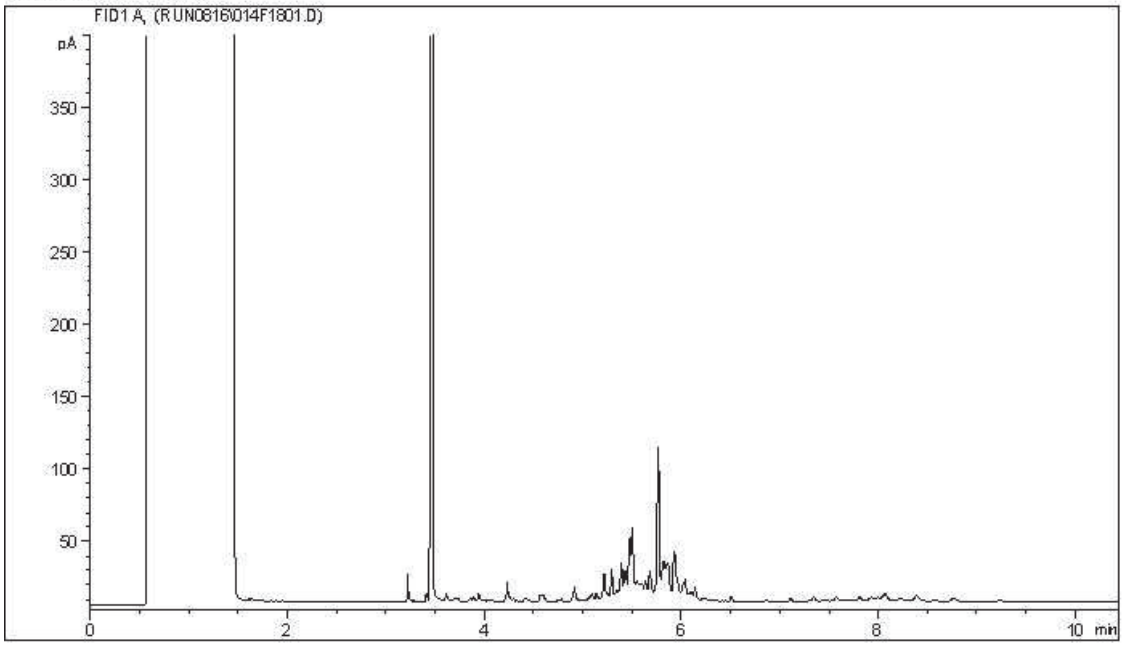
LAB USE ONLY	Yes	No	°C
Seal present			
Seal intact			
Cooling media present			

LAB USE ONLY	Yes	No	°C	Temperature reading by:
Seal present				
Seal intact				
Cooling media present				

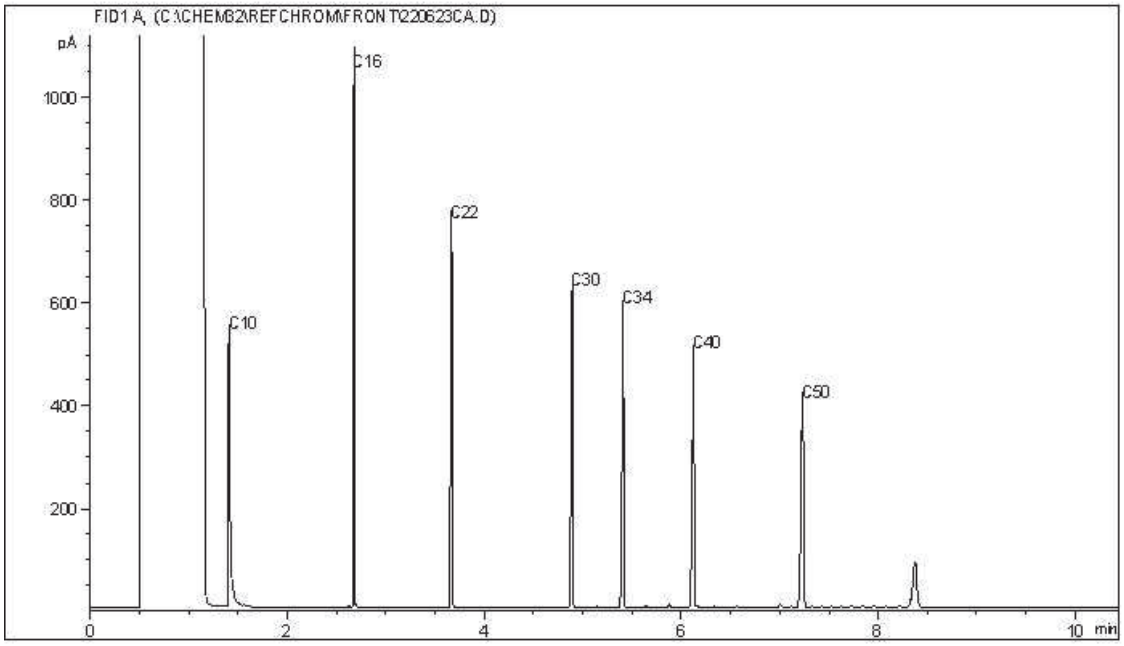
	Relinquished by: (Signature/ Print)	YY	MM	DD	HH	MM	Received by: (Signature/ Print)	YY	MM	DD	HH	MM	Special instructions
1	Melissa Lord	22	08	09	08	00	Sarah Dolan	2022	08	13	15	03	
2													

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



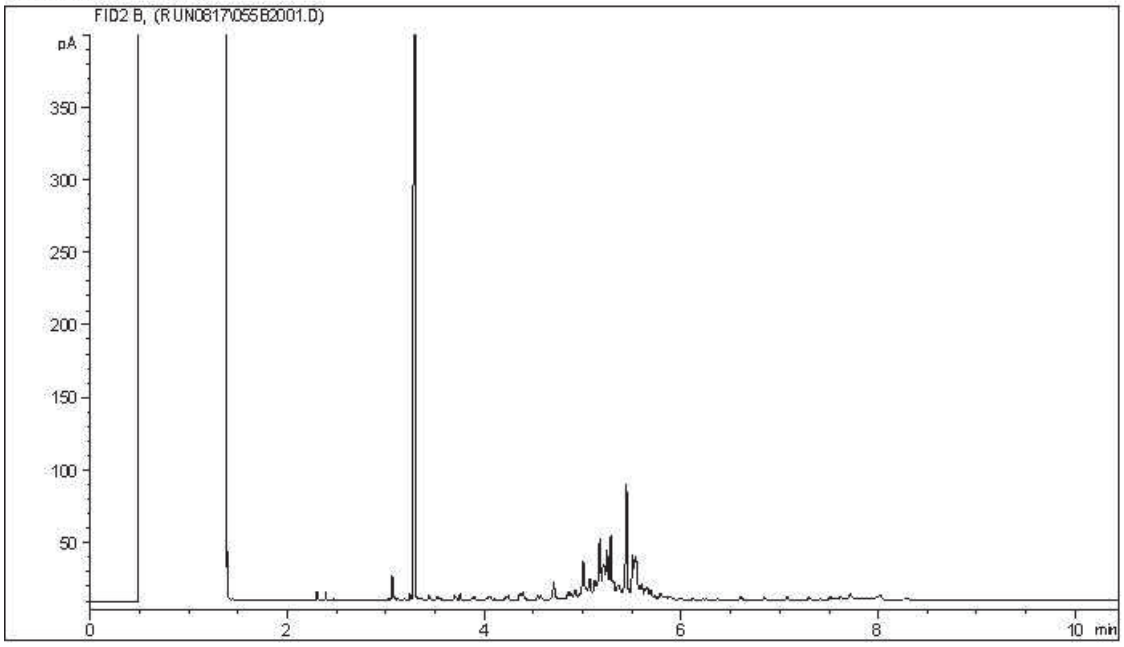
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

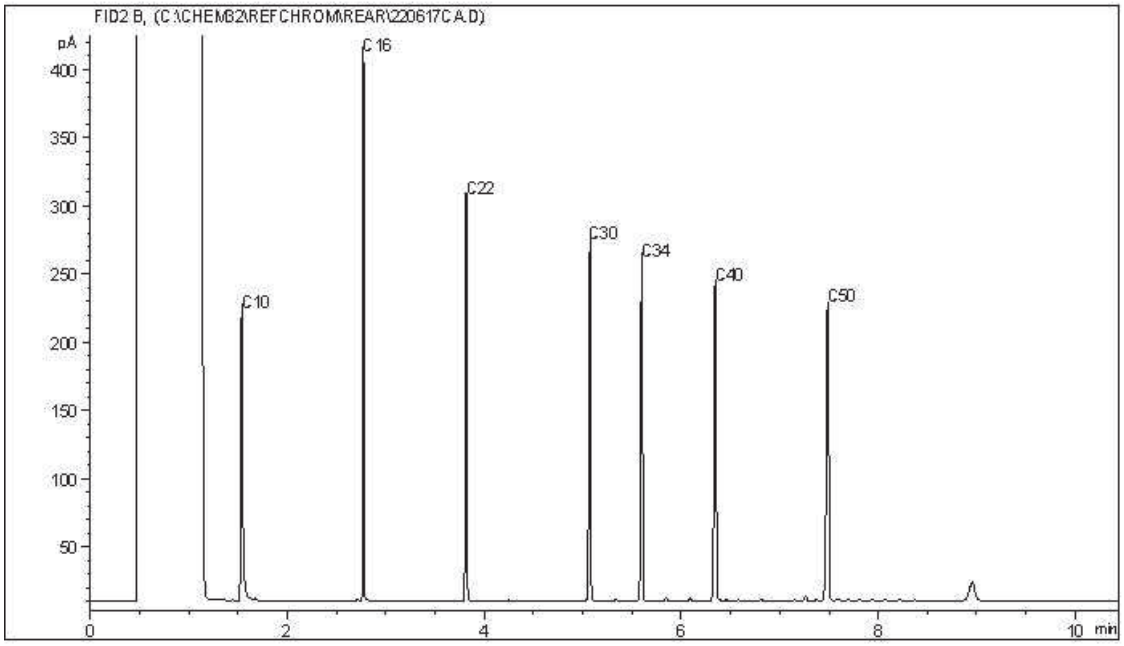
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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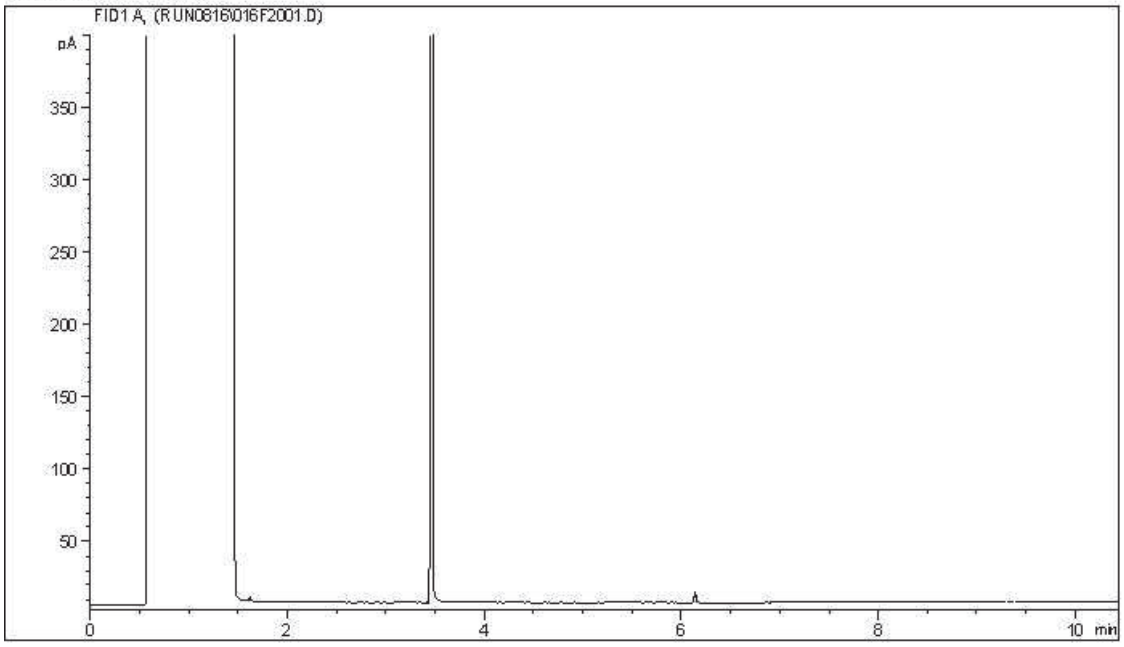
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

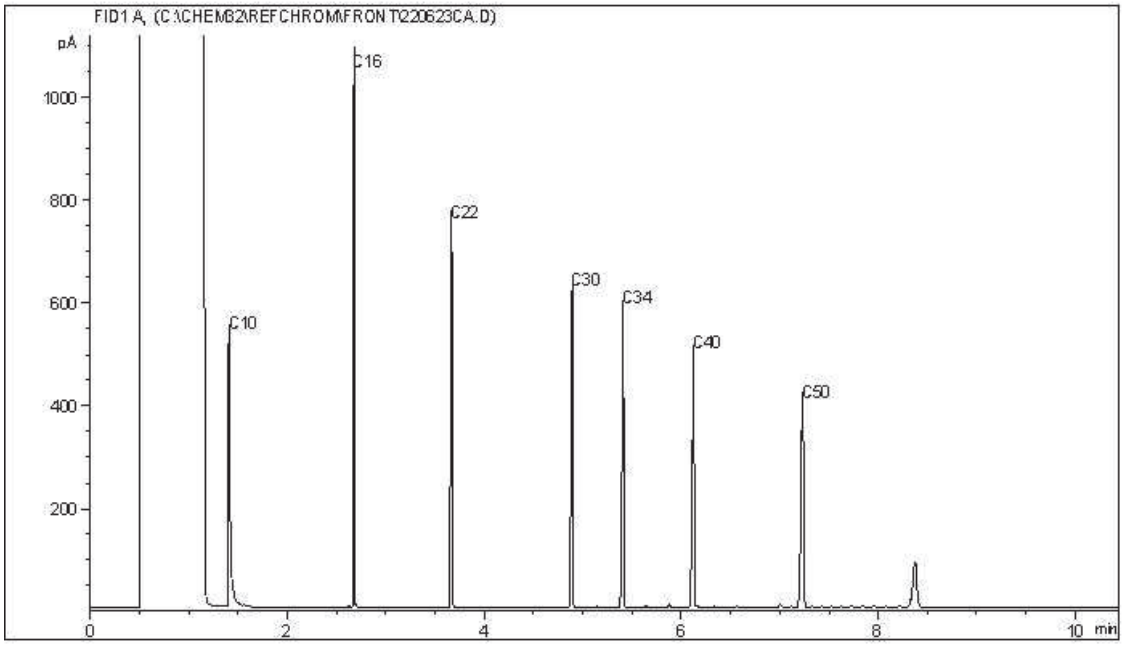
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



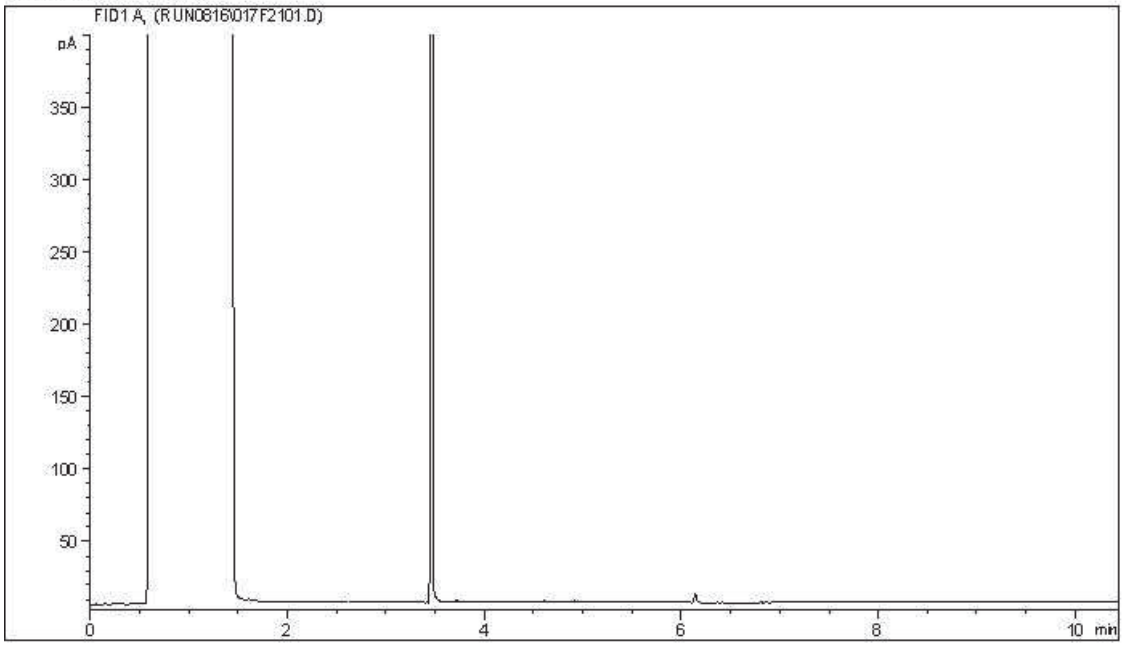
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

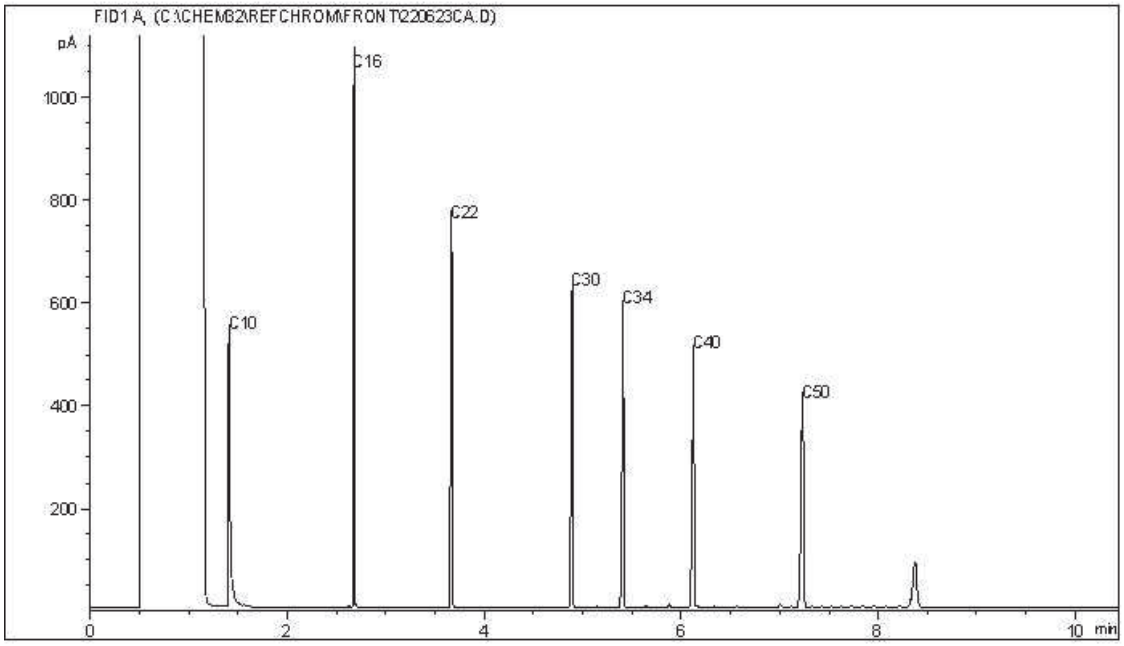
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC
2021 - 41ST STREET NE
Calgary, AB T2E6P2
(403) 291-3077
ATTENTION TO: Cynny Hagen
PROJECT: C260012
AGAT WORK ORDER: 22C940487
SOIL ANALYSIS REVIEWED BY: Loan Nguyen, Senior Analyst
DATE REPORTED: Sep 06, 2022
PAGES (INCLUDING COVER): 7
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005

*Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
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CALGARY, ALBERTA
CANADA T2E 7P7
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FAX (403)735-2771
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Certificate of Analysis

AGAT WORK ORDER: 22C940487

PROJECT: C260012

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Metals - Barium by Fusion ICP

DATE RECEIVED: 2022-09-01

DATE REPORTED: 2022-09-06

				AZM154-BH22-
			SAMPLE DESCRIPTION:	17-01
			SAMPLE TYPE:	Soil
			DATE SAMPLED:	2022-09-01 14:00
Parameter	Unit	G / S	RDL	4266968
True Barium by Fusion ICP	mg/kg		50	11400

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4266968 Result is based on the dry weight of the sample.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940487

PROJECT: C260012

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Sep 06, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals - Barium by Fusion ICP															
Barium by Fusion ICP-OES	4266587		976	977	0.0%	< 40	95%	70%	130%				NA	70%	130%

Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Certified By:

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Method Summary

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940487

PROJECT: C260012

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
True Barium by Fusion ICP	SOIL- 0620, INST- 0140	ASTM D4503.08	ICP/OES

1-SEP '22 PM12:10

Sent To: **AGAT - Calgary**
2910 12th Street NE
Calgary, AB, T2E 7P7
Tel: (403) 735-2005

CHAIN OF CUSTODY RECORD FOR SUBCONTRACTED WORK

COC # C260012-CAGT-01-01

22C940487

REPORT INFORMATION	
Company:	Bureau Veritas
Address:	4000 19st N.E, Calgary, Alberta, T2E 6P8
Contact Name:	Cynny Hagen
Email:	Cynny.HAGEN@bureauveritas.com, Customersolutionswest@bureauveritas.co
Phone:	(403) 735-2273
Lab Project #:	C260012

#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	# CONT.	ANALYSIS REQUESTED: Barium on ICP using Fusion Extraction										ADDITIONAL SAMPLE INFORMATION
1	AZM154-BH22-17-01	SOIL	2022/08/08	14:00	ML	1	X										(P: 01)
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

REGULATORY CRITERIA

SPECIAL INSTRUCTIONS

Please inform Bureau Veritas immediately if:
- You are not accredited for the requested test(s)
- The hold time is approaching for the requested test(s).

Please return a copy of this form with the report.

TURNAROUND TIME

[X] Rush Required

2022/09/07

Date Required

Please inform us if rush charges will be incurred.

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present	–		NA			
Custody Seal Intact	–					
Cooling Media Present	–					

RELINQUISHED BY: (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)	**RECEIVED BY:** (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)
1. Robel Mebrahtu	2022/09/01	09:30	1. Lanz Cera	2022/09/01	12:10
2.			2.		

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Bureau Veritas

Courier: Jazoo Prepaid Collect

Waybill#

Branch: EDM GP FN FM RD VAN LYD FSJ EST SASK Other:

If multiple sites were submitted at once: (Yes) No

Custody Seal Intact: Yes No (NA)

TAT: <24hr 24-48hr 48-72hr Reg Other

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Color , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry:

Hydrocarbons: Earliest Expiry

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack (Bagged Ice) Free Ice Free Water None

Temperature (Bottles/Jars only) (N/A) if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) NA Soil = °C 2(Bottle/Jar) + + = °C

3 (Bottle/Jar) + + = °C 4 (Bottle/Jar) + + = °C

5 (Bottle/Jar) + + = °C 6 (Bottle/Jar) + + = °C

7 (Bottle/Jar) + + = °C 8 (Bottle/Jar) + + = °C

9 (Bottle/Jar) + + = °C 10 (Bottle/Jar) + + = °C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 22C940487

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other:

Account Project Manager: have they been notified of the above issues: Yes No

Whom spoken to: Date/Time:

CPM Initial

General Comments:

* Subcontracted Analysis (See CPM)

Date issued: March 11, 2020
Document ID: SR-9505.004

= IN-CITY =

JAZOO EXPRESS COURIER

www.jazoocourier.com

CLIENT USE ONLY

Sender Name:	Robel Mebrahtu	Receiver Name:	Sample Reception	Billed To:	Bureau Veritas
Date:	2022/09/01	Delivery From:	Bureau Veritas Calgary		
		Delivery To:	AGAT-Calgary 2910 12th street NE Calgary,AB, T2E 7P7		
Total # Items:	2	Item Description: envelope, sm/med/lg box, cooler, etc.	1 Large Cooler, 1 Medium Cooler		
			Job/PO/Reference #:		
Authorized Shipper Signature:					

DRIVER USE ONLY

P/U Driver Name:	BR	P/U Time:	11:50 am	D/O Time:	am
# Items P/U:	2		pm		7:05 pm
# Of Overweight		# Of TDG		# Of Same Day	Surcharge

Additional Info: DONE

Total # Items Dropped Off:	2	D/O Driver Name:	
Authorized Receiver Signature:			

HOTSHOT DETAILS

Total Km:		Or Total Charge ($):	

OFFICE USE ONLY

Verified By:		Invoiced By:	

To schedule a pickup please contact dispatch at the city nearest you:

Calgary	403-660-5504	**Fort McMurray**	587-645-6364
Edmonton	780-903-3628	**Grande Prairie**	587-297-8406

THANK YOU FOR SUPPORTING LOCAL AND CHOOSING JAZOO EXPRESS COURIER.

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC
2021 - 41ST STREET NE
Calgary, AB T2E6P2
(403) 291-3077

ATTENTION TO: Cynny Hagen

PROJECT: C260012

AGAT WORK ORDER: 22C940487

SOIL ANALYSIS REVIEWED BY: Loan Nguyen, Senior Analyst

DATE REPORTED: Sep 06, 2022

PAGES (INCLUDING COVER): 7

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 22C940487

PROJECT: C260012

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Metals - Barium by Fusion ICP

DATE RECEIVED: 2022-09-01

DATE REPORTED: 2022-09-06

			SAMPLE DESCRIPTION:	AZM154-BH22-17-01
			SAMPLE TYPE:	Soil
			DATE SAMPLED:	2022-09-01 14:00
Parameter	Unit	G / S	RDL	4266968
True Barium by Fusion ICP	mg/kg		50	11400

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4266968 Result is based on the dry weight of the sample.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940487

PROJECT: C260012

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Sep 06, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals - Barium by Fusion ICP															
Barium by Fusion ICP-OES	4266587		976	977	0.0%	< 40	95%	70%	130%				NA	70%	130%

Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Method Summary

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940487

PROJECT: C260012

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
True Barium by Fusion ICP	SOIL- 0620, INST- 0140	ASTM D4503.08	ICP/OES

1-SEP '22 PM12:10

Sent To: **AGAT - Calgary**
2910 12th Street NE
Calgary, AB, T2E 7P7
Tel: (403) 735-2005

CHAIN OF CUSTODY RECORD FOR SUBCONTRACTED WORK

COC # C260012-CAGT-01-01

22C940487

REPORT INFORMATION	
Company:	Bureau Veritas
Address:	4000 19st N.E, Calgary, Alberta, T2E 6P8
Contact Name:	Cynny Hagen
Email:	Cynny.HAGEN@bureauveritas.com, Customersolutionswest@bureauveritas.co
Phone:	(403) 735-2273
Lab Project #:	C260012

#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	# CONT.	ANALYSIS REQUESTED: Barium on ICP using Fusion Extraction										ADDITIONAL SAMPLE INFORMATION
1	AZM154-BH22-17-01	SOIL	2022/08/08	14:00	ML	1	X										(P: 01)
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

REGULATORY CRITERIA

SPECIAL INSTRUCTIONS

Please inform Bureau Veritas immediately if:
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- The hold time is approaching for the requested test(s).

Please return a copy of this form with the report.

TURNAROUND TIME

[X] Rush Required

2022/09/07

Date Required

Please inform us if rush charges will be incurred.

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present	–		NA			
Custody Seal Intact	–					
Cooling Media Present	–					

RELINQUISHED BY: (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)	**RECEIVED BY:** (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)
1. Robel Mebrahtu	2022/09/01	09:30	1. Lanz Cera	2022/09/01	12:10
2.			2.		

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Bureau Veritas

Courier: Jazoo Prepaid Collect

Waybill#

Branch: EDM GP FN FM RD VAN LYD FSJ EST SASK Other:

If multiple sites were submitted at once: (Yes) No

Custody Seal Intact: Yes No (NA)

TAT: <24hr 24-48hr 48-72hr Reg Other

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Color , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry:

Hydrocarbons: Earliest Expiry

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack (Bagged Ice) Free Ice Free Water None

Temperature (Bottles/Jars only) (N/A) if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) NA Soil = °C 2(Bottle/Jar) + + = °C

3 (Bottle/Jar) + + = °C 4 (Bottle/Jar) + + = °C

5 (Bottle/Jar) + + = °C 6 (Bottle/Jar) + + = °C

7 (Bottle/Jar) + + = °C 8 (Bottle/Jar) + + = °C

9 (Bottle/Jar) + + = °C 10 (Bottle/Jar) + + = °C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 22C940487

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other:

Account Project Manager: have they been notified of the above issues: Yes No

Whom spoken to: Date/Time:

CPM Initial

General Comments:

* Subcontracted Analysis (See CPM)

Date issued: March 11, 2020
Document ID: SR-9505.004

= IN-CITY =

JAZOO EXPRESS COURIER

www.jazoocourier.com

CLIENT USE ONLY

Sender Name:	Robel Mebrahtu	Receiver Name:	Sample Reception	Billed To:	Bureau Veritas
Date:	2022/09/01	Delivery From:	Bureau Veritas Calgary		
		Delivery To:	AGAT-Calgary 2910 12th street NE Calgary,AB, T2E 7P7		
Total # Items:	2	Item Description: envelope, sm/med/lg box, cooler, etc.	1 Large Cooler, 1 Medium Cooler		
			Job/PO/Reference #:		
Authorized Shipper Signature:					

DRIVER USE ONLY

P/U Driver Name:	BR	P/U Time:	11:50 am	D/O Time:	am
# Items P/U:	2		pm		7:05 pm
# Of Overweight		# Of TDG		# Of Same Day	Surcharge

Additional Info: DONE

Total # Items Dropped Off:	2	D/O Driver Name:	
Authorized Receiver Signature:			

HOTSHOT DETAILS

Total Km:		Or Total Charge ($):	

OFFICE USE ONLY

Verified By:		Invoiced By:	

To schedule a pickup please contact dispatch at the city nearest you:

Calgary	403-660-5504	**Fort McMurray**	587-645-6364
Edmonton	780-903-3628	**Grande Prairie**	587-297-8406

THANK YOU FOR SUPPORTING LOCAL AND CHOOSING JAZOO EXPRESS COURIER.

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell, NT

Sampling Date: August 8, 2022

Golder Project Number: 22525414-1000

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C260012

Was the Cooler Received at the lab under a sealed and intact custody seal?	Yes
Was proper chain of custody of the samples documented and kept?	Yes
Were sample temperatures acceptable when they reached lab?:	Yes
Were all samples analyzed and extracted within hold times?:	Yes
Has lab warranted all tests were in statistical control in CoA?:	Yes
Was sufficient sample provided for the requested analysis?	Yes
Has lab warranted all samples were analyzed with limited headspace present?:	Yes

Are All Laboratory QC Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery		X		Surrogate recovery for o-terphenyl (141%) exceeded
Method Blank Concentration	X			the acceptance criteria (60-140%). Matrix spike
Laboratory Duplicate RPD	X			recovery for vanadium (131%) exceeded the
Matrix Spike Recovery		X		acceptance criteria of (75-125%). All remaining
Blank Spike Recovery	X			laboratory QC results are within acceptance criteria.

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	No field QC samples were collected.
Trip Blank Concentration			X	
Field Duplicate RPD			X	

Is data considered reliable (Yes/No/Suspect)?: Yes

If answer is "No" or "Suspect", describe and provide rationale:

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: August 18, 2022

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/09/06
Report #: R3226709
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260013
Received: 2022/08/12, 09:00

Sample Matrix: Soil
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble) (1)	4	2022/08/16	2022/08/16	AB SOP-00034 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 3)	3	N/A	2022/08/16	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 3)	5	N/A	2022/08/17	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	8	N/A	2022/08/17		Auto Calc
Hexavalent Chromium (1, 4)	4	2022/08/16	2022/08/16	AB SOP-00063	SM 23 3500-Cr B m
Barium on ICP using Fusion Extraction (2)	1	N/A	2022/09/06		
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	7	2022/08/15	2022/08/16	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	1	2022/08/17	2022/08/17	AB SOP-00036	CCME PHC-CWS m
Elements by ICPMS - Soils (1)	1	2022/08/16	2022/08/16	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Elements by ICPMS - Soils (1)	3	2022/08/16	2022/08/17	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Moisture (1)	8	N/A	2022/08/16	AB SOP-00002	CCME PHC-CWS m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/09/06
Report #: R3226709
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260013
Received: 2022/08/12, 09:00

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) This test was performed by AGAT - Calgary, 2910 12th Street NE , Calgary, AB, T2E 7P7
(3) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(4) Some soil samples may react with the Cr(VI) spike reducing it to Cr(III). These samples are highly unlikely to contain native hexavalent chromium. Thus a failed spike recovery does not invalidate a negative result on the native sample.
(5) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
06 Sep 2022 17:26:14

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Cynny Hagen, Key Account Specialist
Email: Cynny.HAGEN@bureauveritas.com
Phone# (403)735-2273

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C260013
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM158	AZM159	AZM159		AZM160		AZM161		
Sampling Date		2022/08/08 11:00	2022/08/08 11:10	2022/08/08 11:10		2022/08/08 11:20		2022/08/08 11:30		
COC Number		1 of 1	1 of 1	1 of 1		1 of 1		1 of 1		
	UNITS	BH22-19-01	BH22-19-02	BH22-19-02 Lab-Dup	RDL	BH22-19-03	RDL	BH22-19-04	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	14	<10	N/A	10	44 (1)	23	<10	10	A681385
F3 (C16-C34 Hydrocarbons)	mg/kg	160	<50	N/A	50	580 (1)	110	<50	50	A681385
F4 (C34-C50 Hydrocarbons)	mg/kg	73	<50	N/A	50	190 (1)	110	<50	50	A681385
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	N/A	Yes	N/A	Yes	N/A	A681385
Physical Properties										
Moisture	%	10	4.9	4.1	0.30	57	0.30	17	0.30	A681498
Volatiles										
Xylenes (Total)	mg/kg	<0.045	<0.045	N/A	0.045	<0.14	0.14	<0.045	0.045	A679841
F1 (C6-C10) - BTEX	mg/kg	<10	<10	N/A	10	<15	15	<10	10	A679841
Field Preserved Volatiles										
Benzene	mg/kg	<0.0050	<0.0050	N/A	0.0050	<0.014 (2)	0.014	<0.0050	0.0050	A680671
Toluene	mg/kg	<0.050	<0.050	N/A	0.050	<0.050 (2)	0.050	<0.050	0.050	A680671
Ethylbenzene	mg/kg	<0.010	<0.010	N/A	0.010	<0.021 (2)	0.021	<0.010	0.010	A680671
m & p-Xylene	mg/kg	<0.040	<0.040	N/A	0.040	<0.13 (3)	0.13	<0.040	0.040	A680671
o-Xylene	mg/kg	<0.020	<0.020	N/A	0.020	<0.064 (3)	0.064	<0.020	0.020	A680671
F1 (C6-C10)	mg/kg	<10	<10	N/A	10	<15 (2)	15	<10	10	A680671
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	98	97	N/A	N/A	96	N/A	96	N/A	A680671
4-Bromofluorobenzene (sur.)	%	99	100	N/A	N/A	99	N/A	99	N/A	A680671
D10-o-Xylene (sur.)	%	98	94	N/A	N/A	102	N/A	111	N/A	A680671
D4-1,2-Dichloroethane (sur.)	%	97	97	N/A	N/A	99	N/A	99	N/A	A680671
O-TERPHENYL (sur.)	%	127	91	N/A	N/A	135	N/A	129	N/A	A681385

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Detection limits raised due to high moisture content, sample contains => 50% moisture.
(2) Detection limit reported based on MDL and sample weight used for analysis.
(3) Detection limits raised based on sample weight used for analysis.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260013
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM162	AZM163		AZM164		AZM165		
Sampling Date		2022/08/08 09:40	2022/08/08 09:40		2022/08/08 09:50		2022/08/08 10:00		
COC Number		1 of 1	1 of 1		1 of 1		1 of 1		
	UNITS	BH22-27-05	DUP C	RDL	BH22-27-06	RDL	BH22-27-07	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	22	25	10	<10	10	<10	10	A681385
F3 (C16-C34 Hydrocarbons)	mg/kg	88	140	50	<50	50	<50	50	A681385
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	54	50	<50	50	<50	50	A681385
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	Yes	N/A	Yes	N/A	A681385
Physical Properties									
Moisture	%	18	22	0.30	18	0.30	16	0.30	A681498
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	0.045	<0.11	0.11	<0.045	0.045	A679841
F1 (C6-C10) - BTEX	mg/kg	<10	<10	10	<12	12	<10	10	A679841
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	0.0050	<0.011 (1)	0.011	<0.0050	0.0050	A680671
Toluene	mg/kg	<0.050	<0.050	0.050	<0.050 (1)	0.050	<0.050	0.050	A680671
Ethylbenzene	mg/kg	<0.010	<0.010	0.010	<0.017 (1)	0.017	<0.010	0.010	A680671
m & p-Xylene	mg/kg	<0.040	<0.040	0.040	<0.10 (2)	0.10	<0.040	0.040	A680671
o-Xylene	mg/kg	<0.020	<0.020	0.020	<0.051 (2)	0.051	<0.020	0.020	A680671
F1 (C6-C10)	mg/kg	<10	<10	10	<12 (1)	12	<10	10	A680671
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	102	103	N/A	93	N/A	97	N/A	A680671
4-Bromofluorobenzene (sur.)	%	87	86	N/A	99	N/A	99	N/A	A680671
D10-o-Xylene (sur.)	%	119	113	N/A	155 (3)	N/A	101	N/A	A680671
D4-1,2-Dichloroethane (sur.)	%	115	119	N/A	103	N/A	99	N/A	A680671
O-TERPHENYL (sur.)	%	128	138	N/A	131	N/A	130	N/A	A681385

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limit reported based on MDL and sample weight used for analysis.
(2) Detection limits raised based on sample weight used for analysis.
(3) Surrogate recovery exceeds acceptance criteria (high recovery). As results are non-detect, there is no impact on data quality.

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GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

CCME REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AZM158		AZM159		AZM160			AZM161		
Sampling Date		2022/08/08 11:00		2022/08/08 11:10		2022/08/08 11:20			2022/08/08 11:30		
COC Number		1 of 1		1 of 1		1 of 1			1 of 1		
	UNITS	BH22-19-01	QC Batch	BH22-19-02	RDL	BH22-19-03	RDL	QC Batch	BH22-19-04	RDL	QC Batch
Elements											
Soluble (Hot water) Boron (B)	mg/kg	0.47	A683000	0.13	0.10	0.74	0.30	A683000	<0.10	0.10	A683007
Hex. Chromium (Cr 6+)	mg/kg	<0.080	A682697	<0.080	0.080	<0.18 (1)	0.18	A682694	<0.080	0.080	A682694
Total Antimony (Sb)	mg/kg	0.61	A683223	<0.50	0.50	<0.50	0.50	A683223	<0.50	0.50	A682439
Total Arsenic (As)	mg/kg	4.0	A683223	4.4	1.0	2.7	1.0	A683223	6.3	1.0	A682439
Total Barium (Ba)	mg/kg	1300	A683223	200	1.0	290	1.0	A683223	310	1.0	A682439
Total Beryllium (Be)	mg/kg	<0.40	A683223	<0.40	0.40	<0.40	0.40	A683223	<0.40	0.40	A682439
Total Cadmium (Cd)	mg/kg	0.13	A683223	<0.050	0.050	0.33	0.050	A683223	0.069	0.050	A682439
Total Chromium (Cr)	mg/kg	5.5	A683223	5.8	1.0	7.8	1.0	A683223	12	1.0	A682439
Total Cobalt (Co)	mg/kg	1.8	A683223	1.5	0.50	4.0	0.50	A683223	3.7	0.50	A682439
Total Copper (Cu)	mg/kg	15	A683223	3.5	1.0	7.5	1.0	A683223	5.6	1.0	A682439
Total Lead (Pb)	mg/kg	38	A683223	6.7	0.50	4.6	0.50	A683223	6.9	0.50	A682439
Total Mercury (Hg)	mg/kg	<0.050	A683223	<0.050	0.050	0.051	0.050	A683223	<0.050	0.050	A682439
Total Molybdenum (Mo)	mg/kg	0.75	A683223	0.67	0.40	0.63	0.40	A683223	1.2	0.40	A682439
Total Nickel (Ni)	mg/kg	4.6	A683223	3.8	1.0	17	1.0	A683223	10	1.0	A682439
Total Selenium (Se)	mg/kg	<0.50	A683223	<0.50	0.50	0.77	0.50	A683223	<0.50	0.50	A682439
Total Silver (Ag)	mg/kg	<0.20	A683223	<0.20	0.20	<0.20	0.20	A683223	<0.20	0.20	A682439
Total Thallium (Tl)	mg/kg	<0.10	A683223	<0.10	0.10	<0.10	0.10	A683223	<0.10	0.10	A682439
Total Tin (Sn)	mg/kg	<1.0	A683223	<1.0	1.0	<1.0	1.0	A683223	<1.0	1.0	A682439
Total Uranium (U)	mg/kg	0.36	A683223	0.35	0.20	0.55	0.20	A683223	0.31	0.20	A682439
Total Vanadium (V)	mg/kg	9.2	A683223	11	1.0	20	1.0	A683223	15	1.0	A682439
Total Zinc (Zn)	mg/kg	68	A683223	11	10	<10	10	A683223	29	10	A682439

RDL = Reportable Detection Limit
(1) Detection limits raised due to high moisture content, samples contain => 50% moisture.

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Bureau Veritas Job #: C260013
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

RESULTS OF CHEMICAL ANALYSES OF SOIL

Bureau Veritas ID		AZM158	
Sampling Date		2022/08/08 11:00	
COC Number		1 of 1	
	UNITS	**BH22-19-01**	**QC Batch**
Parameter			
Subcontract Parameter	N/A	ATTACHED	A705550

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Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.7°C

Version 2: Report reissued to include Chromatogram analysis on sample AZM160/BH22-19-03 as per client request received 2022/08/18.

Version 3: Report reissued to include results for Barium - True Total on sample BH22-19-01/AZM158 as per client request received 2022/08/24.

Sample AZM158 [BH22-19-01] : Please see attachment for Barium on ICP using Fusion Extraction results.

CCME REGULATED METALS - SOILS (SOIL) Comments

Sample AZM160 [BH22-19-03] Boron (Hot Water Soluble): Detection limits raised based on sample weight used for analysis.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A680671	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2022/08/16		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		100	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		105	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		99	%	50 - 140
			Benzene	2022/08/16		102	%	50 - 140
			Toluene	2022/08/16		100	%	50 - 140
			Ethylbenzene	2022/08/16		99	%	50 - 140
			m & p-Xylene	2022/08/16		100	%	50 - 140
			o-Xylene	2022/08/16		99	%	50 - 140
			F1 (C6-C10)	2022/08/16		104	%	60 - 140
A680671	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2022/08/16		97	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		100	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		93	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		99	%	50 - 140
			Benzene	2022/08/16		98	%	60 - 130
			Toluene	2022/08/16		94	%	60 - 130
			Ethylbenzene	2022/08/16		95	%	60 - 130
			m & p-Xylene	2022/08/16		93	%	60 - 130
			o-Xylene	2022/08/16		93	%	60 - 130
			F1 (C6-C10)	2022/08/16		97	%	60 - 140
A680671	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2022/08/17		98	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/17		106	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/17		104	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/17		96	%	50 - 140
			Benzene	2022/08/17	<0.0050		mg/kg	
			Toluene	2022/08/17	<0.050		mg/kg	
			Ethylbenzene	2022/08/17	<0.010		mg/kg	
			m & p-Xylene	2022/08/17	<0.040		mg/kg	
			o-Xylene	2022/08/17	<0.020		mg/kg	
			F1 (C6-C10)	2022/08/17	<10		mg/kg	
A680671	DO1	RPD	Benzene	2022/08/17	9.8		%	50
			Toluene	2022/08/17	NC		%	50
			Ethylbenzene	2022/08/17	24		%	50
			m & p-Xylene	2022/08/17	NC		%	50
			o-Xylene	2022/08/17	NC		%	50
			F1 (C6-C10)	2022/08/17	NC		%	30
A681385	VP4	Matrix Spike	O-TERPHENYL (sur.)	2022/08/16		134	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16		128	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/16		131	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/16		128	%	60 - 140
A681385	VP4	Spiked Blank	O-TERPHENYL (sur.)	2022/08/16		116	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16		113	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/16		117	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/16		114	%	60 - 140
A681385	VP4	Method Blank	O-TERPHENYL (sur.)	2022/08/16		128	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2022/08/16	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2022/08/16	<50		mg/kg	
A681385	VP4	RPD	F2 (C10-C16 Hydrocarbons)	2022/08/16	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2022/08/16	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2022/08/16	NC		%	40
A681498	A1H	Method Blank	Moisture	2022/08/16	<0.30		%	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A681498	A1H	RPD [AZM159-02]	Moisture	2022/08/16	18		%	20
A682439	KH2	Matrix Spike	Total Antimony (Sb)	2022/08/16		94	%	75 - 125
			Total Arsenic (As)	2022/08/16		99	%	75 - 125
			Total Barium (Ba)	2022/08/16		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/16		101	%	75 - 125
			Total Cadmium (Cd)	2022/08/16		100	%	75 - 125
			Total Chromium (Cr)	2022/08/16		121	%	75 - 125
			Total Cobalt (Co)	2022/08/16		100	%	75 - 125
			Total Copper (Cu)	2022/08/16		97	%	75 - 125
			Total Lead (Pb)	2022/08/16		96	%	75 - 125
			Total Mercury (Hg)	2022/08/16		88	%	75 - 125
			Total Molybdenum (Mo)	2022/08/16		102	%	75 - 125
			Total Nickel (Ni)	2022/08/16		103	%	75 - 125
			Total Selenium (Se)	2022/08/16		100	%	75 - 125
			Total Silver (Ag)	2022/08/16		100	%	75 - 125
			Total Thallium (Tl)	2022/08/16		95	%	75 - 125
			Total Tin (Sn)	2022/08/16		102	%	75 - 125
			Total Uranium (U)	2022/08/16		91	%	75 - 125
			Total Vanadium (V)	2022/08/16		151 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/16		NC	%	75 - 125
A682439	KH2	QC Standard	Total Antimony (Sb)	2022/08/16		114	%	15 - 182
			Total Arsenic (As)	2022/08/16		108	%	53 - 147
			Total Barium (Ba)	2022/08/16		105	%	80 - 119
			Total Cadmium (Cd)	2022/08/16		105	%	72 - 128
			Total Chromium (Cr)	2022/08/16		99	%	59 - 141
			Total Cobalt (Co)	2022/08/16		100	%	58 - 142
			Total Copper (Cu)	2022/08/16		99	%	83 - 117
			Total Lead (Pb)	2022/08/16		112	%	79 - 121
			Total Molybdenum (Mo)	2022/08/16		119	%	67 - 133
			Total Nickel (Ni)	2022/08/16		112	%	79 - 121
			Total Silver (Ag)	2022/08/16		101	%	47 - 153
			Total Tin (Sn)	2022/08/16		103	%	67 - 133
			Total Uranium (U)	2022/08/16		89	%	77 - 123
			Total Vanadium (V)	2022/08/16		103	%	79 - 121
			Total Zinc (Zn)	2022/08/16		107	%	79 - 121
A682439	KH2	Spiked Blank	Total Antimony (Sb)	2022/08/16		107	%	80 - 120
			Total Arsenic (As)	2022/08/16		98	%	80 - 120
			Total Barium (Ba)	2022/08/16		101	%	80 - 120
			Total Beryllium (Be)	2022/08/16		97	%	80 - 120
			Total Cadmium (Cd)	2022/08/16		99	%	80 - 120
			Total Chromium (Cr)	2022/08/16		99	%	80 - 120
			Total Cobalt (Co)	2022/08/16		99	%	80 - 120
			Total Copper (Cu)	2022/08/16		98	%	80 - 120
			Total Lead (Pb)	2022/08/16		98	%	80 - 120
			Total Mercury (Hg)	2022/08/16		99	%	80 - 120
			Total Molybdenum (Mo)	2022/08/16		100	%	80 - 120
			Total Nickel (Ni)	2022/08/16		99	%	80 - 120
			Total Selenium (Se)	2022/08/16		103	%	80 - 120
			Total Silver (Ag)	2022/08/16		99	%	80 - 120
			Total Thallium (Tl)	2022/08/16		99	%	80 - 120
			Total Tin (Sn)	2022/08/16		99	%	80 - 120
			Total Uranium (U)	2022/08/16		97	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Vanadium (V)	2022/08/16		99	%	80 - 120
			Total Zinc (Zn)	2022/08/16		100	%	80 - 120
A682439	KH2	Method Blank	Total Antimony (Sb)	2022/08/16	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/16	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/16	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/16	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/16	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/16	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/16	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/16	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/16	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/16	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/16	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/16	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/16	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/16	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/16	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/16	<1.0		mg/kg	
			Total Uranium (U)	2022/08/16	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/16	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/16	<10		mg/kg	
A682439	KH2	RPD	Total Antimony (Sb)	2022/08/16	1.3		%	30
			Total Arsenic (As)	2022/08/16	4.3		%	30
			Total Barium (Ba)	2022/08/16	1.5		%	35
			Total Beryllium (Be)	2022/08/16	4.5		%	30
			Total Cadmium (Cd)	2022/08/16	3.3		%	30
			Total Chromium (Cr)	2022/08/16	3.6		%	30
			Total Cobalt (Co)	2022/08/16	3.3		%	30
			Total Copper (Cu)	2022/08/16	4.5		%	30
			Total Lead (Pb)	2022/08/16	2.1		%	35
			Total Mercury (Hg)	2022/08/16	0.65		%	35
			Total Molybdenum (Mo)	2022/08/16	0.18		%	35
			Total Nickel (Ni)	2022/08/16	4.3		%	30
			Total Selenium (Se)	2022/08/16	NC		%	30
			Total Silver (Ag)	2022/08/16	NC		%	35
			Total Thallium (Tl)	2022/08/16	3.6		%	30
			Total Tin (Sn)	2022/08/16	NC		%	35
			Total Uranium (U)	2022/08/16	2.5		%	30
			Total Vanadium (V)	2022/08/16	4.0		%	30
			Total Zinc (Zn)	2022/08/16	3.1		%	30
A682694	FM0	Matrix Spike	Hex. Chromium (Cr 6+)	2022/08/16		96	%	75 - 125
A682694	FM0	Spiked Blank	Hex. Chromium (Cr 6+)	2022/08/16		104	%	80 - 120
A682694	FM0	Method Blank	Hex. Chromium (Cr 6+)	2022/08/16	<0.080		mg/kg	
A682694	FM0	RPD	Hex. Chromium (Cr 6+)	2022/08/16	NC		%	35
A682697	FM0	Matrix Spike	Hex. Chromium (Cr 6+)	2022/08/16		97	%	75 - 125
A682697	FM0	Spiked Blank	Hex. Chromium (Cr 6+)	2022/08/16		98	%	80 - 120
A682697	FM0	Method Blank	Hex. Chromium (Cr 6+)	2022/08/16	<0.080		mg/kg	
A682697	FM0	RPD	Hex. Chromium (Cr 6+)	2022/08/16	NC		%	35
A683000	MPU	Matrix Spike	Soluble (Hot water) Boron (B)	2022/08/16		95	%	75 - 125
A683000	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/16		89	%	80 - 120
A683000	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/16	<0.10		mg/kg	
A683000	MPU	RPD	Soluble (Hot water) Boron (B)	2022/08/16	4.3		%	35

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A683007	MPU	Matrix Spike	Soluble (Hot water) Boron (B)	2022/08/16		91	%	75 - 125
A683007	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/16		94	%	80 - 120
A683007	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/16	<0.10		mg/kg	
A683007	MPU	RPD	Soluble (Hot water) Boron (B)	2022/08/16	6.8		%	35
A683223	KH2	Matrix Spike	Total Antimony (Sb)	2022/08/17		104	%	75 - 125
			Total Arsenic (As)	2022/08/17		100	%	75 - 125
			Total Barium (Ba)	2022/08/17		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/17		105	%	75 - 125
			Total Cadmium (Cd)	2022/08/17		101	%	75 - 125
			Total Chromium (Cr)	2022/08/17		113	%	75 - 125
			Total Cobalt (Co)	2022/08/17		102	%	75 - 125
			Total Copper (Cu)	2022/08/17		101	%	75 - 125
			Total Lead (Pb)	2022/08/17		103	%	75 - 125
			Total Mercury (Hg)	2022/08/17		101	%	75 - 125
			Total Molybdenum (Mo)	2022/08/17		106	%	75 - 125
			Total Nickel (Ni)	2022/08/17		106	%	75 - 125
			Total Selenium (Se)	2022/08/17		100	%	75 - 125
			Total Silver (Ag)	2022/08/17		104	%	75 - 125
			Total Thallium (Tl)	2022/08/17		102	%	75 - 125
			Total Tin (Sn)	2022/08/17		105	%	75 - 125
			Total Uranium (U)	2022/08/17		101	%	75 - 125
			Total Vanadium (V)	2022/08/17		131 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/17		113	%	75 - 125
A683223	KH2	QC Standard	Total Antimony (Sb)	2022/08/17		96	%	15 - 182
			Total Arsenic (As)	2022/08/17		73	%	53 - 147
			Total Barium (Ba)	2022/08/17		89	%	80 - 119
			Total Cadmium (Cd)	2022/08/17		85	%	72 - 128
			Total Chromium (Cr)	2022/08/17		78	%	59 - 141
			Total Cobalt (Co)	2022/08/17		73	%	58 - 142
			Total Copper (Cu)	2022/08/17		101	%	83 - 117
			Total Lead (Pb)	2022/08/17		98	%	79 - 121
			Total Molybdenum (Mo)	2022/08/17		112	%	67 - 133
			Total Nickel (Ni)	2022/08/17		81	%	79 - 121
			Total Silver (Ag)	2022/08/17		80	%	47 - 153
			Total Tin (Sn)	2022/08/17		86	%	67 - 133
			Total Uranium (U)	2022/08/17		81	%	77 - 123
			Total Vanadium (V)	2022/08/17		79	%	79 - 121
			Total Zinc (Zn)	2022/08/17		101	%	79 - 121
A683223	KH2	Spiked Blank	Total Antimony (Sb)	2022/08/17		101	%	80 - 120
			Total Arsenic (As)	2022/08/17		94	%	80 - 120
			Total Barium (Ba)	2022/08/17		97	%	80 - 120
			Total Beryllium (Be)	2022/08/17		98	%	80 - 120
			Total Cadmium (Cd)	2022/08/17		96	%	80 - 120
			Total Chromium (Cr)	2022/08/17		97	%	80 - 120
			Total Cobalt (Co)	2022/08/17		97	%	80 - 120
			Total Copper (Cu)	2022/08/17		97	%	80 - 120
			Total Lead (Pb)	2022/08/17		97	%	80 - 120
			Total Mercury (Hg)	2022/08/17		102	%	80 - 120
			Total Molybdenum (Mo)	2022/08/17		99	%	80 - 120
			Total Nickel (Ni)	2022/08/17		96	%	80 - 120
			Total Selenium (Se)	2022/08/17		96	%	80 - 120
			Total Silver (Ag)	2022/08/17		98	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Thallium (Tl)	2022/08/17		98	%	80 - 120
			Total Tin (Sn)	2022/08/17		97	%	80 - 120
			Total Uranium (U)	2022/08/17		98	%	80 - 120
			Total Vanadium (V)	2022/08/17		98	%	80 - 120
			Total Zinc (Zn)	2022/08/17		95	%	80 - 120
A683223	KH2	Method Blank	Total Antimony (Sb)	2022/08/17	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/17	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/17	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/17	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/17	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/17	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/17	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/17	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/17	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/17	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/17	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/17	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/17	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/17	<1.0		mg/kg	
			Total Uranium (U)	2022/08/17	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/17	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/17	<10		mg/kg	
A683223	KH2	RPD	Total Antimony (Sb)	2022/08/17	NC		%	30
			Total Arsenic (As)	2022/08/17	10		%	30
			Total Barium (Ba)	2022/08/17	14		%	35
			Total Beryllium (Be)	2022/08/17	NC		%	30
			Total Cadmium (Cd)	2022/08/17	0.64		%	30
			Total Chromium (Cr)	2022/08/17	7.9		%	30
			Total Cobalt (Co)	2022/08/17	7.9		%	30
			Total Copper (Cu)	2022/08/17	5.9		%	30
			Total Lead (Pb)	2022/08/17	3.3		%	35
			Total Mercury (Hg)	2022/08/17	NC		%	35
			Total Molybdenum (Mo)	2022/08/17	2.7		%	35
			Total Nickel (Ni)	2022/08/17	4.8		%	30
			Total Selenium (Se)	2022/08/17	NC		%	30
			Total Silver (Ag)	2022/08/17	NC		%	35
			Total Thallium (Tl)	2022/08/17	NC		%	30
			Total Tin (Sn)	2022/08/17	NC		%	35
			Total Uranium (U)	2022/08/17	5.0		%	30
			Total Vanadium (V)	2022/08/17	11		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Zinc (Zn)	2022/08/17	6.1		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

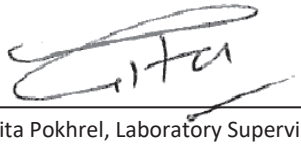
Bureau Veritas Job #: C260013
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

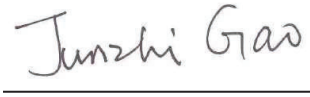
VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

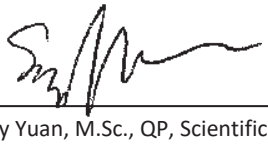
Chantal Vincent, Customer Solutions Representative



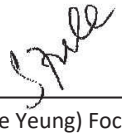
Gita Pokhrel, Laboratory Supervisor



Janet Gao, B.Sc., QP, Supervisor, Organics



Sandy Yuan, M.Sc., QP, Scientific Specialist



Suwan (Sze Yeung) Fock, B.Sc., Scientific Specialist

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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BUREAU VERITAS

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #	
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(For coolers # 7 to 10)

COOLER OBSERVATIONS:

	YES	NO	COOLER ID	TEMP 1	TEMP 2	TEMP 3
CUSTODY SEAL						
PRESENT	✓			3	1	1
INTACT	✓					
ICE PRESENT	✓					
CUSTODY SEAL						
PRESENT	✓			6	3	9
INTACT	✓					
ICE PRESENT	✓					
CUSTODY SEAL						
PRESENT	✓			1	3	8
INTACT	✓					
ICE PRESENT	✓					
CUSTODY SEAL						
PRESENT	✓			6	6	9
INTACT	✓					
ICE PRESENT	✓					
CUSTODY SEAL						
PRESENT						
INTACT						
ICE PRESENT						
CUSTODY SEAL						
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INTACT						
ICE PRESENT						
CUSTODY SEAL						
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INTACT						
ICE PRESENT						
CUSTODY SEAL						
PRESENT						
INTACT						
ICE PRESENT						

BV JOB#: C260013

	YES	NO	COOLER ID	TEMP 1	TEMP 2	TEMP 3
CUSTODY SEAL						
PRESENT						
INTACT						
ICE PRESENT						
CUSTODY SEAL						
PRESENT						
INTACT						
ICE PRESENT						
CUSTODY SEAL						
PRESENT						
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CUSTODY SEAL						
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INTACT						
ICE PRESENT						

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
J. NERATO	[illegible]	2022/08/12	9:00h

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CHAIN OF CUSTODY RECORD

ENV COC - 00013v3

634 Page 1 of 1

12-Aug-22 09:00
Cynny Hagen
C260013
IKA INS-0001

Invoice Information	Invoice to (requires report) ☐	Report Information (if differs from invoice)		Project Information	
Company:	Client #254, Golder Associates	Company:	Golder Associates	Quotation #:	Shell
Contact Name:	237 - 4 Ave SW Suite 3300	Contact Name:	Aurelie Bellavance	P.O. #/ AFE#:	22525414-1100-1104
Street Address:		Street Address:		Project #:	22525414-1000
City:	Calgary Prov: AB Postal Code:	City:	Calgary AB Postal Code: T2P 4K3	Site #:	Camp Farewell NA
Phone:		Phone:	403-299-5600	Site Location:	~~WEST CHANNEL~~, NT
Email:	Canada Account Payable	Email:	aurelie.bellavance@wsp.com	Site Location Province:	NT
Copies:		Copies:	peter.tan@wsp.com	Sampled By:	Melissa Lord, Harmanjeet Kaur

Regulatory Criteria

☐ AT1 ☐ CCME ☐ Drinking Water - Canada ☐ Drinking Water - Manitoba
☐ Saskatchewan ☐ Drinking Water - Alberta ☒ Other AMSRP

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

#	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX F1-F4	5 PAHS	6 BTEX F1-F2	7 BARIUM TRUE TOTAL	8 Routine water	9 Regulated metals - total	10 Regulated metals - dissolved	11 Mercury - total	12 Mercury - dissolved	13 Salinity 4	14 Sieve (75 micron)	15 Texture (% sand, silt, clay)	16 Basic class II landfill	17	18	19	20 LIMITED SAMPLE	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	Comments
1	BH22-19-01	22	08	08	11	00	Soil				X			~~X~~ ML		X											X	4		email report to:
2	BH22-19-02	22	08	08	11	10	Soil				X			~~X~~ ML		X											X	4		gld.ShellDQR@equis.com
3	BH22-19-03	22	08	08	11	20	Soil				X			~~X~~ ML		X											X	4		gld.iol-equis@wsp.com
4	BH22-19-04	22	08	08	11	30	Soil				X			~~X~~ ML		X											X	4		upload to facility
5	BH22-27-05	22	08	08	09	40	Soil				X																	3		41259544
6	DUP C	22	08	08	09	40	Soil				X																	3		
7	BH22-27-06	22	08	08	09	50	Soil				X																	3		Received in Yellowknife
8	BH22-27-07	22	08	08	10	00	Soil				X																	3		By: J. McLeod @ 9:00
9																														AUG 12 2022
10																														ICE-yes/CS-4
11																														
12																														Temp: 3 / 1 / 1

Regular Turnaround Time (TAT): ☐ 5 to 7 Day ☐ 10 Day
Rush Turnaround Time (TAT) Surcharges apply: ☐ Same Day ☐ 1 Day ☒ 2 Day ☐ 3 Day ☐ 4 Day
Date Required: YY MM DD

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present	/			5.2	5.1	5.2
Seal intact	/					
Cooling media present	/					

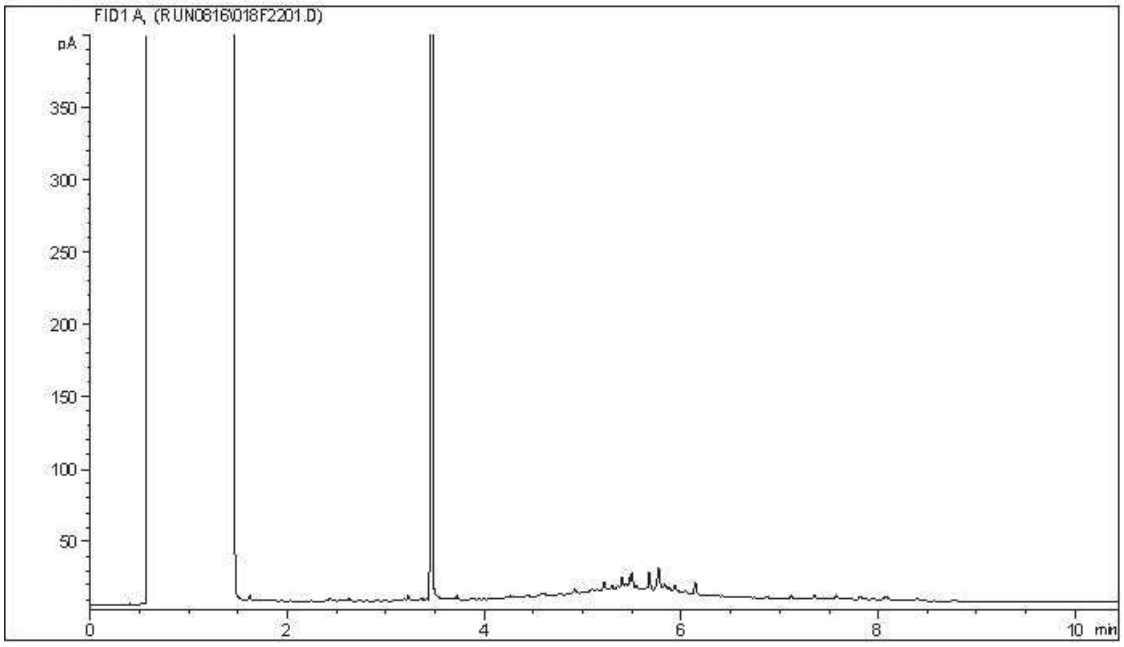
LAB USE ONLY	Yes	No	°C 1	2	3
Seal present					
Seal intact					
Cooling media present					

LAB USE ONLY	Yes	No	°C 1	2	3	Temperature reading by:
Seal present						
Seal intact						
Cooling media present						

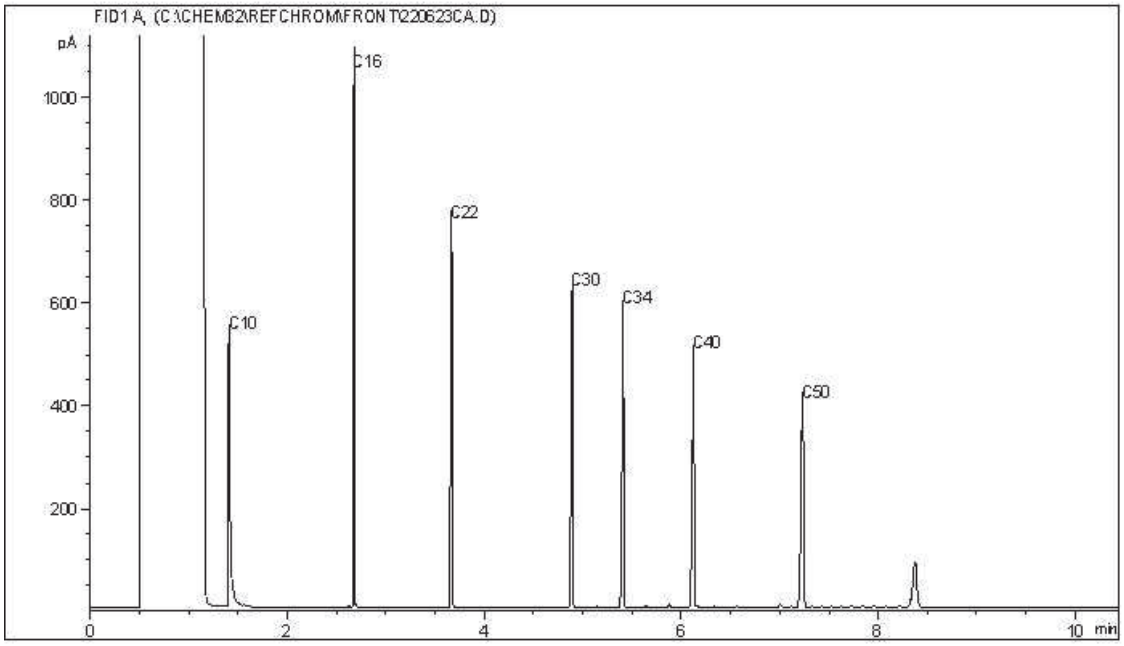
	Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Received by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Special instructions
1	[signature] / Melissa Lord	22	08	09	08	00	[signature] Sarah Dolan	2022	08	13	15	03	
2													

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



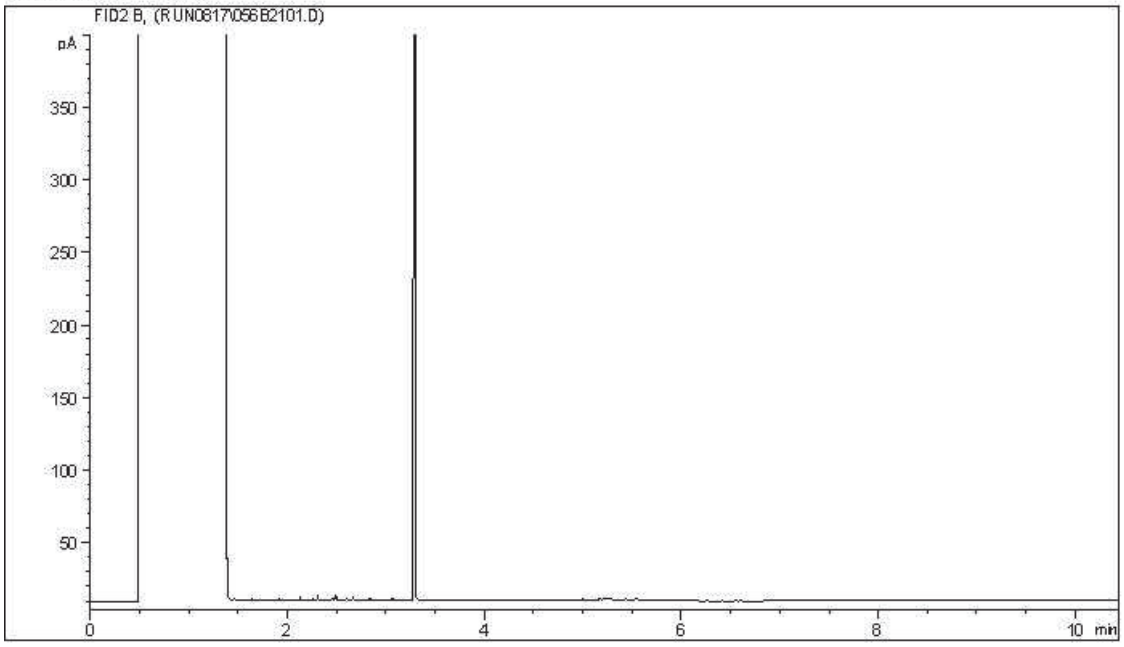
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

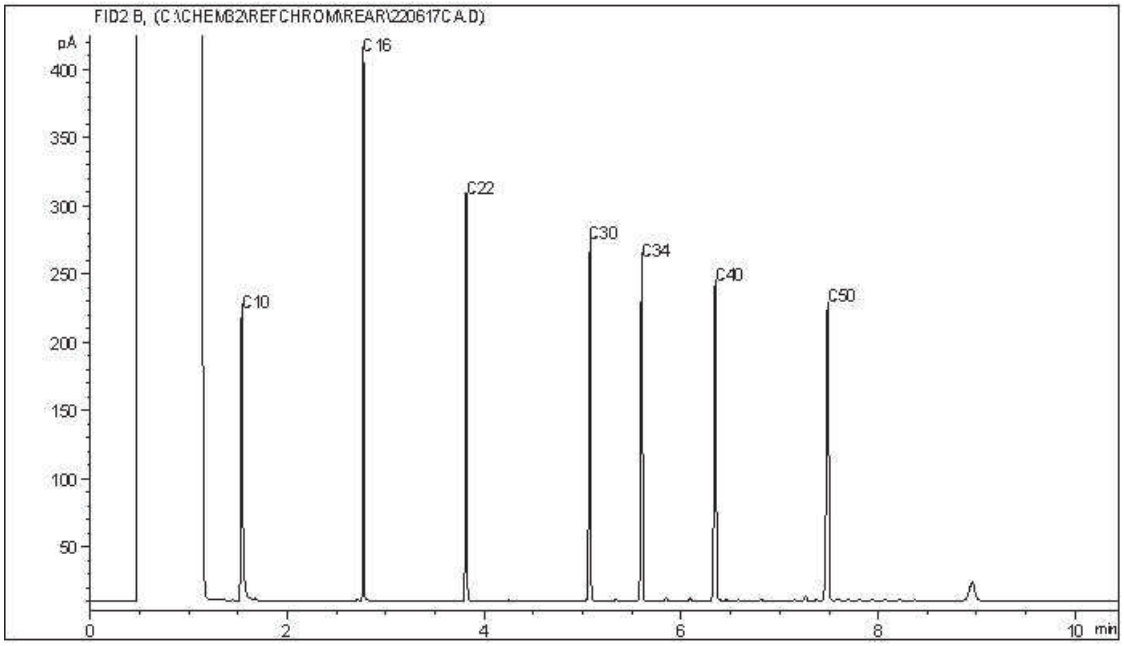
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



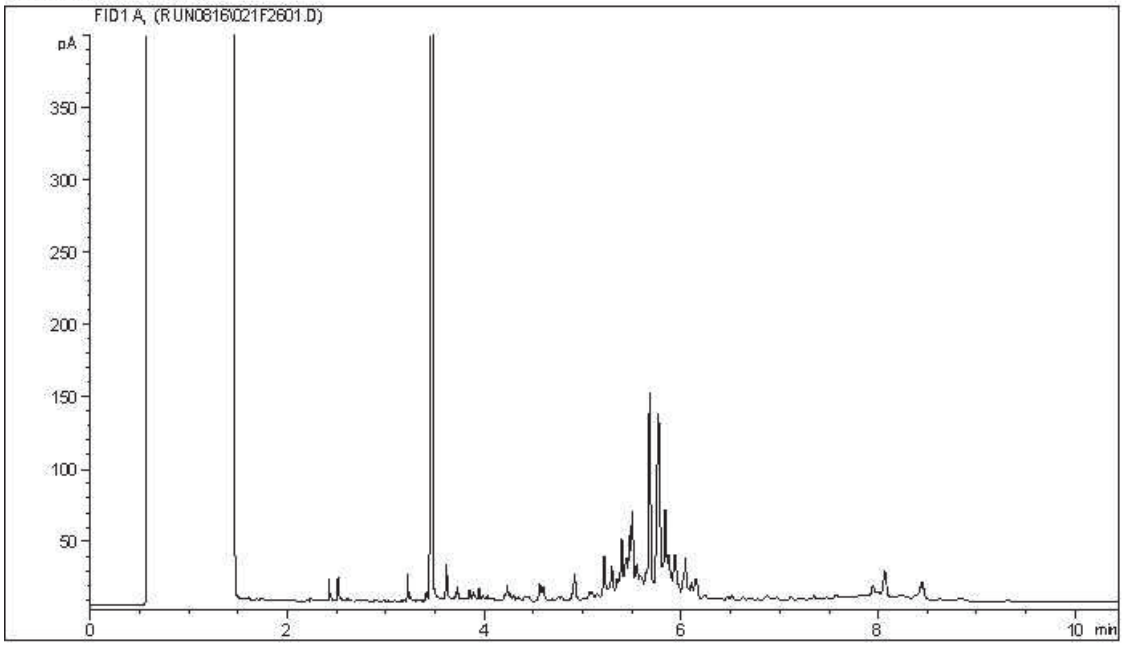
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

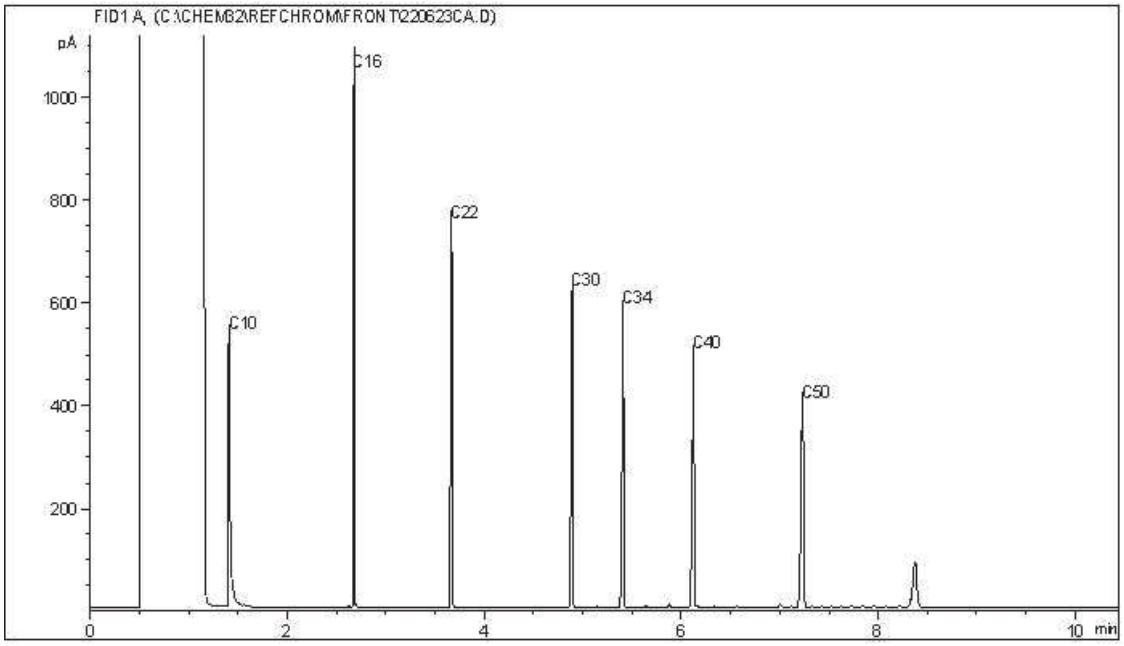
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



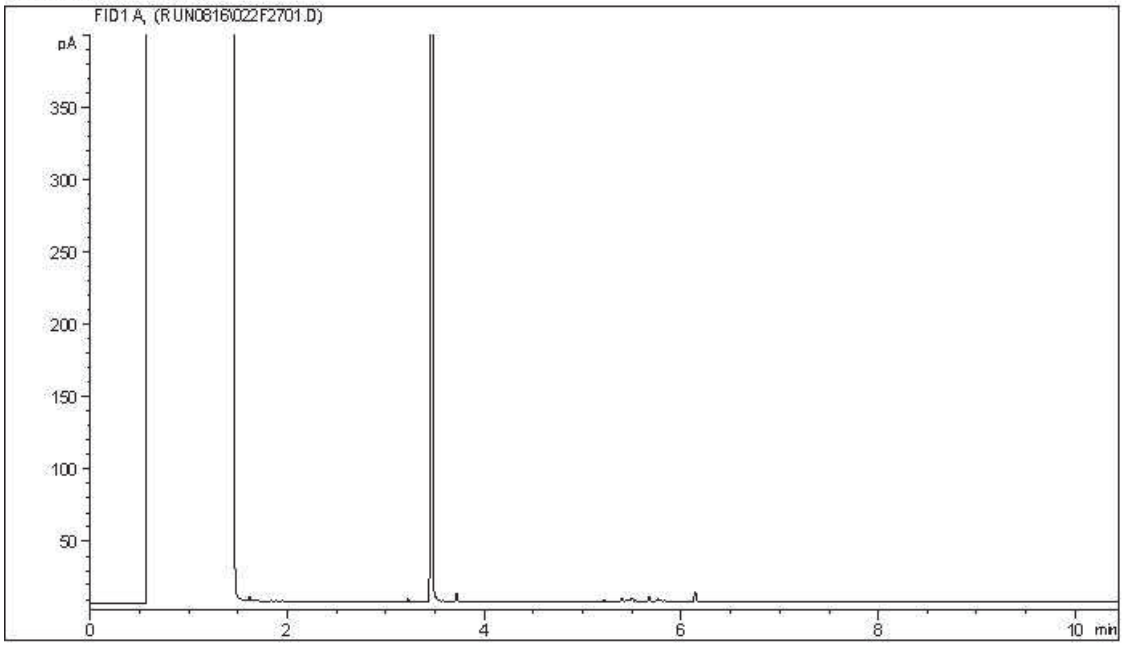
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

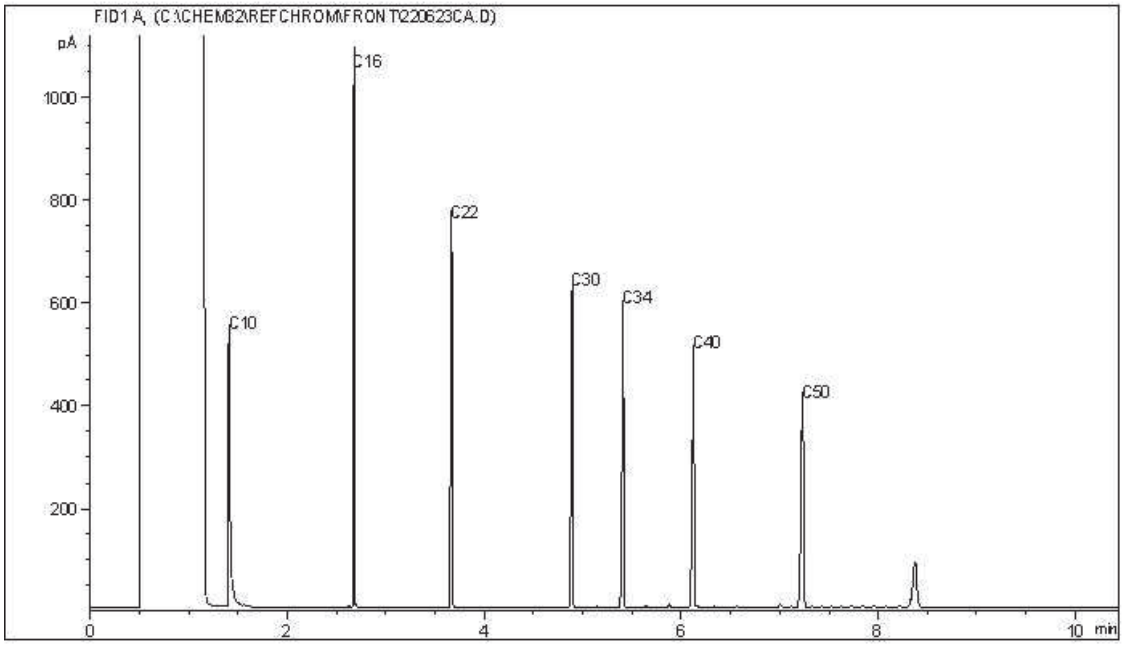
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



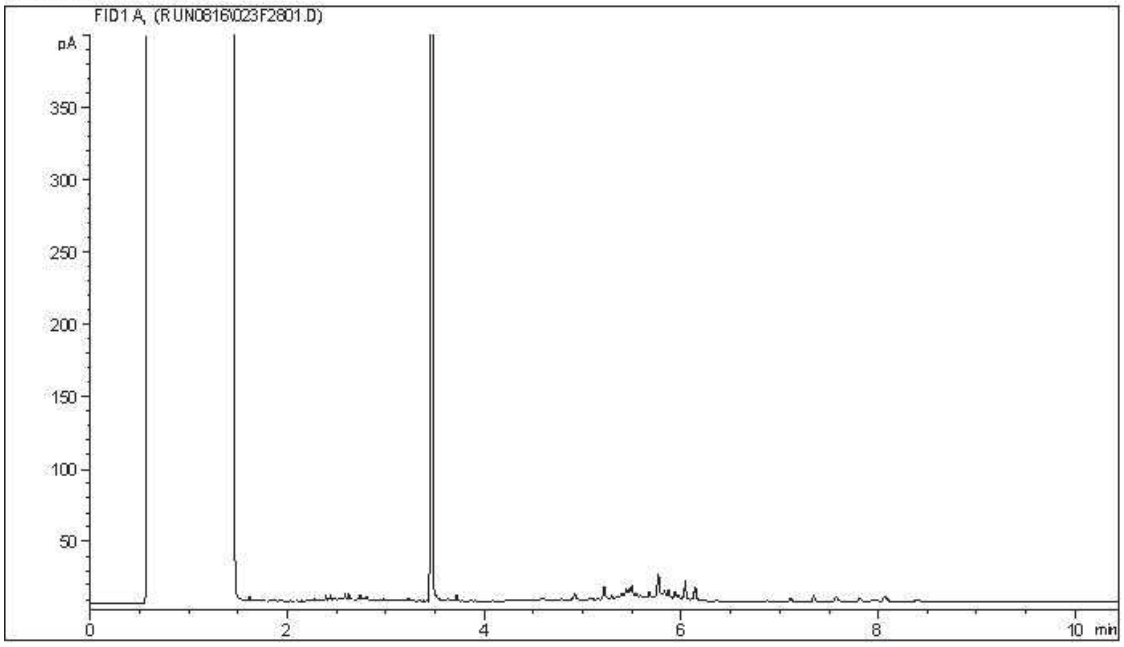
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

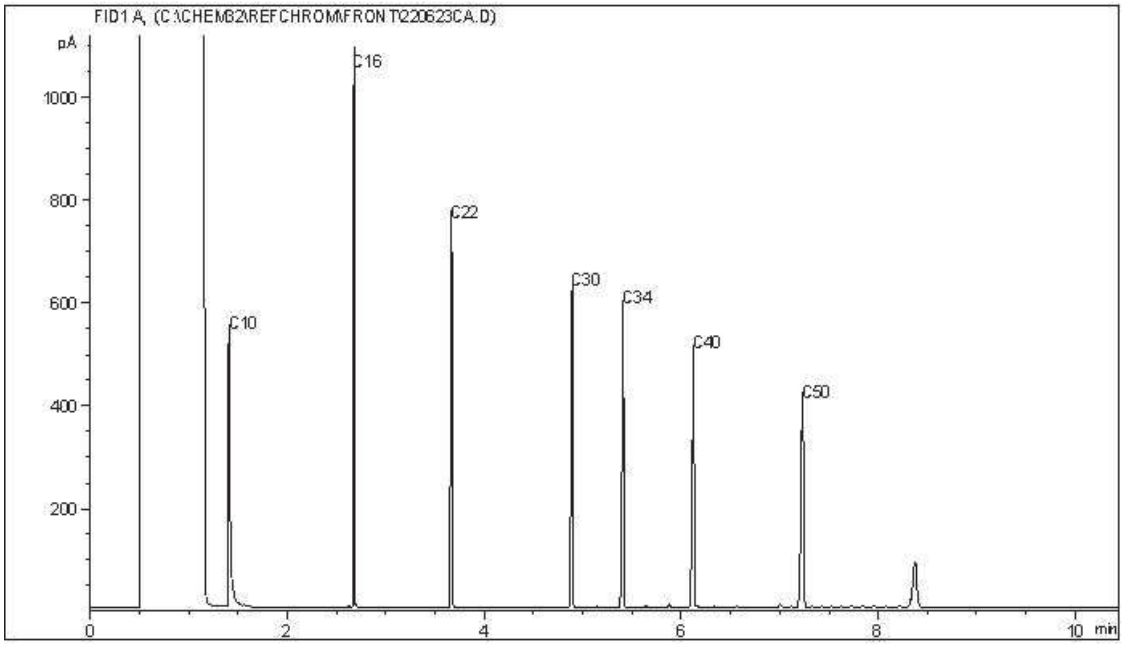
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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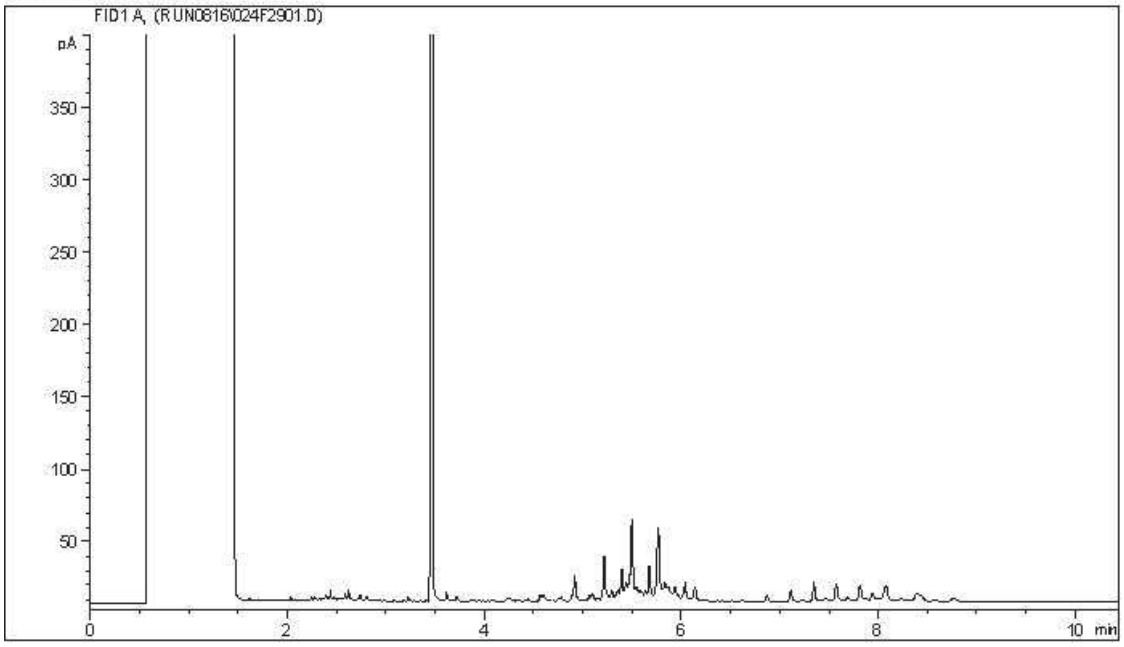
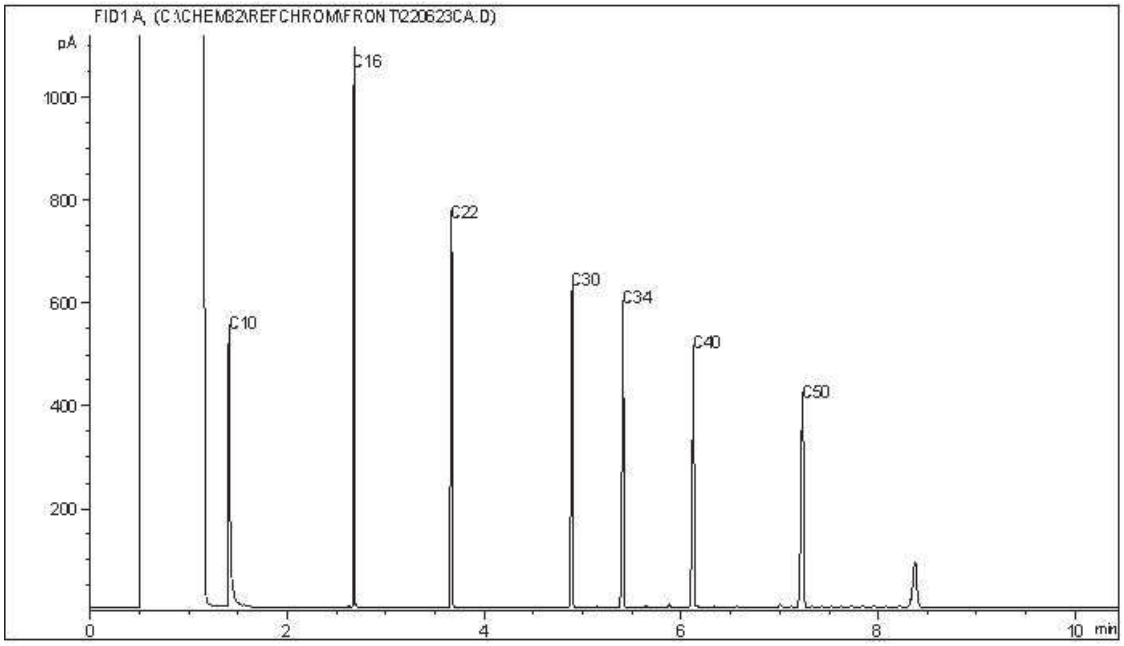
Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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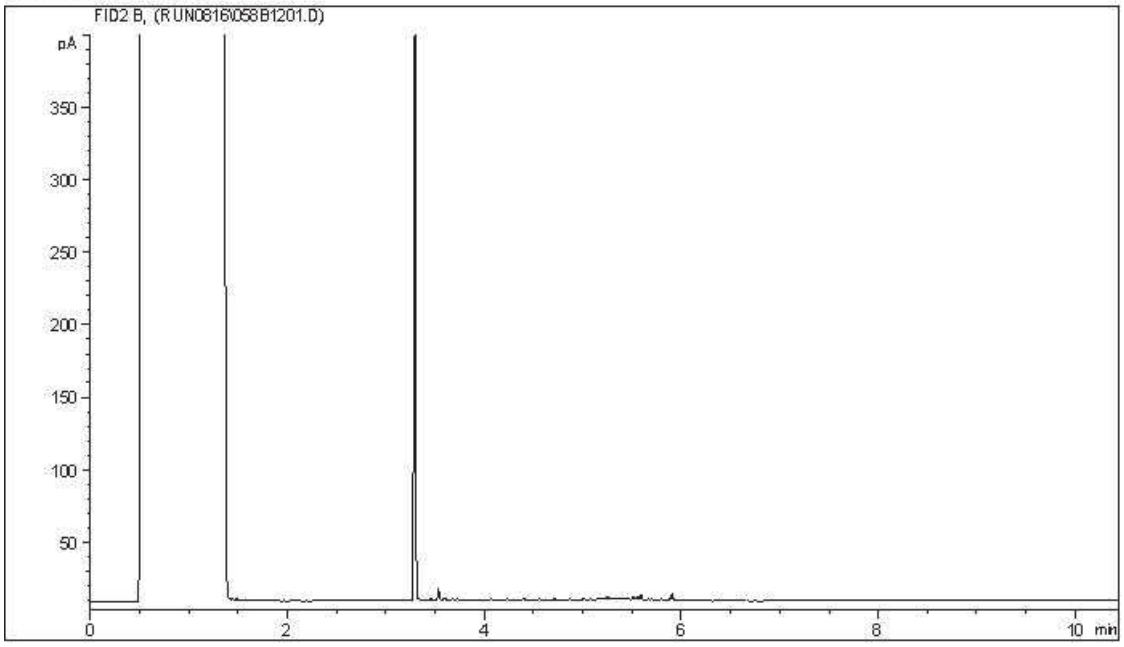
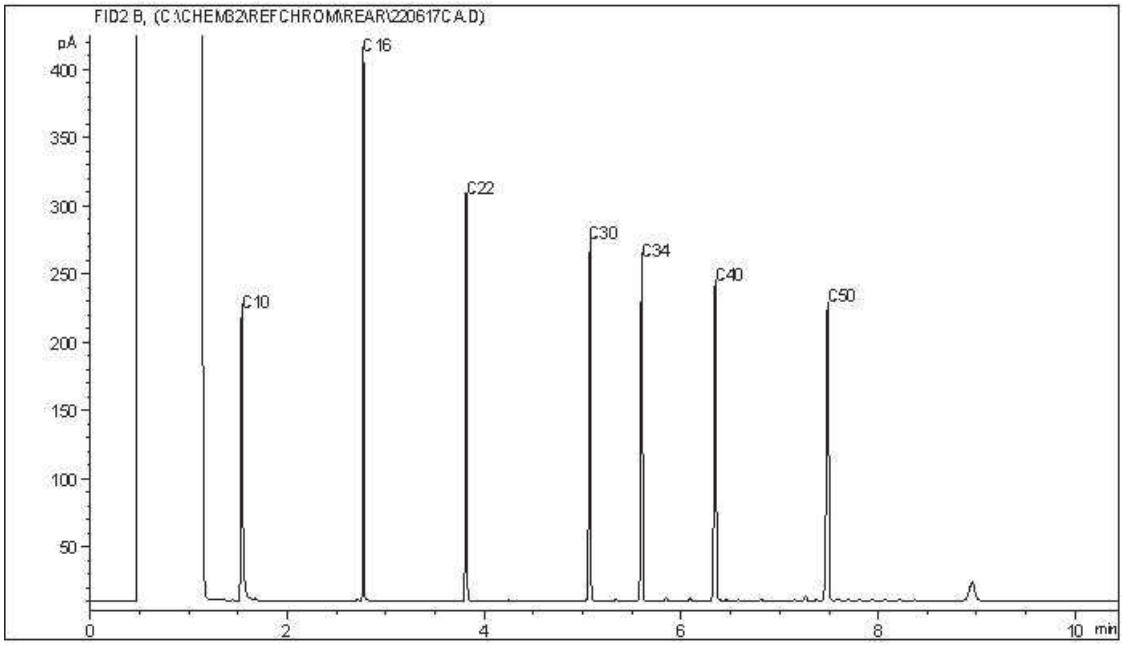
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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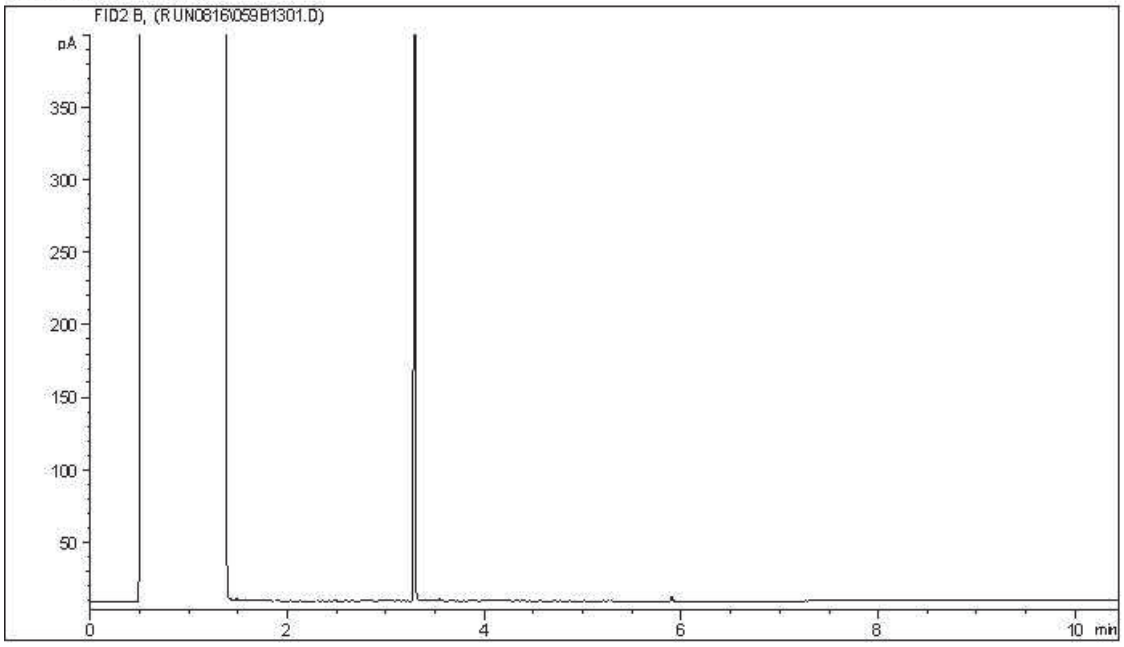
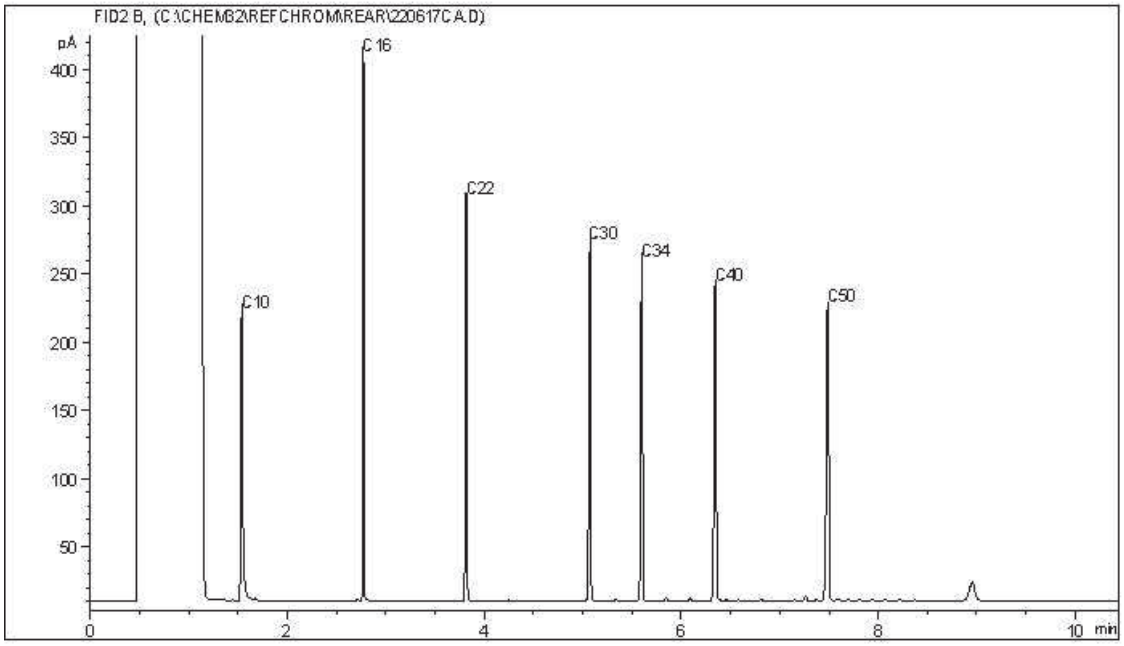
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

August 19, 2022

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB, T2P 2W2

Attention: Aurelie Bellavance

Re: Chromatogram Interpretation of CAMP FAREWELL, NT; Project 22525414-1000
Bureau Veritas Job No.: C260013

Bureau Veritas was retained by Golder Associates Ltd. to provide hydrocarbon interpretations concerning the likely origin of hydrocarbons quantified within CCME fraction(s) F2, F3 and/or F4.

Analytical Method

Petroleum hydrocarbon analyses at Bureau Veritas are conducted in accordance with the analytical specifications required by the prescriptive and performance-based (where appropriate) elements of the CCME Tier I protocols for hydrocarbon determination[1] in soil samples.

Chromatogram Interpretation

A comprehensive qualitative assessment of the resultant gas chromatograms in the F2-F4 ranges was performed. The chromatograms were inspected for specific peak profiles that would indicate the possible origin of the hydrocarbons present in the sample. The presence and nature of specific aliphatic compounds (n-alkanes), the presence of characteristic unresolved complex mixtures (UCMs) or "humps" and the relative abundance (ratios) of specific compounds are reviewed as part of the evaluation.

[1] Canadian Council of Ministers of the Environment: "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil – Tier I Method" 2001

Data Interpretation

Table 1. Qualitative Data Summary – Chromatogram Interpretation

Lab ID	Sample ID	Chromatogram Interpretation
AZM160	BH22-19-03	The CCME F2-F4 chromatographic peak profile is consistent with biogenic organic material (e.g. peat). Chromatograms of biogenic organic material may contain peak patterns spanning the C10 to C50 range, but they are most commonly characterized by a profile of unevenly distributed sharp peaks between C28 and C34. The impacts are not consistent with a petroleum product or crude oil.

If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,
Bureau Veritas Laboratories

Michael Sheppard, B.Sc., P.Bio., QP
Consulting Scientist
Environmental Services

Scott Cantwell, CET, B.Sc., P.Chem.
Director and General Manager – Western Canada
Environmental Services

Disclaimer

Hydrocarbon Resemblance
Characterization by way of visual evaluation of the sample chromatogram may not be conclusive and is only indicative of substances that may be present. The resemblance information must be regarded as approximate and qualitative.

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC
2021 - 41ST STREET NE
Calgary, AB T2E6P2
(403) 291-3077

ATTENTION TO: Cynny Hagen

PROJECT: C260013

AGAT WORK ORDER: 22C940491

SOIL ANALYSIS REVIEWED BY: Loan Nguyen, Senior Analyst

DATE REPORTED: Sep 06, 2022

PAGES (INCLUDING COVER): 7

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

AGAT Laboratories

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CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 22C940491

PROJECT: C260013

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Metals - Barium by Fusion ICP

DATE RECEIVED: 2022-09-01

DATE REPORTED: 2022-09-06

			SAMPLE DESCRIPTION:	AZM158-BH22-19-01
			SAMPLE TYPE:	Soil
			DATE SAMPLED:	2022-08-08 11:00
Parameter	Unit	G / S	RDL	4267008
True Barium by Fusion ICP	mg/kg		50	7750

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4267008 Result is based on the dry weight of the sample.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940491

PROJECT: C260013

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Sep 06, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals - Barium by Fusion ICP															
Barium by Fusion ICP-OES	4266587		976	977	0.0%	< 40	95%	70%	130%				NA	70%	130%

Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Certified By:

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Method Summary

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940491

PROJECT: C260013

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
True Barium by Fusion ICP	SOIL- 0620, INST- 0140	ASTM D4503.08	ICP/OES

1-SEP-22 PM12:09

Sent To: **AGAT - Calgary**
2910 12th Street NE
Calgary, AB, T2E 7P7
Tel: (403) 735-2005

CHAIN OF CUSTODY RECORD FOR SUBCONTRACTED WORK

COC # C260013-CAGT-01-01

22C940491

REPORT INFORMATION	
Company:	Bureau Veritas
Address:	4000 19st N.E, Calgary, Alberta, T2E 6P8
Contact Name:	Cynny Hagen
Email:	Cynny.HAGEN@bureauveritas.com, Customersolutionswest@bureauveritas.co
Phone:	(403) 735-2273
Lab Project #:	C260013

#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	# CONT.	ANALYSIS REQUESTED: Barium on ICP using Fusion Extraction	ADDITIONAL SAMPLE INFORMATION
1	AZM158-BH22-19-01	SOIL	2022/08/08	11:00	ML	1	X	(P: 01)
2								
3								
4								
5								
6								
7								
8								
9								
10								

REGULATORY CRITERIA

SPECIAL INSTRUCTIONS

Please inform Bureau Veritas immediately if:
- You are not accredited for the requested test(s)
- The hold time is approaching for the requested test(s).

Please return a copy of this form with the report.

TURNAROUND TIME

[X] Rush Required

2022/09/07
Date Required

Please inform us if rush charges will be incurred.

COOLER ID:	YES	NO	Temp: (°C)
Custody Seal Present			
Custody Seal Intact			
Cooling Media Present			

COOLER ID:	YES	NO	Temp: (°C)
Custody Seal Present			
Custody Seal Intact			
Cooling Media Present			

COOLER ID:	YES	NO	Temp: (°C)
Custody Seal Present	/		NA
Custody Seal Intact	/		
Cooling Media Present	/		

RELINQUISHED BY: (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)	**RECEIVED BY:** (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)
1. Robel Mebrahtu	2022/09/01	09:30	1. Lori Cent	2022/09/01	12:09
2.			2.		

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Bureau Veritas

Courier: Jazoo Prepaid Collect

Waybill#

Branch: EDM GP FN FM RD VAN LYD FSJ EST SASK Other:

If multiple sites were submitted at once: (Yes) No

Custody Seal Intact: Yes No (NA)

TAT: <24hr 24-48hr 48-72hr Reg Other

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Color , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry:

Hydrocarbons: Earliest Expiry

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack (Bagged Ice) Free Ice Free Water None

Temperature (Bottles/Jars only) (N/A) if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) NA Soil =___°C 2(Bottle/Jar)___+___+___=___°C

3 (Bottle/Jar)___+___+___=___°C 4 (Bottle/Jar)___+___+___=___°C

5 (Bottle/Jar)___+___+___=___°C 6 (Bottle/Jar)___+___+___=___°C

7 (Bottle/Jar)___+___+___=___°C 8 (Bottle/Jar)___+___+___=___°C

9 (Bottle/Jar)___+___+___=___°C 10 (Bottle/Jar)___+___+___=___°C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 22C940491

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other:

Account Project Manager: have they been notified of the above issues: Yes No

Whom spoken to: Date/Time:

CPM Initial

General Comments:

* Subcontracted Analysis (See CPM)

Date issued: March 11, 2020
Document ID: SR-9505.004

IN-CITY

JAZOO EXPRESS COURIER

www.jazoocourier.com

CLIENT USE ONLY

Sender Name:	Robel Mebrahtu	Receiver Name:	Sample Reception	Billed To:	Bureau Veritas
Date:	2022/09/01	Delivery From:	Bureau Veritas Calgary		
		Delivery To:	AGAT-Calgary 2910 12th street NE Calgary,AB, T2E 7P7		
Total # Items:	2	Item Description: envelope, sm/med/lg box, cooler, etc.	1 Large Cooler, 1 Medium Cooler		
			Job/PO/Reference #:		
Authorized Shipper Signature:					

DRIVER USE ONLY

P/U Driver Name:	BR	P/U Time:	11:50 am	D/O Time:	am
# Items P/U:	2		pm		7:05 pm

# Of Overweight	# Of TDG	# Of Same Day	Surcharge

Additional Info: DONE

Total # Items Dropped Off:	2	D/O Driver Name:	
Authorized Receiver Signature:			

HOTSHOT DETAILS

Total Km:		Or Total Charge ($):	

OFFICE USE ONLY

Verified By:		Invoiced By:	

To schedule a pickup please contact dispatch at the city nearest you:

Calgary 403-660-5504 **Fort McMurray** 587-645-6364
Edmonton 780-903-3628 **Grande Prairie** 587-297-8406

THANK YOU FOR SUPPORTING LOCAL AND CHOOSING JAZOO EXPRESS COURIER.

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC
2021 - 41ST STREET NE
Calgary, AB T2E6P2
(403) 291-3077

ATTENTION TO: Cynny Hagen

PROJECT: C260013

AGAT WORK ORDER: 22C940491

SOIL ANALYSIS REVIEWED BY: Loan Nguyen, Senior Analyst

DATE REPORTED: Sep 06, 2022

PAGES (INCLUDING COVER): 7

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005

*Notes

Disclaimer:

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- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
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- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 22C940491

PROJECT: C260013

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Metals - Barium by Fusion ICP

DATE RECEIVED: 2022-09-01

DATE REPORTED: 2022-09-06

			SAMPLE DESCRIPTION:	AZM158-BH22-19-01
			SAMPLE TYPE:	Soil
			DATE SAMPLED:	2022-08-08 11:00
Parameter	Unit	G / S	RDL	4267008
True Barium by Fusion ICP	mg/kg		50	7750

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4267008 Result is based on the dry weight of the sample.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940491

PROJECT: C260013

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Sep 06, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals - Barium by Fusion ICP															
Barium by Fusion ICP-OES	4266587		976	977	0.0%	< 40	95%	70%	130%				NA	70%	130%

Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Certified By:

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Method Summary

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940491

PROJECT: C260013

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
True Barium by Fusion ICP	SOIL- 0620, INST- 0140	ASTM D4503.08	ICP/OES

1-SEP-22 PM12:09

Sent To: **AGAT - Calgary**
2910 12th Street NE
Calgary, AB, T2E 7P7
Tel: (403) 735-2005

CHAIN OF CUSTODY RECORD FOR SUBCONTRACTED WORK

COC # C260013-CAGT-01-01

22C940491

REPORT INFORMATION	
Company:	Bureau Veritas
Address:	4000 19st N.E, Calgary, Alberta, T2E 6P8
Contact Name:	Cynny Hagen
Email:	Cynny.HAGEN@bureauveritas.com, Customersolutionswest@bureauveritas.co
Phone:	(403) 735-2273
Lab Project #:	C260013

#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	# CONT.	ANALYSIS REQUESTED: Barium on ICP using Fusion Extraction	ADDITIONAL SAMPLE INFORMATION
1	AZM158-BH22-19-01	SOIL	2022/08/08	11:00	ML	1	X	(P: 01)
2								
3								
4								
5								
6								
7								
8								
9								
10								

REGULATORY CRITERIA

SPECIAL INSTRUCTIONS

Please inform Bureau Veritas immediately if:
- You are not accredited for the requested test(s)
- The hold time is approaching for the requested test(s).

Please return a copy of this form with the report.

TURNAROUND TIME

[X] Rush Required

2022/09/07
Date Required

Please inform us if rush charges will be incurred.

COOLER ID:	YES	NO	Temp: (°C)
Custody Seal Present			
Custody Seal Intact			
Cooling Media Present			

COOLER ID:	YES	NO	Temp: (°C)
Custody Seal Present			
Custody Seal Intact			
Cooling Media Present			

COOLER ID:	YES	NO	Temp: (°C)
Custody Seal Present	/		NA
Custody Seal Intact	/		
Cooling Media Present	/		

RELINQUISHED BY: (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)	**RECEIVED BY:** (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)
1. Robel Mebrahtu	2022/09/01	09:30	1. Lori Cent	2022/09/01	12:09
2.			2.		

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Bureau Veritas

Courier: Jazoo Prepaid Collect

Waybill#

Branch: EDM GP FN FM RD VAN LYD FSJ EST SASK Other:

If multiple sites were submitted at once: (Yes) No

Custody Seal Intact: Yes No (NA)

TAT: <24hr 24-48hr 48-72hr Reg Other

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Color , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry:

Hydrocarbons: Earliest Expiry

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack (Bagged Ice) Free Ice Free Water None

Temperature (Bottles/Jars only) (N/A) if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) NA Soil =___°C 2(Bottle/Jar)___+___+___=___°C

3 (Bottle/Jar)___+___+___=___°C 4 (Bottle/Jar)___+___+___=___°C

5 (Bottle/Jar)___+___+___=___°C 6 (Bottle/Jar)___+___+___=___°C

7 (Bottle/Jar)___+___+___=___°C 8 (Bottle/Jar)___+___+___=___°C

9 (Bottle/Jar)___+___+___=___°C 10 (Bottle/Jar)___+___+___=___°C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 22C940491

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other:

Account Project Manager: have they been notified of the above issues: Yes No

Whom spoken to: Date/Time:

CPM Initial

General Comments:

* Subcontracted Analysis (See CPM)

Date issued: March 11, 2020
Document ID: SR-9505.004

IN-CITY

JAZOO EXPRESS COURIER

www.jazoocourier.com

CLIENT USE ONLY

Sender Name:	Robel Mebrahtu	Receiver Name:	Sample Reception	Billed To:	Bureau Veritas
Date:	2022/09/01	Delivery From:	Bureau Veritas Calgary		
		Delivery To:	AGAT-Calgary 2910 12th street NE Calgary,AB, T2E 7P7		
Total # Items:	2	Item Description: envelope, sm/med/lg box, cooler, etc.	1 Large Cooler, 1 Medium Cooler		
			Job/PO/Reference #:		
Authorized Shipper Signature:					

DRIVER USE ONLY

P/U Driver Name:	BR	P/U Time:	11:50 am	D/O Time:	am
# Items P/U:	2		pm		7:05 pm

# Of Overweight	# Of TDG	# Of Same Day	Surcharge

Additional Info: DONE

Total # Items Dropped Off:	2	D/O Driver Name:	
Authorized Receiver Signature:			

HOTSHOT DETAILS

Total Km:		Or Total Charge ($):	

OFFICE USE ONLY

Verified By:		Invoiced By:	

To schedule a pickup please contact dispatch at the city nearest you:

Calgary 403-660-5504 **Fort McMurray** 587-645-6364
Edmonton 780-903-3628 **Grande Prairie** 587-297-8406

THANK YOU FOR SUPPORTING LOCAL AND CHOOSING JAZOO EXPRESS COURIER.

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell, NT

Sampling Date: August 8, 2022

Golder Project Number: 22525414-1000

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C260013

Was the Cooler Received at the lab under a sealed and intact custody seal?	Yes
Was proper chain of custody of the samples documented and kept?	Yes
Were sample temperatures acceptable when they reached lab?:	Yes
Were all samples analyzed and extracted within hold times?:	Yes
Has lab warranted all tests were in statistical control in CoA?:	Yes
Was sufficient sample provided for the requested analysis?	Yes
Has lab warranted all samples were analyzed with limited headspace present?:	Yes

Are All Laboratory QC Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery		X		Surrogate recovery for d10-o-xylene (155%) exceeded
Method Blank Concentration	X			the acceptance criteria (50-140%).
Laboratory Duplicate RPD	X			Matrix spike recovery for vanadium (151% and 131%)
Matrix Spike Recovery		X		exceeded the acceptance criteria of (75-125%).
Blank Spike Recovery	X			All remaining laboratory QC results are within acceptance criteria.

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	All field QC samples are within
Trip Blank Concentration			X	alert limits.
Field Duplicate RPD	X			

Is data considered reliable (Yes/No/Suspect)?: Yes

If answer is "No" or "Suspect", describe and provide rationale:

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: August 18, 2022

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/08/19
Report #: R3218840
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260016
Received: 2022/08/12, 09:00

Sample Matrix: Soil
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble) (1)	5	2022/08/16	2022/08/16	AB SOP-00034 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	9	N/A	2022/08/16	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	9	N/A	2022/08/17		Auto Calc
Hexavalent Chromium (1, 3)	5	2022/08/16	2022/08/16	AB SOP-00063	SM 23 3500-Cr B m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	4	2022/08/16	2022/08/16	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	5	2022/08/16	2022/08/17	AB SOP-00036	CCME PHC-CWS m
Elements by ICPMS - Soils (1)	4	2022/08/16	2022/08/16	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Elements by ICPMS - Soils (1)	1	2022/08/16	2022/08/17	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Moisture (1)	9	N/A	2022/08/17	AB SOP-00002	CCME PHC-CWS m
Benzo[a]pyrene Equivalency (1)	5	N/A	2022/08/17		Auto Calc
PAH in Soil by GC/MS (1)	5	2022/08/16	2022/08/17	AB SOP-00036 / AB SOP-00003	EPA 3540C/8270E m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/08/19
Report #: R3218840
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260016
Received: 2022/08/12, 09:00

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(3) Some soil samples may react with the Cr(VI) spike reducing it to Cr(III). These samples are highly unlikely to contain native hexavalent chromium. Thus a failed spike recovery does not invalidate a negative result on the native sample.
(4) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
22 Aug 2022 18:10:43

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Cynny Hagen, Key Account Specialist
Email: Cynny.HAGEN@bureauveritas.com
Phone# (403)735-2273

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C260016
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM175	AZM175		AZM176	AZM176	AZM177		
Sampling Date		2022/08/09 13:20	2022/08/09 13:20		2022/08/09 13:10	2022/08/09 13:10	2022/08/09 13:10		
COC Number		1 of 1	1 of 1		1 of 1	1 of 1	1 of 1		
	UNITS	BH22-29-03	BH22-29-03 Lab-Dup	RDL	DUP J	DUP J Lab-Dup	BH22-29-02	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	48	N/A	10	<10	N/A	<10	10	A682565
F3 (C16-C34 Hydrocarbons)	mg/kg	790	N/A	50	100	N/A	<50	50	A682565
F4 (C34-C50 Hydrocarbons)	mg/kg	240	N/A	50	<50	N/A	<50	50	A682565
Reached Baseline at C50	mg/kg	Yes	N/A	N/A	Yes	N/A	Yes	N/A	A682565
Physical Properties									
Moisture	%	43	N/A	0.30	5.2	6.1	4.4	0.30	A682261
Volatiles									
Xylenes (Total)	mg/kg	<0.13	N/A	0.13	<0.045	N/A	<0.045	0.045	A679841
F1 (C6-C10) - BTEX	mg/kg	<18	N/A	18	<10	N/A	<10	10	A679841
Field Preserved Volatiles									
Benzene	mg/kg	<0.012 (1)	<0.012	0.012	<0.0050	N/A	<0.0050	0.0050	A680674
Toluene	mg/kg	<0.050 (1)	<0.050	0.050	<0.050	N/A	<0.050	0.050	A680674
Ethylbenzene	mg/kg	<0.022 (1)	0.025	0.022	<0.010	N/A	<0.010	0.010	A680674
m & p-Xylene	mg/kg	<0.11 (2)	<0.11	0.11	<0.040	N/A	<0.040	0.040	A680674
o-Xylene	mg/kg	<0.056 (2)	<0.056	0.056	<0.020	N/A	<0.020	0.020	A680674
F1 (C6-C10)	mg/kg	<18 (1)	<18	18	<10	N/A	<10	10	A680674
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	83	87	N/A	84	N/A	84	N/A	A680674
4-Bromofluorobenzene (sur.)	%	88	95	N/A	90	N/A	91	N/A	A680674
D10-o-Xylene (sur.)	%	93	118	N/A	99	N/A	98	N/A	A680674
D4-1,2-Dichloroethane (sur.)	%	82	88	N/A	88	N/A	83	N/A	A680674
O-TERPHENYL (sur.)	%	95	N/A	N/A	92	N/A	97	N/A	A682565

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Detection limit reported based on MDL and sample weight used for analysis.
(2) Detection limits raised based on sample weight used for analysis.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260016
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM178		AZM179	AZM180	AZM181	AZM182		
Sampling Date		2022/08/09 13:00		2022/08/09 15:20	2022/08/09 15:00	2022/08/09 15:10	2022/08/09 15:30		
COC Number		1 of 1		1 of 1	1 of 1	1 of 1	1 of 1		
	UNITS	BH22-29-01	QC Batch	BH22-25-03	BH22-25-01	BH22-25-02	BH22-25-04	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	11	A682565	<10	36	29	14	10	A682914
F3 (C16-C34 Hydrocarbons)	mg/kg	160	A682565	<50	180	160	<50	50	A682914
F4 (C34-C50 Hydrocarbons)	mg/kg	72	A682565	<50	55	<50	<50	50	A682914
Reached Baseline at C50	mg/kg	Yes	A682565	Yes	Yes	Yes	Yes	N/A	A682914
Physical Properties									
Moisture	%	5.4	A682261	4.9	6.5	10	4.4	0.30	A682261
Volatiles									
Xylenes (Total)	mg/kg	<0.045	A680070	<0.045	<0.045	<0.045	<0.045	0.045	A679841
F1 (C6-C10) - BTEX	mg/kg	<10	A680070	<10	<10	<10	<10	10	A679841
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	A680674	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A680674
Toluene	mg/kg	<0.050	A680674	<0.050	<0.050	<0.050	<0.050	0.050	A680674
Ethylbenzene	mg/kg	<0.010	A680674	<0.010	<0.010	<0.010	<0.010	0.010	A680674
m & p-Xylene	mg/kg	<0.040	A680674	<0.040	<0.040	<0.040	<0.040	0.040	A680674
o-Xylene	mg/kg	<0.020	A680674	<0.020	<0.020	<0.020	<0.020	0.020	A680674
F1 (C6-C10)	mg/kg	<10	A680674	<10	<10	<10	<10	10	A680674
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	88	A680674	86	90	89	86	N/A	A680674
4-Bromofluorobenzene (sur.)	%	94	A680674	93	94	93	93	N/A	A680674
D10-o-Xylene (sur.)	%	107	A680674	102	107	106	110	N/A	A680674
D4-1,2-Dichloroethane (sur.)	%	93	A680674	84	90	92	86	N/A	A680674
O-TERPHENYL (sur.)	%	95	A682565	91	82	93	88	N/A	A682914

RDL = Reportable Detection Limit
N/A = Not Applicable

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM183		
Sampling Date		2022/08/09 13:40		
COC Number		1 of 1		
	UNITS	BH22-25-5	RDL	QC Batch
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	380	10	A682914
F3 (C16-C34 Hydrocarbons)	mg/kg	190	50	A682914
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	A682914
Reached Baseline at C50	mg/kg	Yes	N/A	A682914
Physical Properties				
Moisture	%	4.8	0.30	A682261
Volatiles				
Xylenes (Total)	mg/kg	<0.045	0.045	A679841
F1 (C6-C10) - BTEX	mg/kg	<10	10	A679841
Field Preserved Volatiles				
Benzene	mg/kg	<0.0050	0.0050	A680674
Toluene	mg/kg	<0.050	0.050	A680674
Ethylbenzene	mg/kg	<0.010	0.010	A680674
m & p-Xylene	mg/kg	<0.040	0.040	A680674
o-Xylene	mg/kg	<0.020	0.020	A680674
F1 (C6-C10)	mg/kg	<10	10	A680674
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	87	N/A	A680674
4-Bromofluorobenzene (sur.)	%	92	N/A	A680674
D10-o-Xylene (sur.)	%	102	N/A	A680674
D4-1,2-Dichloroethane (sur.)	%	86	N/A	A680674
O-TERPHENYL (sur.)	%	90	N/A	A682914

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260016
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

CCME REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AZM179		AZM180	AZM180	AZM181		AZM182		
Sampling Date		2022/08/09 15:20		2022/08/09 15:00	2022/08/09 15:00	2022/08/09 15:10		2022/08/09 15:30		
COC Number		1 of 1		1 of 1	1 of 1	1 of 1		1 of 1		
	UNITS	BH22-25-03	QC Batch	BH22-25-01	BH22-25-01 Lab-Dup	BH22-25-02	QC Batch	BH22-25-04	RDL	QC Batch
Elements										
Soluble (Hot water) Boron (B)	mg/kg	0.17	A683007	0.28	N/A	0.37	A682378	<0.10	0.10	A683007
Hex. Chromium (Cr 6+)	mg/kg	<0.080	A682694	<0.080	N/A	<0.080	A682694	<0.080	0.080	A682694
Total Antimony (Sb)	mg/kg	<0.50	A682439	<0.50	<0.50	<0.50	A682363	<0.50	0.50	A682611
Total Arsenic (As)	mg/kg	6.3	A682439	6.0	7.5	6.5	A682363	6.5	1.0	A682611
Total Barium (Ba)	mg/kg	790	A682439	2600	2200	2100	A682363	830	1.0	A682611
Total Beryllium (Be)	mg/kg	<0.40	A682439	<0.40	<0.40	<0.40	A682363	<0.40	0.40	A682611
Total Cadmium (Cd)	mg/kg	0.085	A682439	0.20	0.19	0.17	A682363	0.10	0.050	A682611
Total Chromium (Cr)	mg/kg	6.7	A682439	7.2	7.6	7.4	A682363	8.0	1.0	A682611
Total Cobalt (Co)	mg/kg	4.6	A682439	2.7	3.2	3.1	A682363	4.8	0.50	A682611
Total Copper (Cu)	mg/kg	4.5	A682439	9.5	9.6	9.2	A682363	4.3	1.0	A682611
Total Lead (Pb)	mg/kg	6.2	A682439	29	27	20	A682363	6.0	0.50	A682611
Total Mercury (Hg)	mg/kg	<0.050	A682439	0.084	0.071	<0.050	A682363	<0.050	0.050	A682611
Total Molybdenum (Mo)	mg/kg	0.59	A682439	0.70	0.76	0.70	A682363	0.55	0.40	A682611
Total Nickel (Ni)	mg/kg	8.1	A682439	6.5	7.9	7.1	A682363	10	1.0	A682611
Total Selenium (Se)	mg/kg	<0.50	A682439	<0.50	<0.50	<0.50	A682363	<0.50	0.50	A682611
Total Silver (Ag)	mg/kg	<0.20	A682439	<0.20	<0.20	<0.20	A682363	<0.20	0.20	A682611
Total Thallium (Tl)	mg/kg	<0.10	A682439	<0.10	<0.10	<0.10	A682363	<0.10	0.10	A682611
Total Tin (Sn)	mg/kg	<1.0	A682439	<1.0	<1.0	<1.0	A682363	<1.0	1.0	A682611
Total Uranium (U)	mg/kg	0.26	A682439	0.43	0.42	0.36	A682363	0.32	0.20	A682611
Total Vanadium (V)	mg/kg	14	A682439	12 (1)	13	14	A682363	16	1.0	A682611
Total Zinc (Zn)	mg/kg	30	A682439	44	44	41	A682363	32	10	A682611

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Matrix spike exceeds acceptance limits due to matrix interference.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

CCME REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AZM183		
Sampling Date		2022/08/09 13:40		
COC Number		1 of 1		
	UNITS	BH22-25-5	RDL	QC Batch
Elements				
Soluble (Hot water) Boron (B)	mg/kg	<0.10	0.10	A682378
Hex. Chromium (Cr 6+)	mg/kg	<0.080	0.080	A682694
Total Antimony (Sb)	mg/kg	<0.50	0.50	A682363
Total Arsenic (As)	mg/kg	6.0	1.0	A682363
Total Barium (Ba)	mg/kg	680	1.0	A682363
Total Beryllium (Be)	mg/kg	<0.40	0.40	A682363
Total Cadmium (Cd)	mg/kg	0.089	0.050	A682363
Total Chromium (Cr)	mg/kg	5.8	1.0	A682363
Total Cobalt (Co)	mg/kg	3.9	0.50	A682363
Total Copper (Cu)	mg/kg	3.6	1.0	A682363
Total Lead (Pb)	mg/kg	5.0	0.50	A682363
Total Mercury (Hg)	mg/kg	<0.050	0.050	A682363
Total Molybdenum (Mo)	mg/kg	0.43	0.40	A682363
Total Nickel (Ni)	mg/kg	9.9	1.0	A682363
Total Selenium (Se)	mg/kg	<0.50	0.50	A682363
Total Silver (Ag)	mg/kg	<0.20	0.20	A682363
Total Thallium (Tl)	mg/kg	<0.10	0.10	A682363
Total Tin (Sn)	mg/kg	<1.0	1.0	A682363
Total Uranium (U)	mg/kg	0.26	0.20	A682363
Total Vanadium (V)	mg/kg	12	1.0	A682363
Total Zinc (Zn)	mg/kg	29	10	A682363
RDL = Reportable Detection Limit				

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Bureau Veritas Job #: C260016
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AZM179	AZM180	AZM181	AZM182	AZM183		
Sampling Date		2022/08/09 15:20	2022/08/09 15:00	2022/08/09 15:10	2022/08/09 15:30	2022/08/09 13:40		
COC Number		1 of 1	1 of 1	1 of 1	1 of 1	1 of 1		
	UNITS	**BH22-25-03**	**BH22-25-01**	**BH22-25-02**	**BH22-25-04**	**BH22-25-5**	**RDL**	**QC Batch**
Polycyclic Aromatics								
B[a]P TPE Total Potency Equivalents	mg/kg	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	A679833
Naphthalene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0088 (1)	0.0050	A682912
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	88	80	91	91	96	N/A	A682912
D8-ACENAPHTHYLENE (sur.)	%	84	77	90	87	94	N/A	A682912
D8-NAPHTHALENE (sur.)	%	76	71	81	78	86	N/A	A682912
TERPHENYL-D14 (sur.)	%	103	92	102	99	114	N/A	A682912

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.

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Bureau Veritas Job #: C260016
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.0°C

Version 2: Report reissued to include Chromatogram analysis on below samples as per client request received 2022/08/18.
AZM183/BH22-25-05
AZM175/BH22-29-03c

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A680674	DO1	Matrix Spike [AZM175-02]	1,4-Difluorobenzene (sur.)	2022/08/16		85	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		93	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		113	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		86	%	50 - 140
			Benzene	2022/08/16		71	%	50 - 140
			Toluene	2022/08/16		83	%	50 - 140
			Ethylbenzene	2022/08/16		86	%	50 - 140
			m & p-Xylene	2022/08/16		88	%	50 - 140
			o-Xylene	2022/08/16		86	%	50 - 140
			F1 (C6-C10)	2022/08/16		106	%	60 - 140
A680674	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2022/08/16		87	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		90	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		98	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		86	%	50 - 140
			Benzene	2022/08/16		73	%	60 - 130
			Toluene	2022/08/16		80	%	60 - 130
			Ethylbenzene	2022/08/16		86	%	60 - 130
			m & p-Xylene	2022/08/16		86	%	60 - 130
			o-Xylene	2022/08/16		86	%	60 - 130
			F1 (C6-C10)	2022/08/16		97	%	60 - 140
A680674	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2022/08/16		82	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		94	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		90	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		85	%	50 - 140
			Benzene	2022/08/16	<0.0050		mg/kg	
			Toluene	2022/08/16	<0.050		mg/kg	
			Ethylbenzene	2022/08/16	<0.010		mg/kg	
			m & p-Xylene	2022/08/16	<0.040		mg/kg	
			o-Xylene	2022/08/16	<0.020		mg/kg	
			F1 (C6-C10)	2022/08/16	<10		mg/kg	
A680674	DO1	RPD [AZM175-02]	Benzene	2022/08/16	NC		%	50
			Toluene	2022/08/16	NC		%	50
			Ethylbenzene	2022/08/16	14		%	50
			m & p-Xylene	2022/08/16	NC		%	50
			o-Xylene	2022/08/16	NC		%	50
			F1 (C6-C10)	2022/08/16	NC		%	30
A682261	KLG	Method Blank	Moisture	2022/08/17	<0.30		%	
A682261	KLG	RPD [AZM176-01]	Moisture	2022/08/17	16		%	20
A682363	KH2	Matrix Spike [AZM180-01]	Total Antimony (Sb)	2022/08/16		104	%	75 - 125
			Total Arsenic (As)	2022/08/16		100	%	75 - 125
			Total Barium (Ba)	2022/08/16		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/16		96	%	75 - 125
			Total Cadmium (Cd)	2022/08/16		98	%	75 - 125
			Total Chromium (Cr)	2022/08/16		110	%	75 - 125
			Total Cobalt (Co)	2022/08/16		99	%	75 - 125
			Total Copper (Cu)	2022/08/16		100	%	75 - 125
			Total Lead (Pb)	2022/08/16		108	%	75 - 125
			Total Mercury (Hg)	2022/08/16		94	%	75 - 125
			Total Molybdenum (Mo)	2022/08/16		99	%	75 - 125
			Total Nickel (Ni)	2022/08/16		103	%	75 - 125

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Selenium (Se)	2022/08/16		103	%	75 - 125
			Total Silver (Ag)	2022/08/16		98	%	75 - 125
			Total Thallium (Tl)	2022/08/16		97	%	75 - 125
			Total Tin (Sn)	2022/08/16		99	%	75 - 125
			Total Uranium (U)	2022/08/16		95	%	75 - 125
			Total Vanadium (V)	2022/08/16		136 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/16		117	%	75 - 125
A682363	KH2	QC Standard	Total Antimony (Sb)	2022/08/16		141	%	15 - 182
			Total Arsenic (As)	2022/08/16		129	%	53 - 147
			Total Barium (Ba)	2022/08/16		104	%	80 - 119
			Total Cadmium (Cd)	2022/08/16		123	%	72 - 128
			Total Chromium (Cr)	2022/08/16		116	%	59 - 141
			Total Cobalt (Co)	2022/08/16		119	%	58 - 142
			Total Copper (Cu)	2022/08/16		103	%	83 - 117
			Total Lead (Pb)	2022/08/16		112	%	79 - 121
			Total Molybdenum (Mo)	2022/08/16		118	%	67 - 133
			Total Nickel (Ni)	2022/08/16		109	%	79 - 121
			Total Silver (Ag)	2022/08/16		119	%	47 - 153
			Total Tin (Sn)	2022/08/16		132	%	67 - 133
			Total Uranium (U)	2022/08/16		104	%	77 - 123
			Total Vanadium (V)	2022/08/16		108	%	79 - 121
			Total Zinc (Zn)	2022/08/16		107	%	79 - 121
A682363	KH2	Spiked Blank	Total Antimony (Sb)	2022/08/16		113	%	80 - 120
			Total Arsenic (As)	2022/08/16		105	%	80 - 120
			Total Barium (Ba)	2022/08/16		108	%	80 - 120
			Total Beryllium (Be)	2022/08/16		101	%	80 - 120
			Total Cadmium (Cd)	2022/08/16		105	%	80 - 120
			Total Chromium (Cr)	2022/08/16		106	%	80 - 120
			Total Cobalt (Co)	2022/08/16		107	%	80 - 120
			Total Copper (Cu)	2022/08/16		106	%	80 - 120
			Total Lead (Pb)	2022/08/16		105	%	80 - 120
			Total Mercury (Hg)	2022/08/16		107	%	80 - 120
			Total Molybdenum (Mo)	2022/08/16		105	%	80 - 120
			Total Nickel (Ni)	2022/08/16		105	%	80 - 120
			Total Selenium (Se)	2022/08/16		107	%	80 - 120
			Total Silver (Ag)	2022/08/16		105	%	80 - 120
			Total Thallium (Tl)	2022/08/16		106	%	80 - 120
			Total Tin (Sn)	2022/08/16		106	%	80 - 120
			Total Uranium (U)	2022/08/16		104	%	80 - 120
			Total Vanadium (V)	2022/08/16		107	%	80 - 120
			Total Zinc (Zn)	2022/08/16		108	%	80 - 120
A682363	KH2	Method Blank	Total Antimony (Sb)	2022/08/16	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/16	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/16	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/16	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/16	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/16	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/16	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/16	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/16	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/16	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/16	<0.40		mg/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Nickel (Ni)	2022/08/16	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/16	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/16	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/16	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/16	<1.0		mg/kg	
			Total Uranium (U)	2022/08/16	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/16	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/16	<10		mg/kg	
A682363	KH2	RPD [AZM180-01]	Total Antimony (Sb)	2022/08/16	NC		%	30
			Total Arsenic (As)	2022/08/16	22		%	30
			Total Barium (Ba)	2022/08/16	16		%	35
			Total Beryllium (Be)	2022/08/16	NC		%	30
			Total Cadmium (Cd)	2022/08/16	3.1		%	30
			Total Chromium (Cr)	2022/08/16	5.3		%	30
			Total Cobalt (Co)	2022/08/16	19		%	30
			Total Copper (Cu)	2022/08/16	0.82		%	30
			Total Lead (Pb)	2022/08/16	8.2		%	35
			Total Mercury (Hg)	2022/08/16	17		%	35
			Total Molybdenum (Mo)	2022/08/16	8.0		%	35
			Total Nickel (Ni)	2022/08/16	21		%	30
			Total Selenium (Se)	2022/08/16	NC		%	30
			Total Silver (Ag)	2022/08/16	NC		%	35
			Total Thallium (Tl)	2022/08/16	NC		%	30
			Total Tin (Sn)	2022/08/16	NC		%	35
			Total Uranium (U)	2022/08/16	1.3		%	30
			Total Vanadium (V)	2022/08/16	5.2		%	30
			Total Zinc (Zn)	2022/08/16	0.46		%	30
A682378	PC5	Matrix Spike	Soluble (Hot water) Boron (B)	2022/08/16		103	%	75 - 125
A682378	PC5	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/16		104	%	80 - 120
A682378	PC5	Method Blank	Soluble (Hot water) Boron (B)	2022/08/16	<0.10		mg/kg	
A682378	PC5	RPD	Soluble (Hot water) Boron (B)	2022/08/16	NC		%	35
A682439	KH2	Matrix Spike	Total Antimony (Sb)	2022/08/16		94	%	75 - 125
			Total Arsenic (As)	2022/08/16		99	%	75 - 125
			Total Barium (Ba)	2022/08/16		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/16		101	%	75 - 125
			Total Cadmium (Cd)	2022/08/16		100	%	75 - 125
			Total Chromium (Cr)	2022/08/16		121	%	75 - 125
			Total Cobalt (Co)	2022/08/16		100	%	75 - 125
			Total Copper (Cu)	2022/08/16		97	%	75 - 125
			Total Lead (Pb)	2022/08/16		96	%	75 - 125
			Total Mercury (Hg)	2022/08/16		88	%	75 - 125
			Total Molybdenum (Mo)	2022/08/16		102	%	75 - 125
			Total Nickel (Ni)	2022/08/16		103	%	75 - 125
			Total Selenium (Se)	2022/08/16		100	%	75 - 125
			Total Silver (Ag)	2022/08/16		100	%	75 - 125
			Total Thallium (Tl)	2022/08/16		95	%	75 - 125
			Total Tin (Sn)	2022/08/16		102	%	75 - 125
			Total Uranium (U)	2022/08/16		91	%	75 - 125
			Total Vanadium (V)	2022/08/16		151 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/16		NC	%	75 - 125
A682439	KH2	QC Standard	Total Antimony (Sb)	2022/08/16		114	%	15 - 182
			Total Arsenic (As)	2022/08/16		108	%	53 - 147

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Barium (Ba)	2022/08/16		105	%	80 - 119
			Total Cadmium (Cd)	2022/08/16		105	%	72 - 128
			Total Chromium (Cr)	2022/08/16		99	%	59 - 141
			Total Cobalt (Co)	2022/08/16		100	%	58 - 142
			Total Copper (Cu)	2022/08/16		99	%	83 - 117
			Total Lead (Pb)	2022/08/16		112	%	79 - 121
			Total Molybdenum (Mo)	2022/08/16		119	%	67 - 133
			Total Nickel (Ni)	2022/08/16		112	%	79 - 121
			Total Silver (Ag)	2022/08/16		101	%	47 - 153
			Total Tin (Sn)	2022/08/16		103	%	67 - 133
			Total Uranium (U)	2022/08/16		89	%	77 - 123
			Total Vanadium (V)	2022/08/16		103	%	79 - 121
			Total Zinc (Zn)	2022/08/16		107	%	79 - 121
A682439	KH2	Spiked Blank	Total Antimony (Sb)	2022/08/16		107	%	80 - 120
			Total Arsenic (As)	2022/08/16		98	%	80 - 120
			Total Barium (Ba)	2022/08/16		101	%	80 - 120
			Total Beryllium (Be)	2022/08/16		97	%	80 - 120
			Total Cadmium (Cd)	2022/08/16		99	%	80 - 120
			Total Chromium (Cr)	2022/08/16		99	%	80 - 120
			Total Cobalt (Co)	2022/08/16		99	%	80 - 120
			Total Copper (Cu)	2022/08/16		98	%	80 - 120
			Total Lead (Pb)	2022/08/16		98	%	80 - 120
			Total Mercury (Hg)	2022/08/16		99	%	80 - 120
			Total Molybdenum (Mo)	2022/08/16		100	%	80 - 120
			Total Nickel (Ni)	2022/08/16		99	%	80 - 120
			Total Selenium (Se)	2022/08/16		103	%	80 - 120
			Total Silver (Ag)	2022/08/16		99	%	80 - 120
			Total Thallium (Tl)	2022/08/16		99	%	80 - 120
			Total Tin (Sn)	2022/08/16		99	%	80 - 120
			Total Uranium (U)	2022/08/16		97	%	80 - 120
			Total Vanadium (V)	2022/08/16		99	%	80 - 120
			Total Zinc (Zn)	2022/08/16		100	%	80 - 120
A682439	KH2	Method Blank	Total Antimony (Sb)	2022/08/16	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/16	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/16	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/16	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/16	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/16	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/16	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/16	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/16	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/16	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/16	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/16	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/16	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/16	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/16	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/16	<1.0		mg/kg	
			Total Uranium (U)	2022/08/16	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/16	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/16	<10		mg/kg	
A682439	KH2	RPD	Total Antimony (Sb)	2022/08/16	1.3		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Arsenic (As)	2022/08/16	4.3		%	30
			Total Barium (Ba)	2022/08/16	1.5		%	35
			Total Beryllium (Be)	2022/08/16	4.5		%	30
			Total Cadmium (Cd)	2022/08/16	3.3		%	30
			Total Chromium (Cr)	2022/08/16	3.6		%	30
			Total Cobalt (Co)	2022/08/16	3.3		%	30
			Total Copper (Cu)	2022/08/16	4.5		%	30
			Total Lead (Pb)	2022/08/16	2.1		%	35
			Total Mercury (Hg)	2022/08/16	0.65		%	35
			Total Molybdenum (Mo)	2022/08/16	0.18		%	35
			Total Nickel (Ni)	2022/08/16	4.3		%	30
			Total Selenium (Se)	2022/08/16	NC		%	30
			Total Silver (Ag)	2022/08/16	NC		%	35
			Total Thallium (Tl)	2022/08/16	3.6		%	30
			Total Tin (Sn)	2022/08/16	NC		%	35
			Total Uranium (U)	2022/08/16	2.5		%	30
			Total Vanadium (V)	2022/08/16	4.0		%	30
			Total Zinc (Zn)	2022/08/16	3.1		%	30
A682565	GG3	Matrix Spike	O-TERPHENYL (sur.)	2022/08/16		91	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16		87	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/16		84	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/16		83	%	60 - 140
A682565	GG3	Spiked Blank	O-TERPHENYL (sur.)	2022/08/16		90	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16		86	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/16		83	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/16		82	%	60 - 140
A682565	GG3	Method Blank	O-TERPHENYL (sur.)	2022/08/16		104	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2022/08/16	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2022/08/16	<50		mg/kg	
A682565	GG3	RPD	F2 (C10-C16 Hydrocarbons)	2022/08/16	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2022/08/16	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2022/08/16	NC		%	40
A682611	MKJ	Matrix Spike	Total Antimony (Sb)	2022/08/17		101	%	75 - 125
			Total Arsenic (As)	2022/08/17		97	%	75 - 125
			Total Barium (Ba)	2022/08/17		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/17		96	%	75 - 125
			Total Cadmium (Cd)	2022/08/17		98	%	75 - 125
			Total Chromium (Cr)	2022/08/17		113	%	75 - 125
			Total Cobalt (Co)	2022/08/17		99	%	75 - 125
			Total Copper (Cu)	2022/08/17		100	%	75 - 125
			Total Lead (Pb)	2022/08/17		99	%	75 - 125
			Total Mercury (Hg)	2022/08/17		96	%	75 - 125
			Total Molybdenum (Mo)	2022/08/17		101	%	75 - 125
			Total Nickel (Ni)	2022/08/17		104	%	75 - 125
			Total Selenium (Se)	2022/08/17		100	%	75 - 125
			Total Silver (Ag)	2022/08/17		99	%	75 - 125
			Total Thallium (Tl)	2022/08/17		98	%	75 - 125
			Total Tin (Sn)	2022/08/17		102	%	75 - 125
			Total Uranium (U)	2022/08/17		95	%	75 - 125
			Total Vanadium (V)	2022/08/17		140 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/17		102	%	75 - 125

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A682611	MKJ	QC Standard	Total Antimony (Sb)	2022/08/17		109	%	15 - 182
			Total Arsenic (As)	2022/08/17		103	%	53 - 147
			Total Barium (Ba)	2022/08/17		103	%	80 - 119
			Total Cadmium (Cd)	2022/08/17		94	%	72 - 128
			Total Chromium (Cr)	2022/08/17		113	%	59 - 141
			Total Cobalt (Co)	2022/08/17		101	%	58 - 142
			Total Copper (Cu)	2022/08/17		103	%	83 - 117
			Total Lead (Pb)	2022/08/17		111	%	79 - 121
			Total Molybdenum (Mo)	2022/08/17		122	%	67 - 133
			Total Nickel (Ni)	2022/08/17		110	%	79 - 121
			Total Silver (Ag)	2022/08/17		89	%	47 - 153
			Total Tin (Sn)	2022/08/17		98	%	67 - 133
			Total Uranium (U)	2022/08/17		98	%	77 - 123
			Total Vanadium (V)	2022/08/17		111	%	79 - 121
			Total Zinc (Zn)	2022/08/17		103	%	79 - 121
A682611	MKJ	Spiked Blank	Total Antimony (Sb)	2022/08/17		102	%	80 - 120
			Total Arsenic (As)	2022/08/17		95	%	80 - 120
			Total Barium (Ba)	2022/08/17		96	%	80 - 120
			Total Beryllium (Be)	2022/08/17		92	%	80 - 120
			Total Cadmium (Cd)	2022/08/17		95	%	80 - 120
			Total Chromium (Cr)	2022/08/17		97	%	80 - 120
			Total Cobalt (Co)	2022/08/17		97	%	80 - 120
			Total Copper (Cu)	2022/08/17		97	%	80 - 120
			Total Lead (Pb)	2022/08/17		97	%	80 - 120
			Total Mercury (Hg)	2022/08/17		100	%	80 - 120
			Total Molybdenum (Mo)	2022/08/17		96	%	80 - 120
			Total Nickel (Ni)	2022/08/17		96	%	80 - 120
			Total Selenium (Se)	2022/08/17		99	%	80 - 120
			Total Silver (Ag)	2022/08/17		96	%	80 - 120
			Total Thallium (Tl)	2022/08/17		97	%	80 - 120
			Total Tin (Sn)	2022/08/17		96	%	80 - 120
			Total Uranium (U)	2022/08/17		97	%	80 - 120
			Total Vanadium (V)	2022/08/17		97	%	80 - 120
			Total Zinc (Zn)	2022/08/17		97	%	80 - 120
A682611	MKJ	Method Blank	Total Antimony (Sb)	2022/08/17	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/17	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/17	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/17	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/17	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/17	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/17	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/17	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/17	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/17	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/17	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/17	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/17	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/17	<1.0		mg/kg	
			Total Uranium (U)	2022/08/17	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/17	<1.0		mg/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Zinc (Zn)	2022/08/17	<10		mg/kg	
A682611	MKJ	RPD	Total Chromium (Cr)	2022/08/17	1.9		%	30
			Total Nickel (Ni)	2022/08/17	5.2		%	30
A682694	FM0	Matrix Spike	Hex. Chromium (Cr 6+)	2022/08/16		96	%	75 - 125
A682694	FM0	Spiked Blank	Hex. Chromium (Cr 6+)	2022/08/16		104	%	80 - 120
A682694	FM0	Method Blank	Hex. Chromium (Cr 6+)	2022/08/16	<0.080		mg/kg	
A682694	FM0	RPD	Hex. Chromium (Cr 6+)	2022/08/16	NC		%	35
A682912	SJ1	Matrix Spike	D10-ANTHRACENE (sur.)	2022/08/17		100	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/17		100	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/17		91	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/17		128	%	50 - 130
			Naphthalene	2022/08/17		94	%	50 - 130
A682912	SJ1	Spiked Blank	D10-ANTHRACENE (sur.)	2022/08/17		88	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/17		83	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/17		79	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/17		103	%	50 - 130
			Naphthalene	2022/08/17		76	%	50 - 130
A682912	SJ1	Method Blank	D10-ANTHRACENE (sur.)	2022/08/17		100	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/17		94	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/17		89	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/17		129	%	50 - 130
			Naphthalene	2022/08/17	<0.0050		mg/kg	
A682912	SJ1	RPD	Naphthalene	2022/08/17	23		%	50
A682914	GG3	Matrix Spike	O-TERPHENYL (sur.)	2022/08/17		86	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/17		96	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/17		88	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/17		84	%	60 - 140
A682914	GG3	Spiked Blank	O-TERPHENYL (sur.)	2022/08/17		97	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/17		89	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/17		96	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/17		91	%	60 - 140
A682914	GG3	Method Blank	O-TERPHENYL (sur.)	2022/08/17		100	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/17	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2022/08/17	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2022/08/17	<50		mg/kg	
A682914	GG3	RPD	F2 (C10-C16 Hydrocarbons)	2022/08/17	1.2		%	40
			F3 (C16-C34 Hydrocarbons)	2022/08/17	5.7		%	40
			F4 (C34-C50 Hydrocarbons)	2022/08/17	4.1		%	40
A683007	MPU	Matrix Spike	Soluble (Hot water) Boron (B)	2022/08/16		91	%	75 - 125
A683007	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/16		94	%	80 - 120
A683007	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/16	<0.10		mg/kg	

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A683007	MPU	RPD	Soluble (Hot water) Boron (B)	2022/08/16	6.8		%	35

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

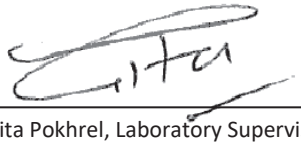
Bureau Veritas Job #: C260016
Report Date: 2022/08/19

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

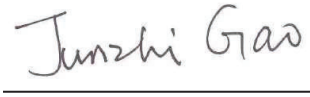
VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics



Gita Pokhrel, Laboratory Supervisor



Janet Gao, B.Sc., QP, Supervisor, Organics

Suwan (Sze Yeung) Fock, B.Sc., Scientific Specialist

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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☐ Winnipeg, MB: D-675 Berry St. R3H 1A7 Toll Free (866) 800-6208

638

CHAIN OF CUSTODY RECORD
ENV COC - 00013v3

12-Aug-22 09:00
Cynny Hagen
C260016
IKA INS-0001

Invoice Information	Invoice to (requires report) ☐	Report Information (if differs from invoice)		Project Information	
Company :	Client #254, Golder Associates	Company:	Golder Associates	Quotation #:	Shell
Contact Name:	237 - 4 Ave SW Suite 3300	Contact Name:	Aurelie Bellavance	P.O. #/ AFE#:	22525414-3100-3104
Street Address:		Street Address:		Project #:	22525414-3000
City: Calgary Prov: AB Postal Code:		City: Calgary AB Postal Code:	T2P 4K3	Site #:	NA
Phone:		Phone:	403-299-5600	Site Location:	Camp Farewell ↳ ~~WEST CHANNEL~~, NT
Email:	Canada Account Payable	Email:	aurelie.bellavance@wsp.com	Site Location Province:	NT
Copies:		Copies:	peter.tan@wsp.com	Sampled By:	Melissa Lord, Harmanjeet Kaur

Regulatory Criteria
☐ AT1 ☐ CCME ☐ Drinking Water - Canada ☐ Drinking Water - Manitoba
☐ Saskatchewan ☐ Drinking Water - Alberta ☒ Other AMSRP

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX F1-F4	5 PAHS	6 BTEX F1-F2	7 BARIUM TRUE TOTAL	8 Routine water	9 Regulated metals - total	10 Regulated metals - dissolved	11 Mercury - total	12 Mercury - dissolved	13 Salinity 4	14 Sieve (75 micron)	15 Texture (% sand, silt, clay)	16 Basic class II landfill	17 Naphthalene	18	19	20 LIMITED SAMPLE	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE
1	BH22-29-03	22	08	09	13	30	Soil				X					X								X				3	
2	DUP J	↓	↓	↓	13	10	Soil				X					X								X				3	
3	BH22-29-02				13	10	Soil				X					X								X				3	
4	BH22-29-01				13	00	Soil				X					X								X				3	
5	BH22-25-03				15	20	Soil				X					X								X				5	
6	BH22-25-01				15	00	Soil				X					X								X				5	
7	BH22-25-02				15	10	Soil				X					X								X				5	
8	BH22-25-04				15	30	Soil				X					X								X				5	
9	BH22-25-05	↓	↓	↓	15	40	Soil				X					X								X				5	
10																													
11																													
12																													

Regular Turnaround Time (TAT)
☐ 5 to 7 Day ☐ 10 Day

Rush Turnaround Time (TAT) Surcharges apply
☐ Same Day ☐ 1 Day
☒ 2 Day ☐ 3 Day
☐ 4 Day

Date Required: YY MM DD

Comments
email report to:
gld.SHELLDOR@equis.com
gld.iol-equis@wsp.com
Upload to facility code
41259544

Received in Yellowknife
By: J. Mercure
@9:00
AUG 12 2022
ice-yes ice-yes
Temp: 2 1.5 1.5

*UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS AND CONDITIONS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS AND CONDITIONS OR BY CALLING THE LABORATORY LISTED ABOVE TO OBTAIN A COPY

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present	✓					
Seal intact	✓					
Cooling media present	✓			5	5	7

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling media present						

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling media present						

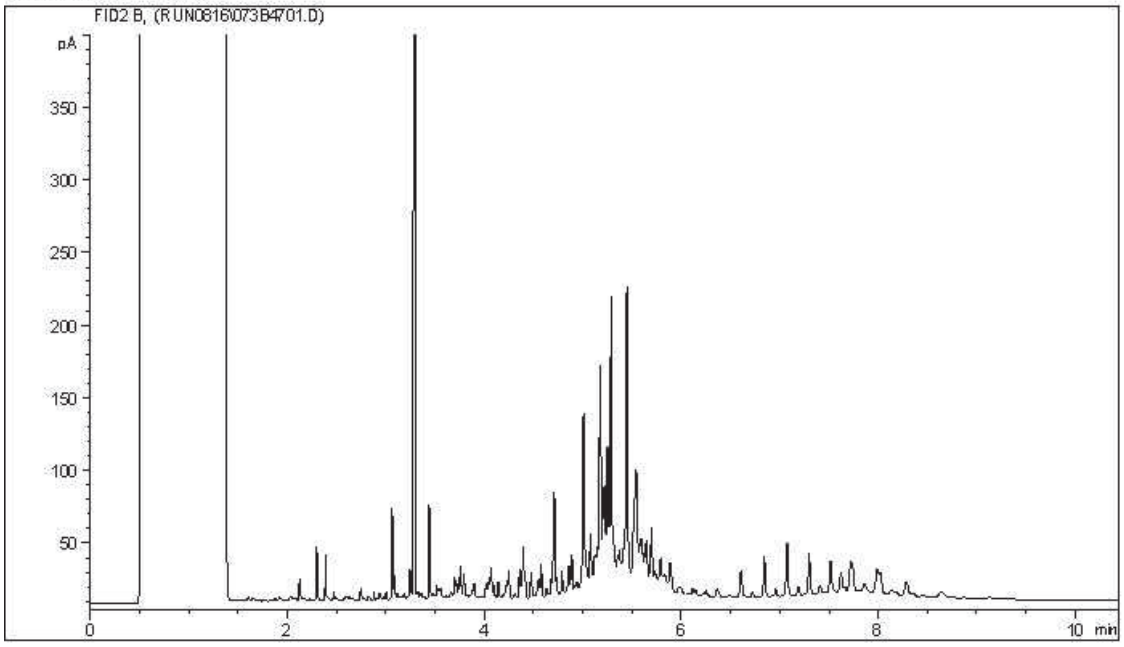
Temperature reading by:

	Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Received by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM
1	Melissa Lord	22	08	10	08	00	Sarah Doran	2022	08	13	15	03
2												

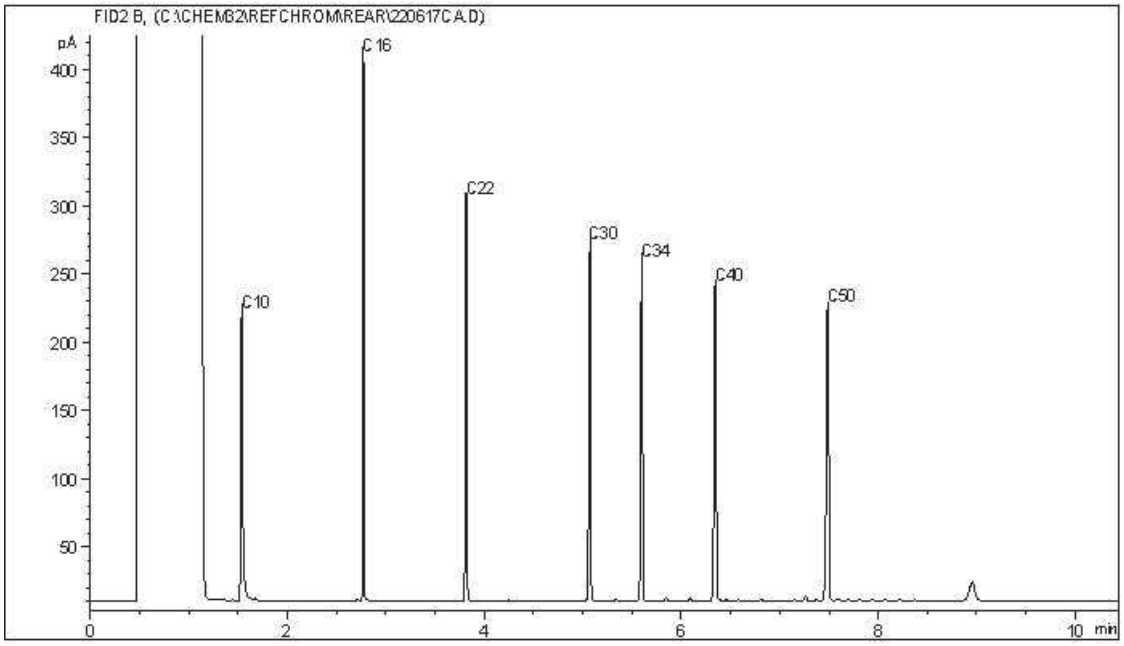
Special instructions

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



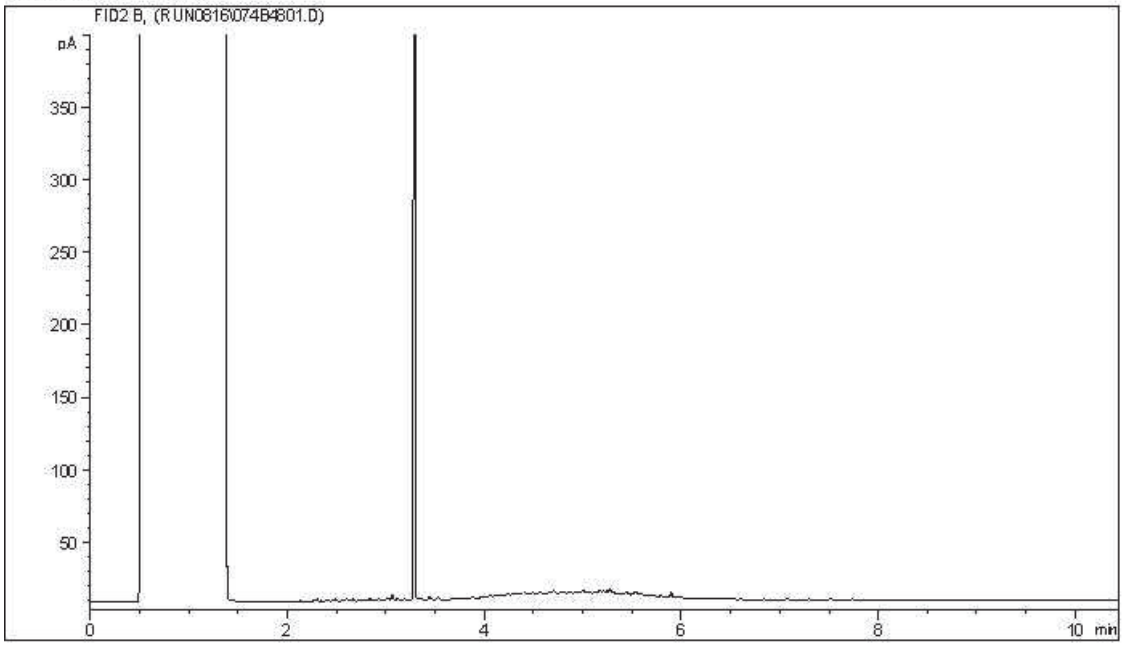
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

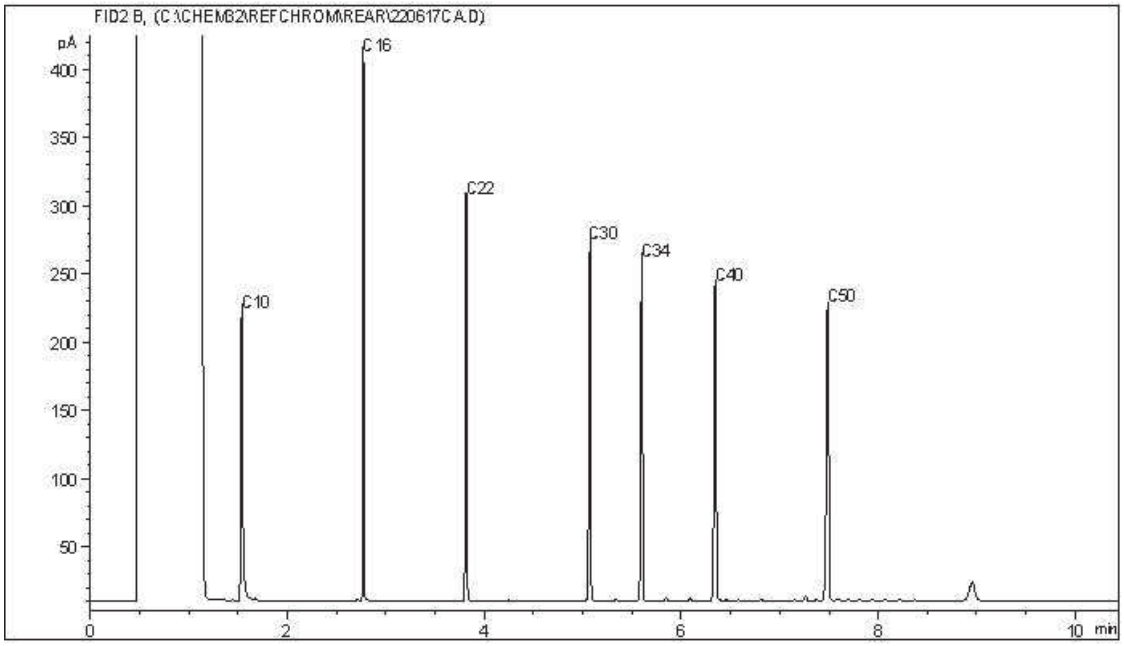
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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Gasoline:	C4 - C12	Diesel:	C8 - C22
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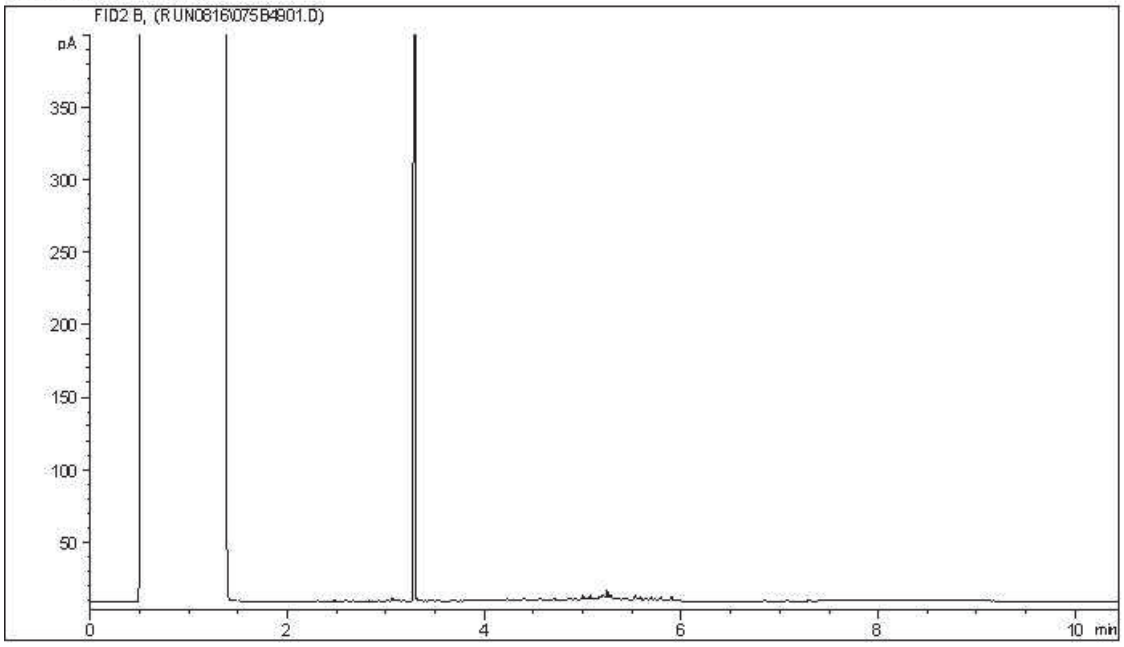
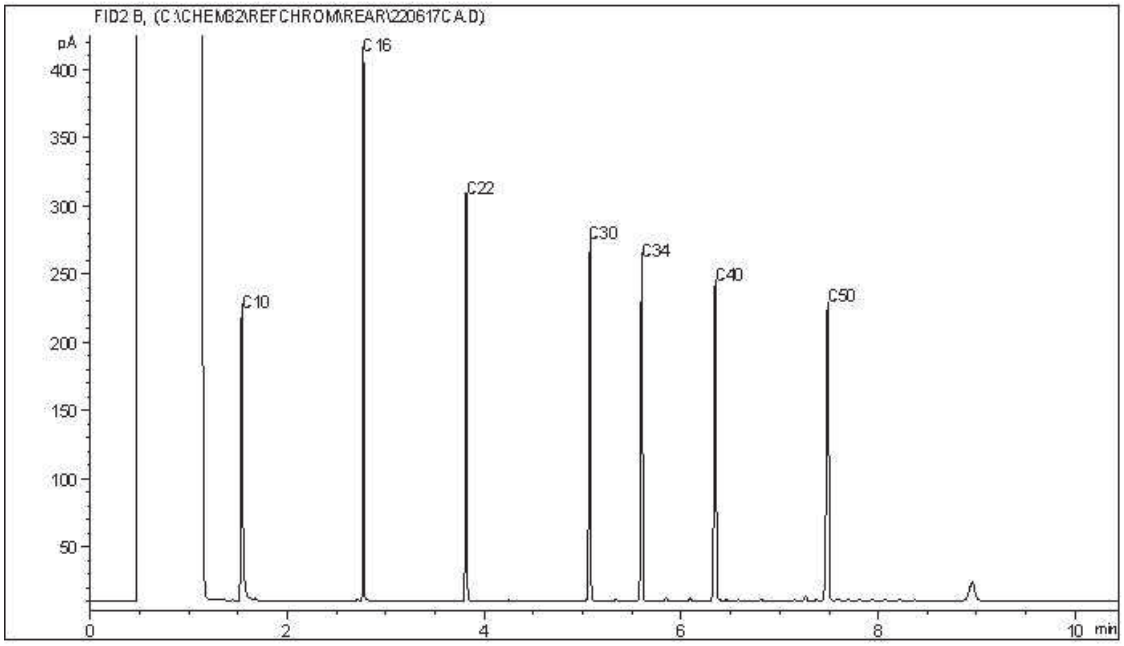
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
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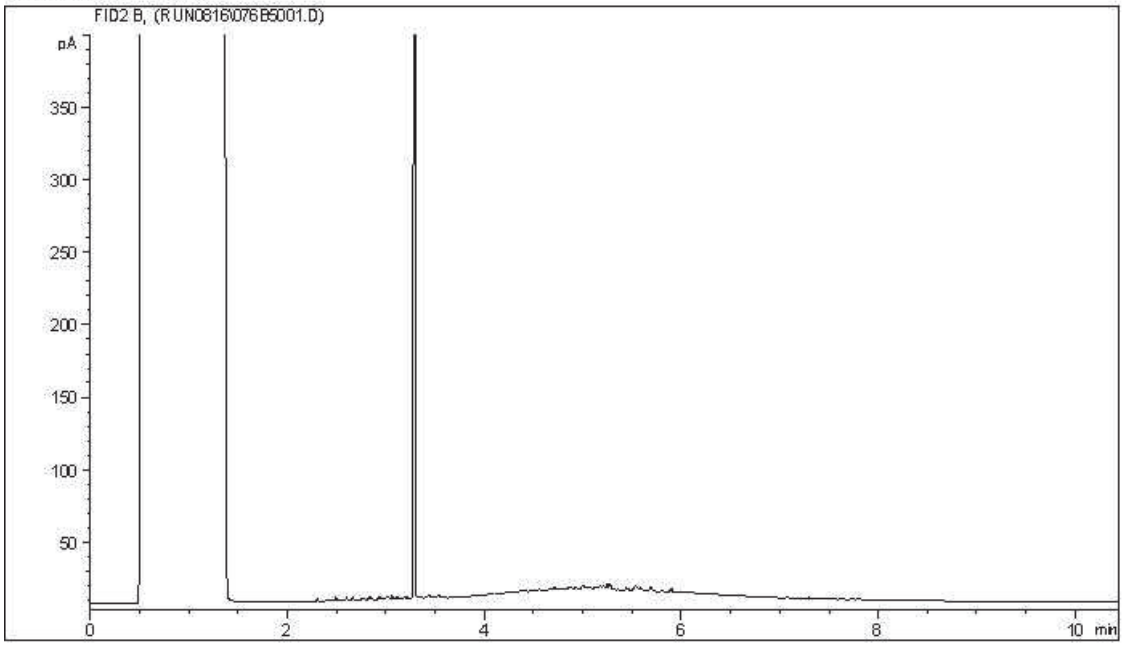
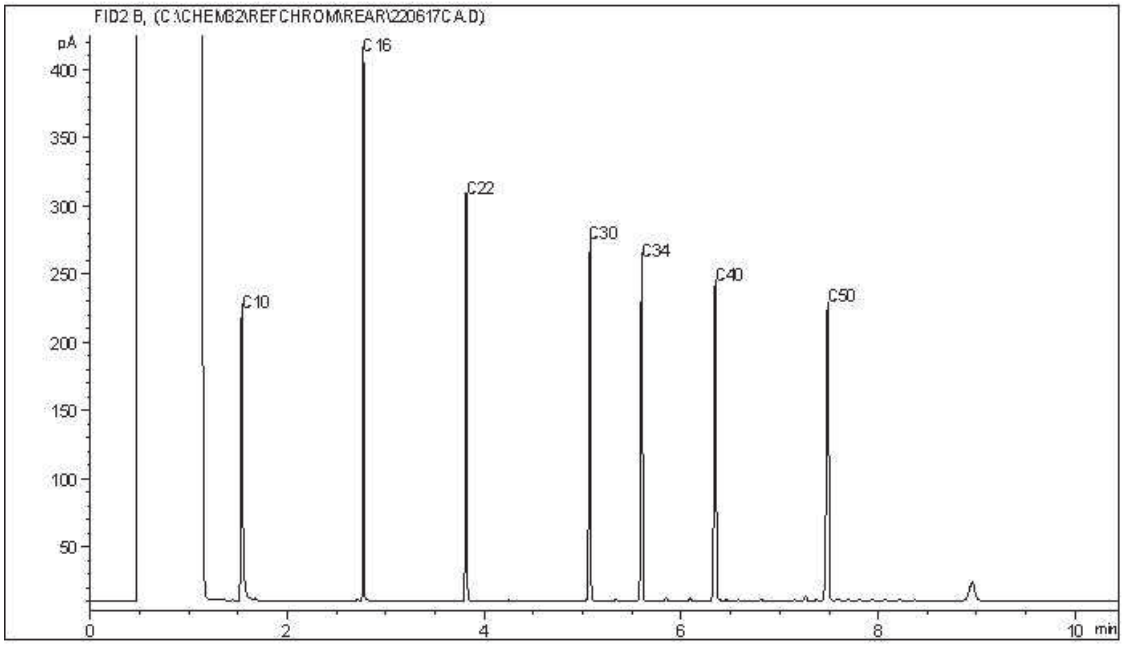
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



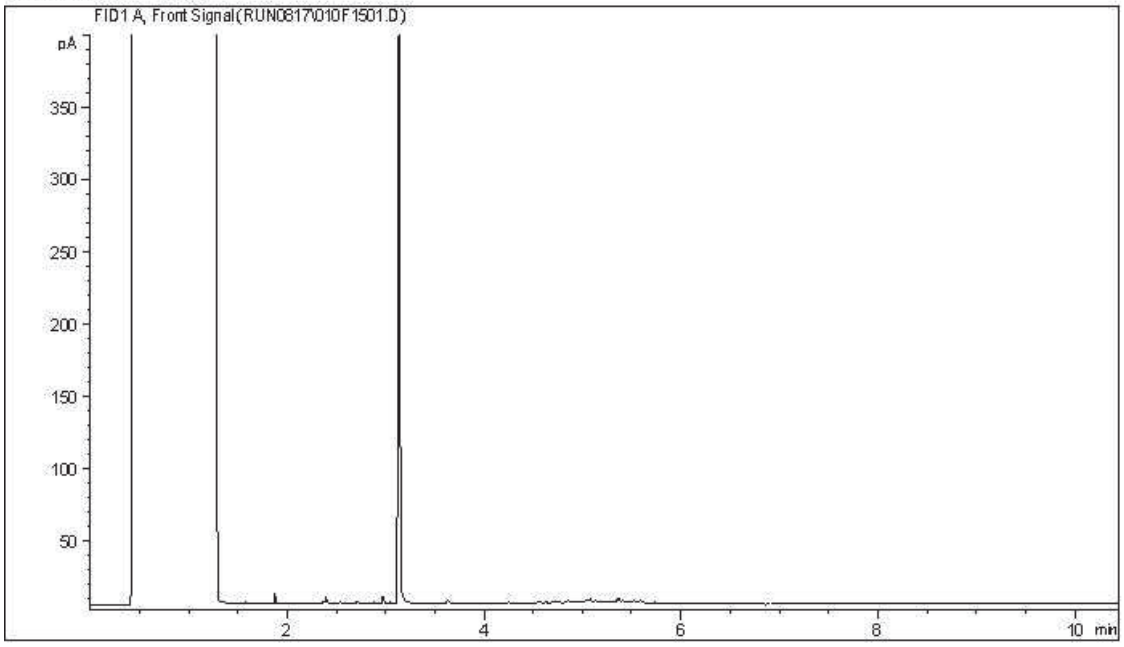
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

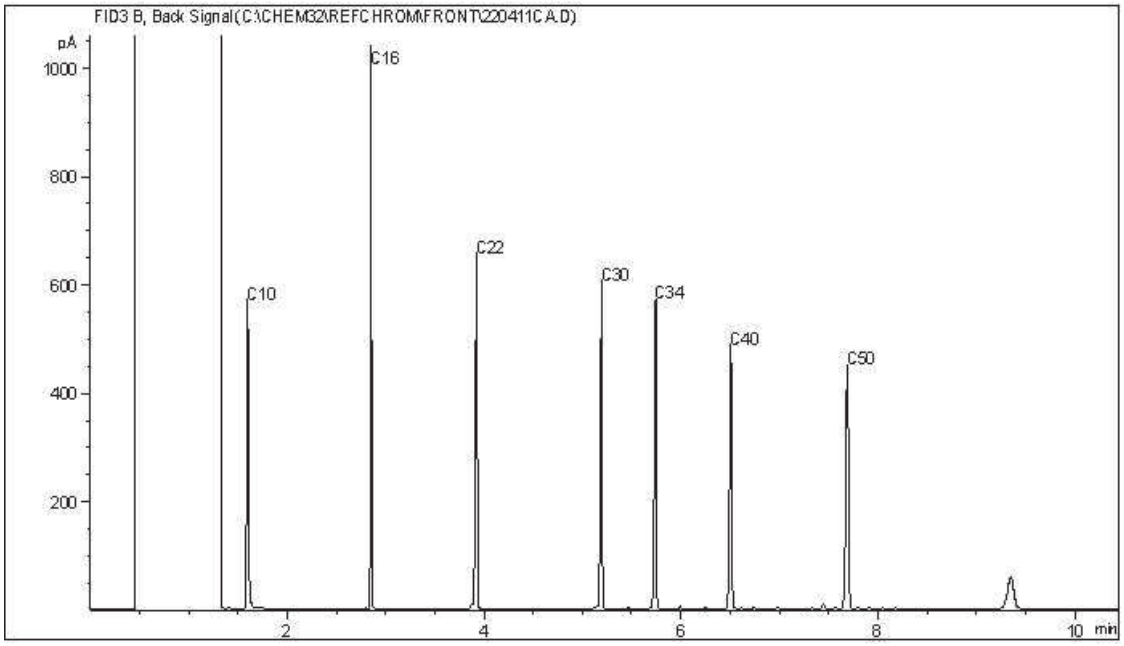
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



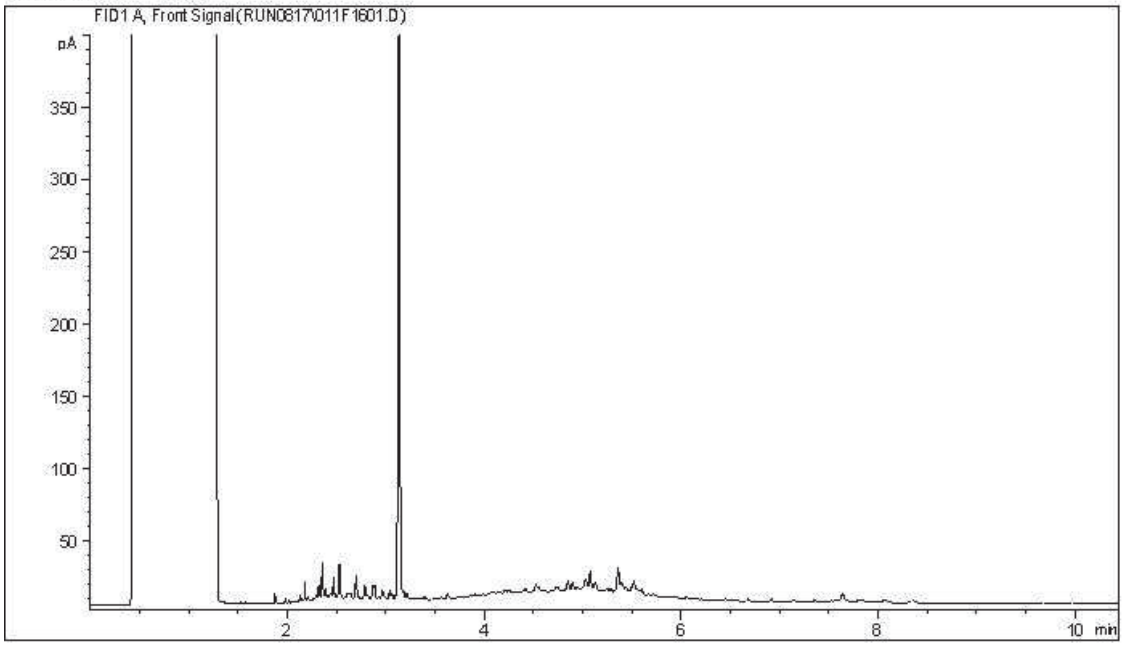
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

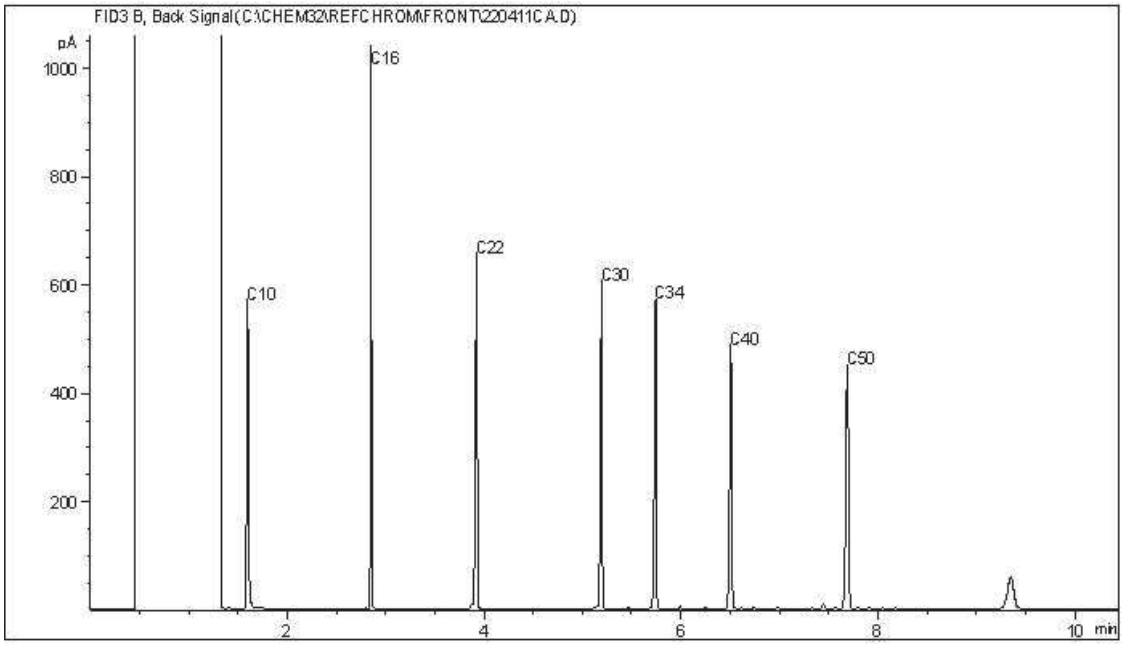
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



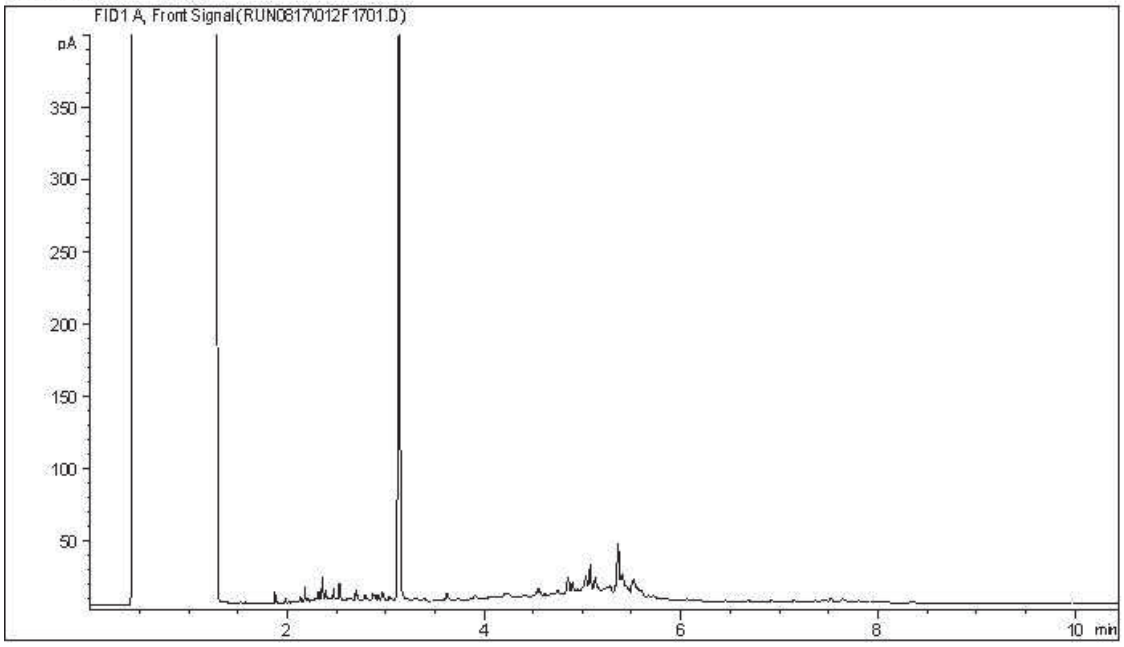
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

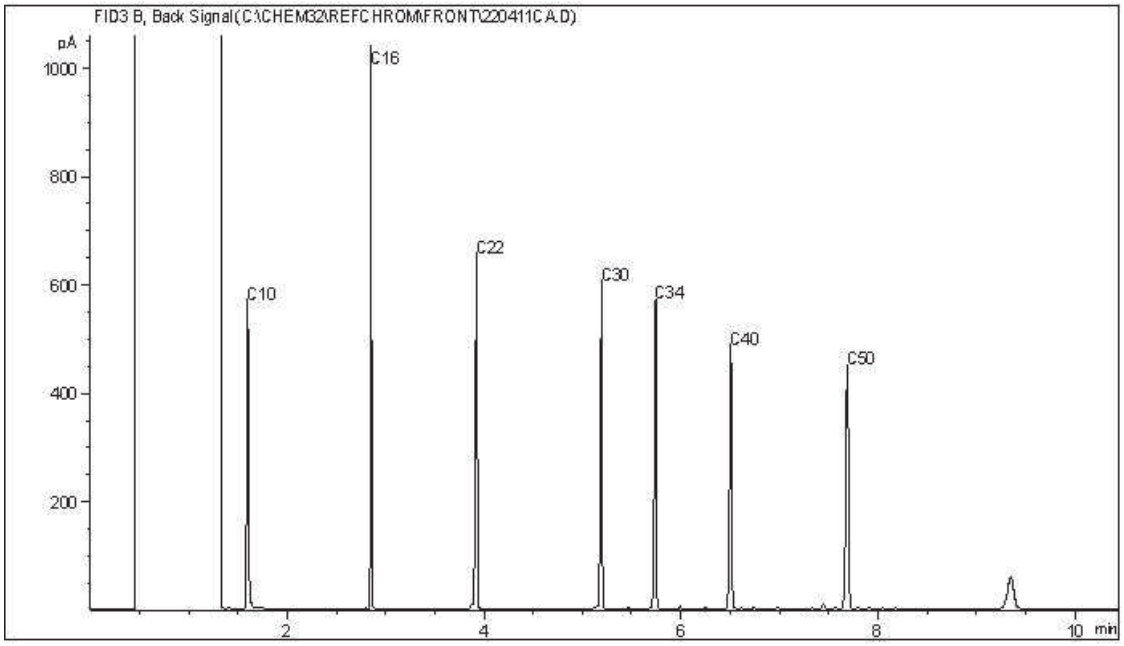
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



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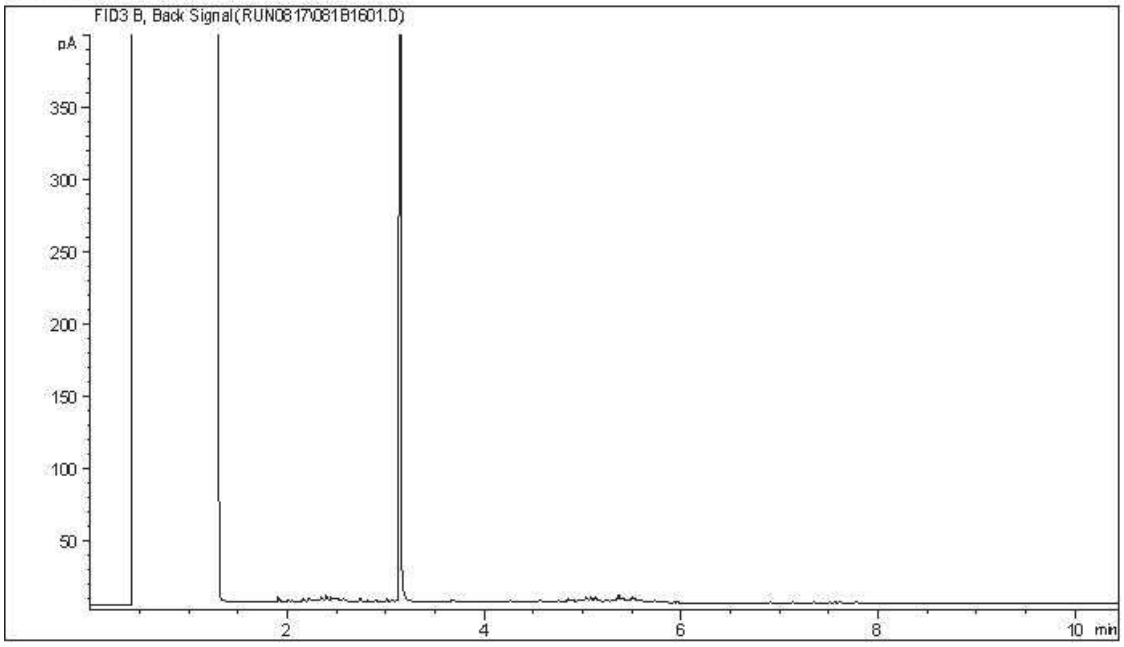
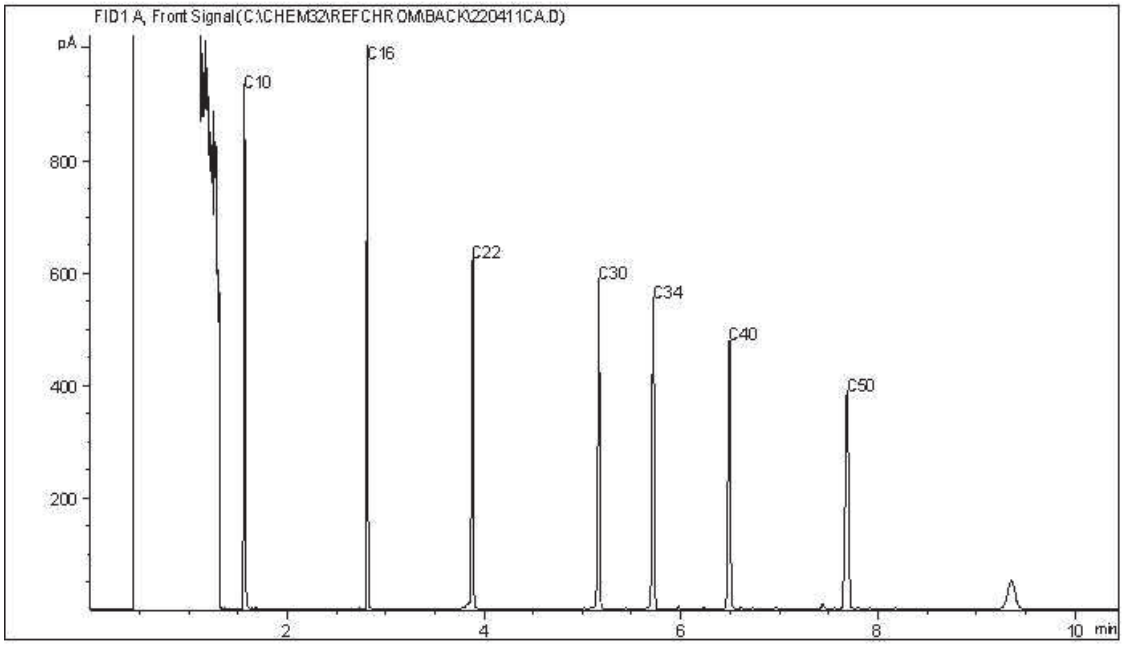
Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



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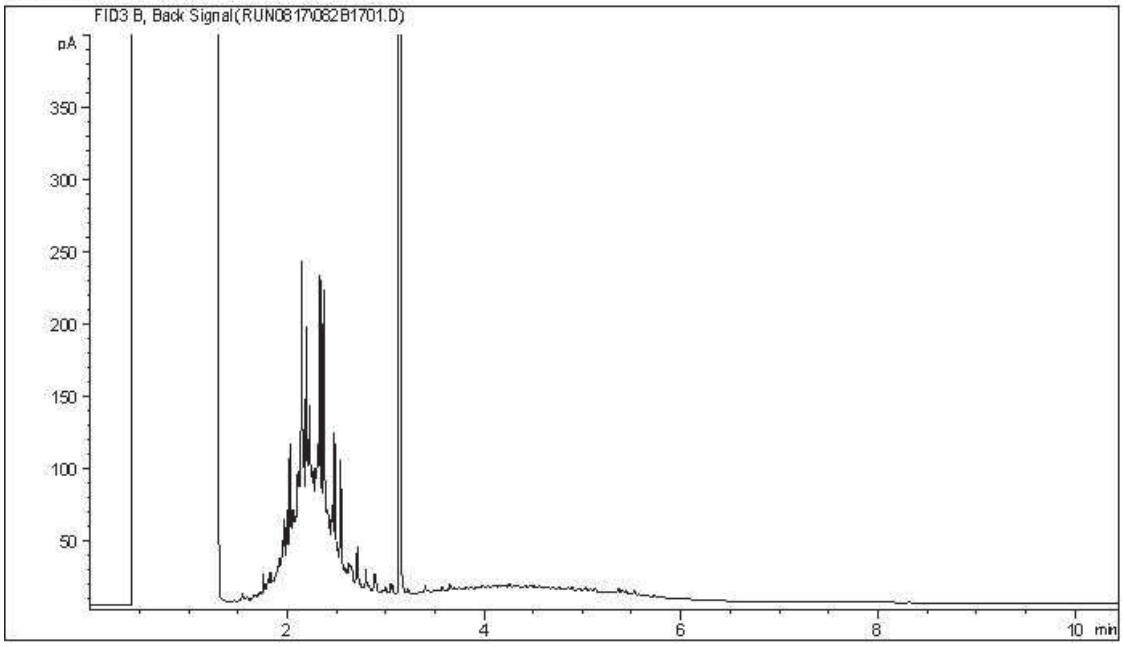
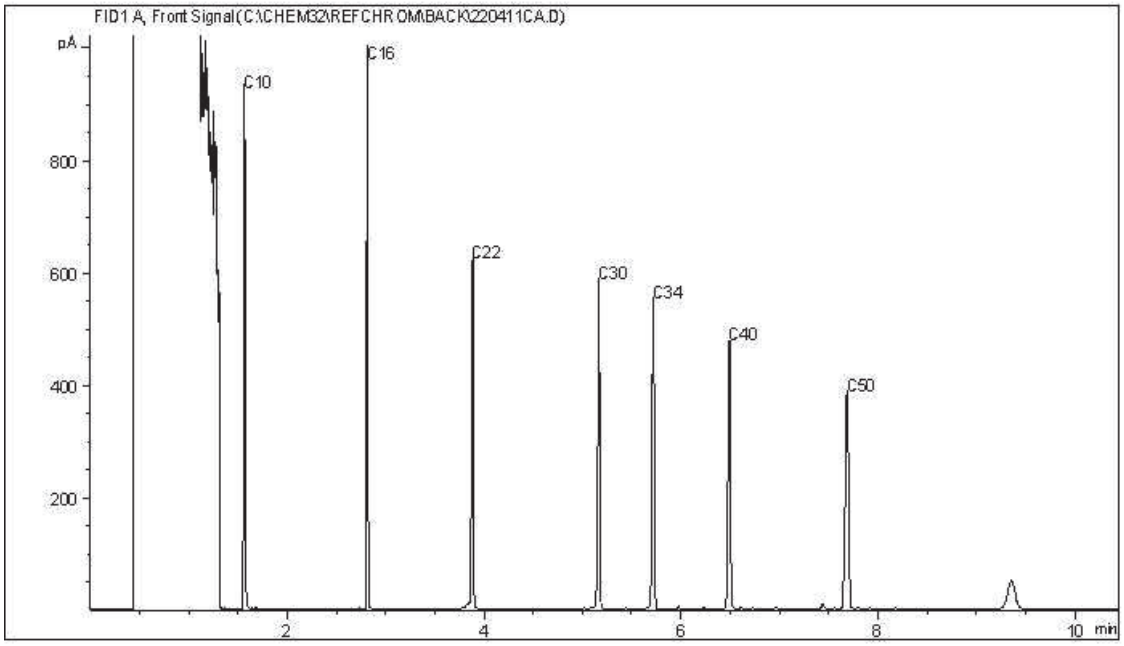


Carbon Range Distribution - Reference Chromatogram



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Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

August 19, 2022

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB, T2P 2W2

Attention: Aurelie Bellavance

Re: Chromatogram Interpretation of CAMP FAREWELL, NT; Project 22525414-1000
Bureau Veritas Job No.: C260016

Bureau Veritas was retained by Golder Associates Ltd. to provide hydrocarbon interpretations concerning the likely origin of hydrocarbons quantified within CCME fraction(s) F2, F3 and/or F4.

Analytical Method

Petroleum hydrocarbon analyses at Bureau Veritas are conducted in accordance with the analytical specifications required by the prescriptive and performance-based (where appropriate) elements of the CCME Tier I protocols for hydrocarbon determination[1] in soil samples.

Chromatogram Interpretation

A comprehensive qualitative assessment of the resultant gas chromatograms in the F2-F4 ranges was performed. The chromatograms were inspected for specific peak profiles that would indicate the possible origin of the hydrocarbons present in the sample. The presence and nature of specific aliphatic compounds (n-alkanes), the presence of characteristic unresolved complex mixtures (UCMs) or "humps" and the relative abundance (ratios) of specific compounds are reviewed as part of the evaluation.

[1] Canadian Council of Ministers of the Environment: "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil – Tier I Method" 2001

Data Interpretation

Table 1. Qualitative Data Summary – Chromatogram Interpretation

Lab ID	Sample ID	Chromatogram Interpretation
AZM175	BH22-29-03	The CCME F2-F4 chromatographic peak profile is consistent with biogenic organic material (e.g. peat). Chromatograms of biogenic organic material may contain peak patterns spanning the C10 to C50 range, but they are most commonly characterized by a profile of unevenly distributed sharp peaks between C28 and C34. The impacts are not consistent with a petroleum product or crude oil.
AZM183	BH22-25-5	The CCME F2-F4 chromatographic peak profile is consistent with a weathered middle distillate petroleum product (e.g. Diesel #1/Kerosene). These are typically characterized by evenly distributed peaks between C10 and C24, representing the simple straight chain aliphatic compounds (n-alkanes). These peaks will decrease in height, relative to the unresolved complex mixture (UCM or "hump") with increased weathering of the product material.

If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,
Bureau Veritas Laboratories

Michael Sheppard, B.Sc., P.Bio., QP
Consulting Scientist
Environmental Services

Scott Cantwell, CET, B.Sc., P.Chem.
Director and General Manager – Western Canada
Environmental Services

Disclaimer

Hydrocarbon Resemblance
Characterization by way of visual evaluation of the sample chromatogram may not be conclusive and is only indicative of substances that may be present. The resemblance information must be regarded as approximate and qualitative.

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC
2021 - 41ST STREET NE
Calgary, AB T2E6P2
(403) 291-3077

ATTENTION TO: Cynny Hagen

PROJECT: C260016

AGAT WORK ORDER: 22C940433

SOIL ANALYSIS REVIEWED BY: Loan Nguyen, Senior Analyst

DATE REPORTED: Sep 06, 2022

PAGES (INCLUDING COVER): 7

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 22C940433

PROJECT: C260016

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Metals - Barium by Fusion ICP

DATE RECEIVED: 2022-09-01

DATE REPORTED: 2022-09-06

				AZM179-BH22-	AZM180-BH22-	AZM181-BH22-	AZM182-BH22-	AZM183-BH22-
			SAMPLE DESCRIPTION:	25-03	25-01	25-02	25-04	25-5
			SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
			DATE SAMPLED:	2022-09-01 15:20	2022-09-01 15:00	2022-09-01 15:10	2022-09-01 15:30	2022-09-01 15:40
Parameter	Unit	G / S	RDL	4266731	4266735	4266736	4266737	4266738
True Barium by Fusion ICP	mg/kg		50	3560	36400	9770	3770	1960

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4266731-4266738 Result is based on the dry weight of the sample.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940433

PROJECT: C260016

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Sep 06, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals - Barium by Fusion ICP															
Barium by Fusion ICP-OES	4266587		976	977	0.0%	< 40	95%	70%	130%				NA	70%	130%

Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Method Summary

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940433

PROJECT: C260016

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
True Barium by Fusion ICP	SOIL- 0620, INST- 0140	ASTM D4503.08	ICP/OES

1-SEP '22 PM12:10

Sent To: **AGAT - Calgary**
2910 12th Street NE
Calgary, AB, T2E 7P7
Tel: (403) 735-2005

CHAIN OF CUSTODY RECORD FOR SUBCONTRACTED WORK

COC # C260016-CAGT-01-01

22C940433

REPORT INFORMATION	
Company:	Bureau Veritas
Address:	4000 19st N.E, Calgary, Alberta, T2E 6P8
Contact Name:	Cynny Hagen
Email:	Cynny.HAGEN@bureauveritas.com, Customersolutionswest@bureauveritas.co
Phone:	(403) 735-2273
Lab Project #:	C260016

#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	# CONT.	ANALYSIS REQUESTED: Barium on ICP using Fusion Extraction										ADDITIONAL SAMPLE INFORMATION
1	AZM179-BH22-25-03	SOIL	2022/08/09	15:20	ML	1	X										(P: 01)
2	AZM180-BH22-25-01	SOIL	2022/08/09	15:00	ML	1	X										(P: 01)
3	AZM181-BH22-25-02	SOIL	2022/08/09	15:10	ML	1	X										(P: 01)
4	AZM182-BH22-25-04	SOIL	2022/08/09	15:30	ML	1	X										(P: 01)
5	AZM183-BH22-25-5	SOIL	2022/08/09	13:40	ML	1	X										(P: 01)
6																	
7																	
8																	
9																	
10																	

REGULATORY CRITERIA

SPECIAL INSTRUCTIONS

Please inform Bureau Veritas immediately if:
- You are not accredited for the requested test(s)
- The hold time is approaching for the requested test(s).

Please return a copy of this form with the report.

TURNAROUND TIME

[X] Rush Required

2022/09/07

Date Required

Please inform us if rush charges will be incurred.

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present	—		NA			
Custody Seal Intact	—					
Cooling Media Present	—					

RELINQUISHED BY: (SIGN & PRINT)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (SIGN & PRINT)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)
1. Robert Mebrahtu	2022/09/01	09:30	1. Lanz Cruz	2022/09/01	12:10
2.			2.		

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Bureau Veritas

Courier: Jazoo Prepaid Collect

Waybill#

Branch: EDM GP FN FM RD VAN LYD FSJ EST SASK Other:

If multiple sites were submitted at once: (Yes) No

Custody Seal Intact: Yes No (NA)

TAT: <24hr 24-48hr 48-72hr Reg Other

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Color , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry:

Hydrocarbons: Earliest Expiry

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack (Bagged Ice) Free Ice Free Water None

Temperature (Bottles/Jars only) (N/A) if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) N/A Soil =___°C 2(Bottle/Jar)___+___+___=___°C

3 (Bottle/Jar)___+___+___=___°C 4 (Bottle/Jar)___+___+___=___°C

5 (Bottle/Jar)___+___+___=___°C 6 (Bottle/Jar)___+___+___=___°C

7 (Bottle/Jar)___+___+___=___°C 8 (Bottle/Jar)___+___+___=___°C

9 (Bottle/Jar)___+___+___=___°C 10 (Bottle/Jar)___+___+___=___°C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No:

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other:

Account Project Manager: have they been notified of the above issues: Yes No

Whom spoken to: Date/Time:

CPM Initial

General Comments:

* Subcontracted Analysis (See CPM)

Date issued: March 11, 2020
Document ID: SR-9505.004

IN-CITY

JAZOO EXPRESS COURIER

www.jazoocourier.com

CLIENT USE ONLY

Sender Name:	Robel Mebrahtu	Receiver Name:	Sample Reception	Billed To:	Bureau Veritas
Date:	20221091101	Delivery From:	Bureau Veritas Calgary		
		Delivery To:	AGAT-Calgary 2910 12th street NE Calgary,AB, T2E 7P7		
Total # Items:	2	Item Description: envelope, sm/med/lg box, cooler, etc.	1 Large Cooler, 1 Medium Cooler		
			Job/PO/Reference #:		
Authorized Shipper Signature:					

DRIVER USE ONLY

P/U Driver Name:		P/U Time:	11:50 am	D/O Time:	am
# Items P/U:	2		pm		7:05 pm

# Of Overweight	# Of TDG	# Of Same Day	Surcharge

Additional Info: Done

Total # Items Dropped Off:	2	D/O Driver Name:	
Authorized Receiver Signature:			

HOTSHOT DETAILS

Total Km:		Or Total Charge ($):	

OFFICE USE ONLY

Verified By:		Invoiced By:	

To schedule a pickup please contact dispatch at the city nearest you:

Calgary	403-660-5504	**Fort McMurray**	587-645-6364
Edmonton	780-903-3628	**Grande Prairie**	587-297-8406

THANK YOU FOR SUPPORTING LOCAL AND CHOOSING JAZOO EXPRESS COURIER.

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell, NT

Sampling Date: August 9, 2022

Golder Project Number: 22525414-1000

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C260016

Was the Cooler Received at the lab under a sealed and intact custody seal?	Yes
Was proper chain of custody of the samples documented and kept?	Yes
Were sample temperatures acceptable when they reached lab?:	Yes
Were all samples analyzed and extracted within hold times?:	Yes
Has lab warranted all tests were in statistical control in CoA?:	Yes
Was sufficient sample provided for the requested analysis?	Yes
Has lab warranted all samples were analyzed with limited headspace present?:	Yes

Are All Laboratory QC Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery	X			Matrix spike recovery for vanadium (136%, 151% and
Method Blank Concentration	X			140%) exceeded the acceptance criteria of (75-125%)
Laboratory Duplicate RPD	X			All remaining laboratory QC results are within
Matrix Spike Recovery		X		acceptance criteria.
Blank Spike Recovery	X			

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	All field QC samples are within
Trip Blank Concentration			X	alert limits.
Field Duplicate RPD	X			

Is data considered reliable (Yes/No/Suspect)?: Yes

If answer is "No" or "Suspect", describe and provide rationale:

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: August 18, 2022

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/09/06
Report #: R3226608
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260023
Received: 2022/08/12, 09:00

Sample Matrix: Soil
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble) (1)	8	2022/08/16	2022/08/16	AB SOP-00034 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 3)	8	N/A	2022/08/17	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	8	N/A	2022/08/17		Auto Calc
Hexavalent Chromium (1, 4)	8	2022/08/16	2022/08/16	AB SOP-00063	SM 23 3500-Cr B m
Barium on ICP using Fusion Extraction (2)	2	N/A	2022/09/06		
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	8	2022/08/15	2022/08/16	AB SOP-00036	CCME PHC-CWS m
Elements by ICPMS - Soils (1)	8	2022/08/16	2022/08/17	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Moisture (1)	8	N/A	2022/08/16	AB SOP-00002	CCME PHC-CWS m
Benzo[a]pyrene Equivalency (1)	2	N/A	2022/08/16		Auto Calc
Benzo[a]pyrene Equivalency (1)	6	N/A	2022/08/17		Auto Calc
PAH in Soil by GC/MS (1)	7	2022/08/15	2022/08/16	AB SOP-00036 / AB SOP-00003	EPA 3540C/8270E m
PAH in Soil by GC/MS (1)	1	2022/08/16	2022/08/16	AB SOP-00036 / AB SOP-00003	EPA 3540C/8270E m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/09/06
Report #: R3226608
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260023
Received: 2022/08/12, 09:00

dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8
(2) This test was performed by AGAT - Calgary, 2910 12th Street NE , Calgary, AB, T2E 7P7
(3) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(4) Some soil samples may react with the Cr(VI) spike reducing it to Cr(III). These samples are highly unlikely to contain native hexavalent chromium. Thus a failed spike recovery does not invalidate a negative result on the native sample.
(5) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
06 Sep 2022 17:23:52

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Cynny Hagen, Key Account Specialist
Email: Cynny.HAGEN@bureauveritas.com
Phone# (403)735-2273

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C260023
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM220	AZM221	AZM222	AZM223	AZM224	AZM224		
Sampling Date		2022/08/08 10:20	2022/08/08 10:30	2022/08/08 10:35	2022/08/08 10:40	2022/08/08 10:45	2022/08/08 10:45		
COC Number		1 of 1	1 of 1	1 of 1	1 of 1	1 of 1	1 of 1		
	UNITS	BH22-24-01	BH22-24-02	BH22-24-03	BH22-24-04	BH22-24-05	BH22-24-05 Lab-Dup	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	44	31	<10	<10	<10	10	A681385
F3 (C16-C34 Hydrocarbons)	mg/kg	77	82	360	<50	<50	<50	50	A681385
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	92	<50	<50	<50	50	A681385
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A681385
Physical Properties									
Moisture	%	4.5	8.2	25	7.8	17	N/A	0.30	A681498
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	<0.045	N/A	0.045	A680070
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	<10	N/A	10	A680070
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	N/A	0.0050	A680671
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	N/A	0.050	A680671
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	N/A	0.010	A680671
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	N/A	0.040	A680671
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	N/A	0.020	A680671
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	<10	N/A	10	A680671
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	98	98	97	96	97	N/A	N/A	A680671
4-Bromofluorobenzene (sur.)	%	99	99	98	98	98	N/A	N/A	A680671
D10-o-Xylene (sur.)	%	95	92	111	100	102	N/A	N/A	A680671
D4-1,2-Dichloroethane (sur.)	%	99	101	99	98	98	N/A	N/A	A680671
O-TERPHENYL (sur.)	%	123	116	140	123	116	116	N/A	A681385

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260023
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM225		AZM226		AZM227		
Sampling Date		2022/08/08 10:50		2022/08/08 10:55		2022/08/08 10:55		
COC Number		1 of 1		1 of 1		1 of 1		
	UNITS	BH22-24-06	RDL	BH22-24-07	RDL	DUP D	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	<10	10	<10	10	A681385
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	50	<50	50	<50	50	A681385
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	<50	50	<50	50	A681385
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	Yes	N/A	A681385
Physical Properties								
Moisture	%	16	0.30	18	0.30	17	0.30	A681498
Volatiles								
Xylenes (Total)	mg/kg	<0.045	0.045	<0.092	0.092	<0.10	0.10	A680070
F1 (C6-C10) - BTEX	mg/kg	<10	10	<21	21	<23	23	A680070
Field Preserved Volatiles								
Benzene	mg/kg	<0.0050	0.0050	<0.0090 (1)	0.0090	<0.010 (1)	0.010	A680671
Toluene	mg/kg	<0.050	0.050	<0.050 (1)	0.050	<0.050 (1)	0.050	A680671
Ethylbenzene	mg/kg	<0.010	0.010	<0.014 (1)	0.014	<0.015 (1)	0.015	A680671
m & p-Xylene	mg/kg	<0.040	0.040	<0.082 (2)	0.082	<0.091 (2)	0.091	A680671
o-Xylene	mg/kg	<0.020	0.020	<0.041 (2)	0.041	<0.045 (2)	0.045	A680671
F1 (C6-C10)	mg/kg	<10	10	<21 (2)	21	<23 (2)	23	A680671
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	96	N/A	101	N/A	97	N/A	A680671
4-Bromofluorobenzene (sur.)	%	99	N/A	98	N/A	99	N/A	A680671
D10-o-Xylene (sur.)	%	105	N/A	106	N/A	111	N/A	A680671
D4-1,2-Dichloroethane (sur.)	%	98	N/A	95	N/A	98	N/A	A680671
O-TERPHENYL (sur.)	%	118	N/A	122	N/A	125	N/A	A681385

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limit reported based on MDL and sample weight used for analysis.
(2) Detection limits raised based on sample weight used for analysis.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

CCME REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AZM220	AZM221		AZM222		AZM223	AZM224		
Sampling Date		2022/08/08 10:20	2022/08/08 10:30		2022/08/08 10:35		2022/08/08 10:40	2022/08/08 10:45		
COC Number		1 of 1	1 of 1		1 of 1		1 of 1	1 of 1		
	UNITS	BH22-24-01	BH22-24-02	QC Batch	BH22-24-03	QC Batch	BH22-24-04	BH22-24-05	RDL	QC Batch
Elements										
Soluble (Hot water) Boron (B)	mg/kg	0.11	0.72	A683007	0.36	A683000	<0.10	<0.10	0.10	A683007
Hex. Chromium (Cr 6+)	mg/kg	<0.080	<0.080	A682694	<0.080	A682694	<0.080	<0.080	0.080	A682694
Total Antimony (Sb)	mg/kg	<0.50	<0.50	A682611	<0.50	A683223	<0.50	<0.50	0.50	A682611
Total Arsenic (As)	mg/kg	8.8	8.7	A682611	3.5	A683223	7.6	6.1	1.0	A682611
Total Barium (Ba)	mg/kg	1900	310	A682611	280	A683223	910	130	1.0	A682611
Total Beryllium (Be)	mg/kg	<0.40	<0.40	A682611	<0.40	A683223	<0.40	<0.40	0.40	A682611
Total Cadmium (Cd)	mg/kg	0.14	0.12	A682611	0.10	A683223	0.075	0.093	0.050	A682611
Total Chromium (Cr)	mg/kg	21	31	A682611	17	A683223	10	31	1.0	A682611
Total Cobalt (Co)	mg/kg	3.7	3.8	A682611	4.0	A683223	4.2	4.7	0.50	A682611
Total Copper (Cu)	mg/kg	9.2	7.1	A682611	4.6	A683223	4.4	5.5	1.0	A682611
Total Lead (Pb)	mg/kg	17	7.5	A682611	5.5	A683223	6.6	3.9	0.50	A682611
Total Mercury (Hg)	mg/kg	0.052	0.058	A682611	0.057	A683223	<0.050	<0.050	0.050	A682611
Total Molybdenum (Mo)	mg/kg	1.9	1.3	A682611	0.88	A683223	1.2	0.88	0.40	A682611
Total Nickel (Ni)	mg/kg	14	20	A682611	9.8	A683223	8.6	14	1.0	A682611
Total Selenium (Se)	mg/kg	<0.50	<0.50	A682611	<0.50	A683223	<0.50	<0.50	0.50	A682611
Total Silver (Ag)	mg/kg	<0.20	<0.20	A682611	<0.20	A683223	<0.20	<0.20	0.20	A682611
Total Thallium (Tl)	mg/kg	<0.10	<0.10	A682611	<0.10	A683223	<0.10	<0.10	0.10	A682611
Total Tin (Sn)	mg/kg	<1.0	<1.0	A682611	<1.0	A683223	<1.0	<1.0	1.0	A682611
Total Uranium (U)	mg/kg	0.44	0.47	A682611	0.36	A683223	0.31	0.45	0.20	A682611
Total Vanadium (V)	mg/kg	19	17	A682611	14	A683223	21	18	1.0	A682611
Total Zinc (Zn)	mg/kg	37	23	A682611	14	A683223	27	32	10	A682611

RDL = Reportable Detection Limit

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GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

CCME REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AZM225		AZM226	AZM227		
Sampling Date		2022/08/08 10:50		2022/08/08 10:55	2022/08/08 10:55		
COC Number		1 of 1		1 of 1	1 of 1		
	UNITS	BH22-24-06	QC Batch	BH22-24-07	DUP D	RDL	QC Batch
Elements							
Soluble (Hot water) Boron (B)	mg/kg	<0.10	A683007	<0.10	<0.10	0.10	A683000
Hex. Chromium (Cr 6+)	mg/kg	<0.080	A682694	<0.080	<0.080	0.080	A682694
Total Antimony (Sb)	mg/kg	<0.50	A682611	<0.50	<0.50	0.50	A683223
Total Arsenic (As)	mg/kg	5.3	A682611	3.9	3.9	1.0	A683223
Total Barium (Ba)	mg/kg	190	A682611	89	100	1.0	A683223
Total Beryllium (Be)	mg/kg	<0.40	A682611	<0.40	<0.40	0.40	A683223
Total Cadmium (Cd)	mg/kg	0.082	A682611	0.068	0.073	0.050	A683223
Total Chromium (Cr)	mg/kg	21	A682611	15	17	1.0	A683223
Total Cobalt (Co)	mg/kg	3.7	A682611	2.8	2.9	0.50	A683223
Total Copper (Cu)	mg/kg	4.2	A682611	3.3	3.4	1.0	A683223
Total Lead (Pb)	mg/kg	3.8	A682611	3.1	3.8	0.50	A683223
Total Mercury (Hg)	mg/kg	<0.050	A682611	<0.050	<0.050	0.050	A683223
Total Molybdenum (Mo)	mg/kg	0.60	A682611	0.61	0.60	0.40	A683223
Total Nickel (Ni)	mg/kg	10	A682611	7.5	8.1	1.0	A683223
Total Selenium (Se)	mg/kg	<0.50	A682611	<0.50	<0.50	0.50	A683223
Total Silver (Ag)	mg/kg	<0.20	A682611	<0.20	<0.20	0.20	A683223
Total Thallium (Tl)	mg/kg	<0.10	A682611	<0.10	<0.10	0.10	A683223
Total Tin (Sn)	mg/kg	<1.0	A682611	<1.0	<1.0	1.0	A683223
Total Uranium (U)	mg/kg	0.35	A682611	0.33	0.34	0.20	A683223
Total Vanadium (V)	mg/kg	14	A682611	9.1	9.1	1.0	A683223
Total Zinc (Zn)	mg/kg	26	A682611	19	19	10	A683223
RDL = Reportable Detection Limit							

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260023
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

RESULTS OF CHEMICAL ANALYSES OF SOIL

Bureau Veritas ID		AZM220	AZM223	
Sampling Date		2022/08/08 10:20	2022/08/08 10:40	
COC Number		1 of 1	1 of 1	
	UNITS	**BH22-24-01**	**BH22-24-04**	**QC Batch**
Parameter				
Subcontract Parameter	N/A	ATTACHED	ATTACHED	A705604

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SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AZM220	AZM221	AZM222	AZM223	AZM224	AZM224		
Sampling Date		2022/08/08 10:20	2022/08/08 10:30	2022/08/08 10:35	2022/08/08 10:40	2022/08/08 10:45	2022/08/08 10:45		
COC Number		1 of 1	1 of 1	1 of 1	1 of 1	1 of 1	1 of 1		
	UNITS	BH22-24-01	BH22-24-02	BH22-24-03	BH22-24-04	BH22-24-05	BH22-24-05 Lab-Dup	RDL	QC Batch
Polycyclic Aromatics									
B[a]P TPE Total Potency Equivalents	mg/kg	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	N/A	0.0071	A679833
Naphthalene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.012	0.0050	A681395
Surrogate Recovery (%)									
D10-ANTHRACENE (sur.)	%	127	121	124	109	104	119	N/A	A681395
D8-ACENAPHTHYLENE (sur.)	%	114	107	107	117	97	105	N/A	A681395
D8-NAPHTHALENE (sur.)	%	112	106	103	125	94	102	N/A	A681395
TERPHENYL-D14 (sur.)	%	167 (1)	154 (1)	163 (1)	145 (1)	135 (1)	151 (1)	N/A	A681395

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas ID		AZM225	AZM226	AZM227		
Sampling Date		2022/08/08 10:50	2022/08/08 10:55	2022/08/08 10:55		
COC Number		1 of 1	1 of 1	1 of 1		
	UNITS	BH22-24-06	BH22-24-07	DUP D	RDL	QC Batch
Polycyclic Aromatics						
B[a]P TPE Total Potency Equivalents	mg/kg	<0.0071	<0.0071	<0.0071	0.0071	A679833
Naphthalene	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	A681395
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	107	116	124	N/A	A681395
D8-ACENAPHTHYLENE (sur.)	%	123	119	124	N/A	A681395
D8-NAPHTHALENE (sur.)	%	117	114	126	N/A	A681395
TERPHENYL-D14 (sur.)	%	170 (1)	165 (1)	193 (1)	N/A	A681395

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.3°C

Version 2: Report reissued to include results for Barium - True Total on below samples as per client request received 2022/08/24.
BH22-24-01/AZM220
BH22-24-04/AZM223

Sample AZM220 [BH22-24-01] : Please see attachment for Barium on ICP using Fusion Extraction results.

Sample AZM223 [BH22-24-04] : Please see attachment for Barium on ICP using Fusion Extraction results.

Results relate only to the items tested.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A680671	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2022/08/16		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		100	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		105	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		99	%	50 - 140
			Benzene	2022/08/16		102	%	50 - 140
			Toluene	2022/08/16		100	%	50 - 140
			Ethylbenzene	2022/08/16		99	%	50 - 140
			m & p-Xylene	2022/08/16		100	%	50 - 140
			o-Xylene	2022/08/16		99	%	50 - 140
			F1 (C6-C10)	2022/08/16		104	%	60 - 140
A680671	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2022/08/16		97	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		100	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		93	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		99	%	50 - 140
			Benzene	2022/08/16		98	%	60 - 130
			Toluene	2022/08/16		94	%	60 - 130
			Ethylbenzene	2022/08/16		95	%	60 - 130
			m & p-Xylene	2022/08/16		93	%	60 - 130
			o-Xylene	2022/08/16		93	%	60 - 130
			F1 (C6-C10)	2022/08/16		97	%	60 - 140
A680671	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2022/08/17		98	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/17		106	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/17		104	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/17		96	%	50 - 140
			Benzene	2022/08/17	<0.0050		mg/kg	
			Toluene	2022/08/17	<0.050		mg/kg	
			Ethylbenzene	2022/08/17	<0.010		mg/kg	
			m & p-Xylene	2022/08/17	<0.040		mg/kg	
			o-Xylene	2022/08/17	<0.020		mg/kg	
			F1 (C6-C10)	2022/08/17	<10		mg/kg	
A680671	DO1	RPD	Benzene	2022/08/17	9.8		%	50
			Toluene	2022/08/17	NC		%	50
			Ethylbenzene	2022/08/17	24		%	50
			m & p-Xylene	2022/08/17	NC		%	50
			o-Xylene	2022/08/17	NC		%	50
			F1 (C6-C10)	2022/08/17	NC		%	30
A681385	VP4	Matrix Spike [AZM224-02]	O-TERPHENYL (sur.)	2022/08/16		134	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16		128	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/16		131	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/16		128	%	60 - 140
A681385	VP4	Spiked Blank	O-TERPHENYL (sur.)	2022/08/16		116	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16		113	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/16		117	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/16		114	%	60 - 140
A681385	VP4	Method Blank	O-TERPHENYL (sur.)	2022/08/16		128	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/16	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2022/08/16	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2022/08/16	<50		mg/kg	
A681385	VP4	RPD [AZM224-02]	F2 (C10-C16 Hydrocarbons)	2022/08/16	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2022/08/16	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2022/08/16	NC		%	40

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A681395	SJ1	Matrix Spike [AZM224-02]	D10-ANTHRACENE (sur.)	2022/08/16		122	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/16		110	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/16		109	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/16		157 (1)	%	50 - 130
			Naphthalene	2022/08/16		113	%	50 - 130
A681395	SJ1	Spiked Blank	D10-ANTHRACENE (sur.)	2022/08/16		112	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/16		99	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/16		106	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/16		139 (1)	%	50 - 130
			Naphthalene	2022/08/16		105	%	50 - 130
A681395	SJ1	Method Blank	D10-ANTHRACENE (sur.)	2022/08/16		118	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2022/08/16		118	%	50 - 130
			D8-NAPHTHALENE (sur.)	2022/08/16		116	%	50 - 130
			TERPHENYL-D14 (sur.)	2022/08/16		175 (1)	%	50 - 130
			Naphthalene	2022/08/16	<0.0050		mg/kg	
A681395	SJ1	RPD [AZM224-02]	Naphthalene	2022/08/16	NC		%	50
A681498	A1H	Method Blank	Moisture	2022/08/16	<0.30		%	
A681498	A1H	RPD	Moisture	2022/08/16	18		%	20
A682611	MKJ	Matrix Spike	Total Antimony (Sb)	2022/08/17		101	%	75 - 125
			Total Arsenic (As)	2022/08/17		97	%	75 - 125
			Total Barium (Ba)	2022/08/17		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/17		96	%	75 - 125
			Total Cadmium (Cd)	2022/08/17		98	%	75 - 125
			Total Chromium (Cr)	2022/08/17		113	%	75 - 125
			Total Cobalt (Co)	2022/08/17		99	%	75 - 125
			Total Copper (Cu)	2022/08/17		100	%	75 - 125
			Total Lead (Pb)	2022/08/17		99	%	75 - 125
			Total Mercury (Hg)	2022/08/17		96	%	75 - 125
			Total Molybdenum (Mo)	2022/08/17		101	%	75 - 125
			Total Nickel (Ni)	2022/08/17		104	%	75 - 125
			Total Selenium (Se)	2022/08/17		100	%	75 - 125
			Total Silver (Ag)	2022/08/17		99	%	75 - 125
			Total Thallium (Tl)	2022/08/17		98	%	75 - 125
			Total Tin (Sn)	2022/08/17		102	%	75 - 125
			Total Uranium (U)	2022/08/17		95	%	75 - 125
			Total Vanadium (V)	2022/08/17		140 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/17		102	%	75 - 125
A682611	MKJ	QC Standard	Total Antimony (Sb)	2022/08/17		109	%	15 - 182
			Total Arsenic (As)	2022/08/17		103	%	53 - 147
			Total Barium (Ba)	2022/08/17		103	%	80 - 119
			Total Cadmium (Cd)	2022/08/17		94	%	72 - 128
			Total Chromium (Cr)	2022/08/17		113	%	59 - 141
			Total Cobalt (Co)	2022/08/17		101	%	58 - 142
			Total Copper (Cu)	2022/08/17		103	%	83 - 117
			Total Lead (Pb)	2022/08/17		111	%	79 - 121
			Total Molybdenum (Mo)	2022/08/17		122	%	67 - 133
			Total Nickel (Ni)	2022/08/17		110	%	79 - 121
			Total Silver (Ag)	2022/08/17		89	%	47 - 153
			Total Tin (Sn)	2022/08/17		98	%	67 - 133
			Total Uranium (U)	2022/08/17		98	%	77 - 123
			Total Vanadium (V)	2022/08/17		111	%	79 - 121

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Zinc (Zn)	2022/08/17		103	%	79 - 121
A682611	MKJ	Spiked Blank	Total Antimony (Sb)	2022/08/17		102	%	80 - 120
			Total Arsenic (As)	2022/08/17		95	%	80 - 120
			Total Barium (Ba)	2022/08/17		96	%	80 - 120
			Total Beryllium (Be)	2022/08/17		92	%	80 - 120
			Total Cadmium (Cd)	2022/08/17		95	%	80 - 120
			Total Chromium (Cr)	2022/08/17		97	%	80 - 120
			Total Cobalt (Co)	2022/08/17		97	%	80 - 120
			Total Copper (Cu)	2022/08/17		97	%	80 - 120
			Total Lead (Pb)	2022/08/17		97	%	80 - 120
			Total Mercury (Hg)	2022/08/17		100	%	80 - 120
			Total Molybdenum (Mo)	2022/08/17		96	%	80 - 120
			Total Nickel (Ni)	2022/08/17		96	%	80 - 120
			Total Selenium (Se)	2022/08/17		99	%	80 - 120
			Total Silver (Ag)	2022/08/17		96	%	80 - 120
			Total Thallium (Tl)	2022/08/17		97	%	80 - 120
			Total Tin (Sn)	2022/08/17		96	%	80 - 120
			Total Uranium (U)	2022/08/17		97	%	80 - 120
			Total Vanadium (V)	2022/08/17		97	%	80 - 120
			Total Zinc (Zn)	2022/08/17		97	%	80 - 120
A682611	MKJ	Method Blank	Total Antimony (Sb)	2022/08/17	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/17	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/17	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/17	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/17	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/17	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/17	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/17	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/17	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/17	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/17	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/17	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/17	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/17	<1.0		mg/kg	
			Total Uranium (U)	2022/08/17	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/17	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/17	<10		mg/kg	
A682611	MKJ	RPD	Total Chromium (Cr)	2022/08/17	1.9		%	30
			Total Nickel (Ni)	2022/08/17	5.2		%	30
A682694	FM0	Matrix Spike	Hex. Chromium (Cr 6+)	2022/08/16		96	%	75 - 125
A682694	FM0	Spiked Blank	Hex. Chromium (Cr 6+)	2022/08/16		104	%	80 - 120
A682694	FM0	Method Blank	Hex. Chromium (Cr 6+)	2022/08/16	<0.080		mg/kg	
A682694	FM0	RPD	Hex. Chromium (Cr 6+)	2022/08/16	NC		%	35
A683000	MPU	Matrix Spike	Soluble (Hot water) Boron (B)	2022/08/16		95	%	75 - 125
A683000	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/16		89	%	80 - 120
A683000	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/16	<0.10		mg/kg	
A683000	MPU	RPD	Soluble (Hot water) Boron (B)	2022/08/16	4.3		%	35
A683007	MPU	Matrix Spike	Soluble (Hot water) Boron (B)	2022/08/16		91	%	75 - 125
A683007	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/16		94	%	80 - 120
A683007	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/16	<0.10		mg/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A683007	MPU	RPD	Soluble (Hot water) Boron (B)	2022/08/16	6.8		%	35
A683223	KH2	Matrix Spike	Total Antimony (Sb)	2022/08/17		104	%	75 - 125
			Total Arsenic (As)	2022/08/17		100	%	75 - 125
			Total Barium (Ba)	2022/08/17		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/17		105	%	75 - 125
			Total Cadmium (Cd)	2022/08/17		101	%	75 - 125
			Total Chromium (Cr)	2022/08/17		113	%	75 - 125
			Total Cobalt (Co)	2022/08/17		102	%	75 - 125
			Total Copper (Cu)	2022/08/17		101	%	75 - 125
			Total Lead (Pb)	2022/08/17		103	%	75 - 125
			Total Mercury (Hg)	2022/08/17		101	%	75 - 125
			Total Molybdenum (Mo)	2022/08/17		106	%	75 - 125
			Total Nickel (Ni)	2022/08/17		106	%	75 - 125
			Total Selenium (Se)	2022/08/17		100	%	75 - 125
			Total Silver (Ag)	2022/08/17		104	%	75 - 125
			Total Thallium (Tl)	2022/08/17		102	%	75 - 125
			Total Tin (Sn)	2022/08/17		105	%	75 - 125
			Total Uranium (U)	2022/08/17		101	%	75 - 125
			Total Vanadium (V)	2022/08/17		131 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/17		113	%	75 - 125
A683223	KH2	QC Standard	Total Antimony (Sb)	2022/08/17		96	%	15 - 182
			Total Arsenic (As)	2022/08/17		73	%	53 - 147
			Total Barium (Ba)	2022/08/17		89	%	80 - 119
			Total Cadmium (Cd)	2022/08/17		85	%	72 - 128
			Total Chromium (Cr)	2022/08/17		78	%	59 - 141
			Total Cobalt (Co)	2022/08/17		73	%	58 - 142
			Total Copper (Cu)	2022/08/17		101	%	83 - 117
			Total Lead (Pb)	2022/08/17		98	%	79 - 121
			Total Molybdenum (Mo)	2022/08/17		112	%	67 - 133
			Total Nickel (Ni)	2022/08/17		81	%	79 - 121
			Total Silver (Ag)	2022/08/17		80	%	47 - 153
			Total Tin (Sn)	2022/08/17		86	%	67 - 133
			Total Uranium (U)	2022/08/17		81	%	77 - 123
			Total Vanadium (V)	2022/08/17		79	%	79 - 121
			Total Zinc (Zn)	2022/08/17		101	%	79 - 121
A683223	KH2	Spiked Blank	Total Antimony (Sb)	2022/08/17		101	%	80 - 120
			Total Arsenic (As)	2022/08/17		94	%	80 - 120
			Total Barium (Ba)	2022/08/17		97	%	80 - 120
			Total Beryllium (Be)	2022/08/17		98	%	80 - 120
			Total Cadmium (Cd)	2022/08/17		96	%	80 - 120
			Total Chromium (Cr)	2022/08/17		97	%	80 - 120
			Total Cobalt (Co)	2022/08/17		97	%	80 - 120
			Total Copper (Cu)	2022/08/17		97	%	80 - 120
			Total Lead (Pb)	2022/08/17		97	%	80 - 120
			Total Mercury (Hg)	2022/08/17		102	%	80 - 120
			Total Molybdenum (Mo)	2022/08/17		99	%	80 - 120
			Total Nickel (Ni)	2022/08/17		96	%	80 - 120
			Total Selenium (Se)	2022/08/17		96	%	80 - 120
			Total Silver (Ag)	2022/08/17		98	%	80 - 120
			Total Thallium (Tl)	2022/08/17		98	%	80 - 120
			Total Tin (Sn)	2022/08/17		97	%	80 - 120
			Total Uranium (U)	2022/08/17		98	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Vanadium (V)	2022/08/17		98	%	80 - 120
			Total Zinc (Zn)	2022/08/17		95	%	80 - 120
A683223	KH2	Method Blank	Total Antimony (Sb)	2022/08/17	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/17	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/17	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/17	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/17	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/17	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/17	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/17	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/17	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/17	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/17	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/17	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/17	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/17	<1.0		mg/kg	
			Total Uranium (U)	2022/08/17	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/17	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/17	<10		mg/kg	
A683223	KH2	RPD	Total Antimony (Sb)	2022/08/17	NC		%	30
			Total Arsenic (As)	2022/08/17	10		%	30
			Total Barium (Ba)	2022/08/17	14		%	35
			Total Beryllium (Be)	2022/08/17	NC		%	30
			Total Cadmium (Cd)	2022/08/17	0.64		%	30
			Total Chromium (Cr)	2022/08/17	7.9		%	30
			Total Cobalt (Co)	2022/08/17	7.9		%	30
			Total Copper (Cu)	2022/08/17	5.9		%	30
			Total Lead (Pb)	2022/08/17	3.3		%	35
			Total Mercury (Hg)	2022/08/17	NC		%	35
			Total Molybdenum (Mo)	2022/08/17	2.7		%	35
			Total Nickel (Ni)	2022/08/17	4.8		%	30
			Total Selenium (Se)	2022/08/17	NC		%	30
			Total Silver (Ag)	2022/08/17	NC		%	35
			Total Thallium (Tl)	2022/08/17	NC		%	30
			Total Tin (Sn)	2022/08/17	NC		%	35
			Total Uranium (U)	2022/08/17	5.0		%	30
			Total Vanadium (V)	2022/08/17	11		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Zinc (Zn)	2022/08/17	6.1		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Bureau Veritas Job #: C260023
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Chantal Vincent, Customer Solutions Representative

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

Gita Pokhrel, Laboratory Supervisor

Janet Gao, B.Sc., QP, Supervisor, Organics

Suwan (Sze Yeung) Fock, B.Sc., Scientific Specialist

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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☐ Winnipeg, MB: D-675 Berry St. R3H 1A7 Toll Free (866) 800-6208

633

CHAIN OF CUSTODY RECORD
ENV COC - 00013v3

Invoice Information	Invoice to (requires report) ☐	Report Information (if differs from invoice)		Project Information	
Company:	Client #254, Golder Associates	Company:	Golder Associates	Quotation #:	Shell
Contact Name:	237 - 4 Ave SW Suite 3300	Contact Name:	Aurelie Bellavance	P.O. #/ AFE#:	22525414-1100-1104
Street Address:		Street Address:		Project #:	22525414-1000
City:	Calgary Prov: AB Postal Code:	City:	Calgary AB Postal Code: T2P 4K3	Site #:	Camp Farewell
Phone:		Phone:	403-299-5600	Site Location:	~~WEST CHANNEL~~, NT
Email:	Canada Account Payable	Email:	aurelie.bellavance@wsp.com	Site Location Province:	NT
Copies:		Copies:	peter.tan@wsp.com	Sampled By:	Melissa Lord, Harmanjeet Kaur

LAB USE ONLY - PLACE STICKER HERE: C260023

Rush Confirmation #:

Regulatory Criteria
☐ AT1 ☐ CCME ☐ Drinking Water - Canada ☐ Drinking Water - Manitoba
☐ Saskatchewan ☐ Drinking Water - Alberta ☒ Other AMSRP

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

Regular Turnaround Time (TAT): ☐ 5 to 7 Day ☐ 10 Day
Rush Turnaround Time (TAT) Surcharges apply: ☐ Same Day ☐ 1 Day ☒ 2 Day ☐ 3 Day ☐ 4 Day
Date Required: YY MM DD

#	Sample Identification	YY	MM	DD	HH	MM	Matrix	1 Field Filtered	2 Field Preserved	3 Lab Filtration Required	4 BTEX F1-F4	5 PAHS	6 BTEX F1-F2	7 Barium True Total	8 Routine water	9 Regulated metals - total	10 Regulated metals - dissolved	11 Mercury - total	12 Mercury - dissolved	13 Salinity 4	14 Sieve (75 micron)	15 Texture (% sand, silt, clay)	16 Basic class II landfill	17 naphthalene	18	19 Headspace present	20 Limited Sample	21 # of Containers Submitted	22 Hold - Do Not Analyze	Comments
1	BH22-24-01	22	08	08	10	20	Soil				X			~~X~~ ML		X								X		X	X	5		email report to:
2	BH22-24-02	22	08	08	10	30	Soil				X			~~X~~ ML		X								X		X	X	5		gld.ShellDQR@equis.com
3	BH22-24-03	22	08	08	10	35	Soil				X			~~X~~ ML		X								X		X	X	5		gld-iol-equis@wsp.com
4	BH22-24-04	22	08	08	10	40	Soil				X			~~X~~ ML		X								X		X	X	5		upload to facility
5	BH22-24-05	22	08	08	10	45	Soil				X			~~X~~ ML		X								X		X	X	5		41259544
6	BH22-24-06	22	08	08	10	50	Soil				X			~~X~~ ML		X								X		X	X	5		
7	BH22-24-07	22	08	08	10	55	Soil				X			~~X~~ ML		X								X		X	X	5		Received in Yellowknife
8	DUP D	22	08	08	10	55	Soil				X			~~X~~ ML		X								X		X	X	5		By: J. Mercme @ 9:00
9	~~~~	~~22~~	~~08~~	~~08~~			~~Soil~~																							AUG 12 2022
10	~~~~	~~22~~	~~08~~	~~08~~			~~Soil~~																							fee yes/cs-ys
11																														Temp: 6 6 9
12																														

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present	✓			2	5	5
Seal intact	✓					
Cooling media present	✓					

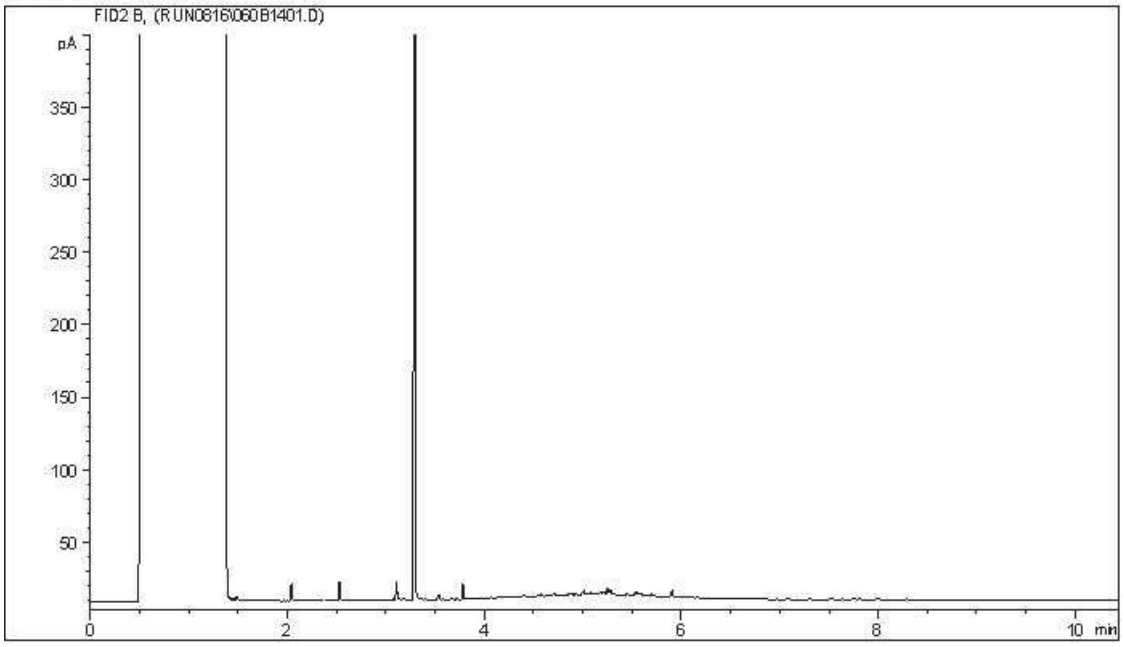
LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling media present						

LAB USE ONLY	Yes	No	°C	1	2	3	Temperature reading by:
Seal present							
Seal intact							
Cooling media present							

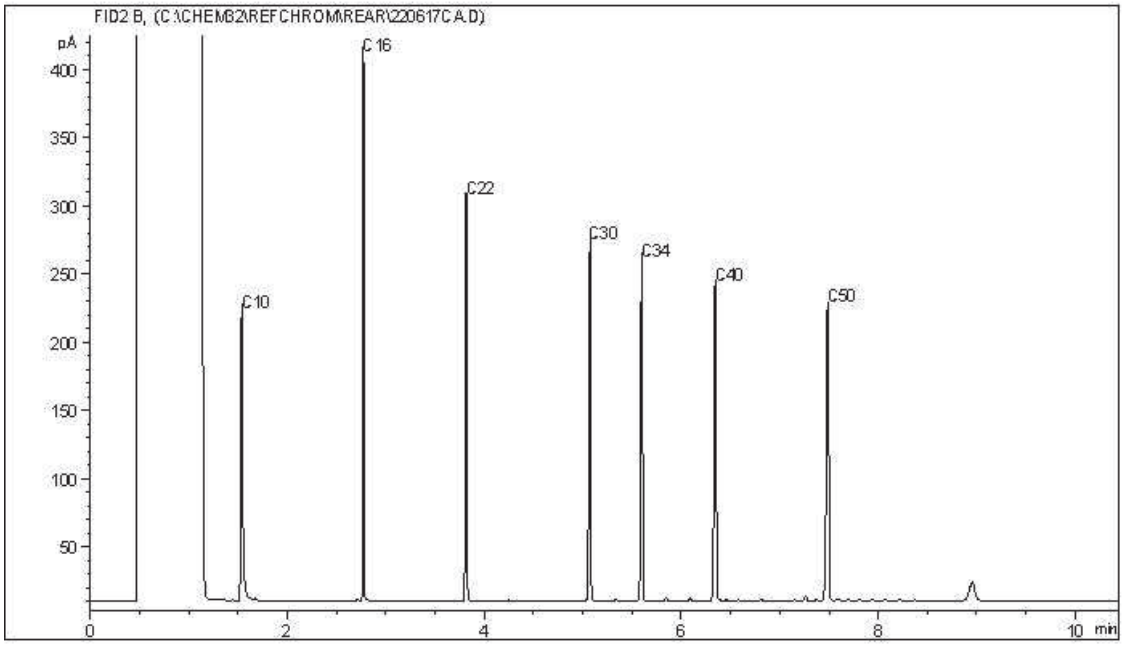
#	Relinquished by: (Signature/ Print)	YY	MM	DD	HH	MM	Received by: (Signature/ Print)	YY	MM	DD	HH	MM	Special instructions
1	[signature] / Melissa Lord	22	08	09	08	00	[signature] Megan Foran	22	08	13	15	03	
2													

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



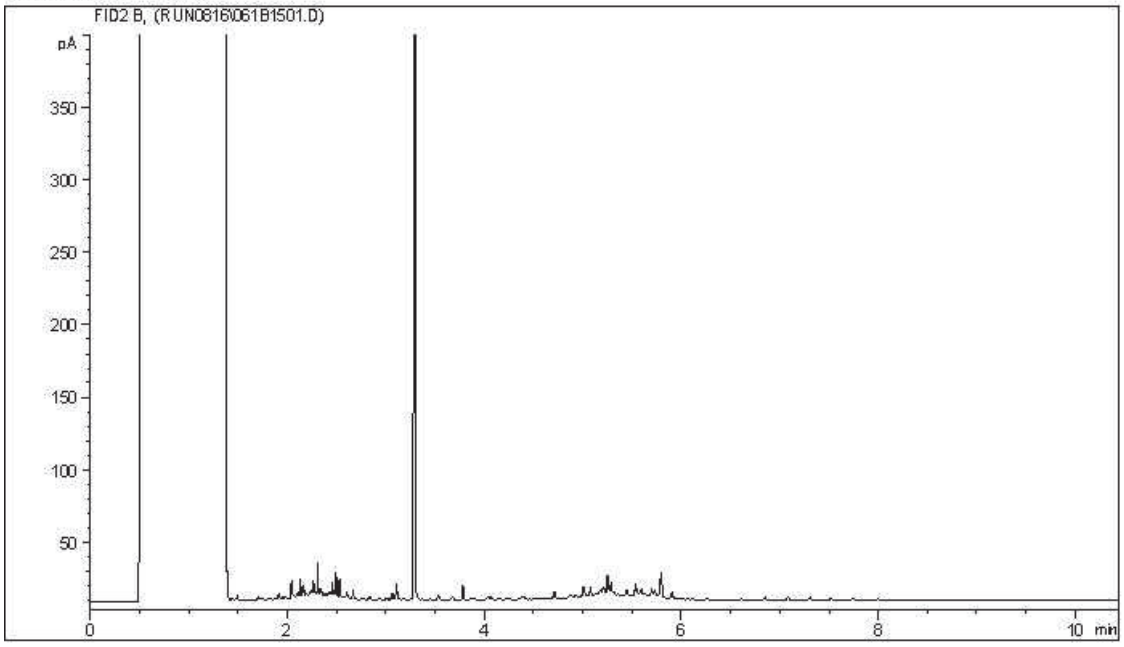
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

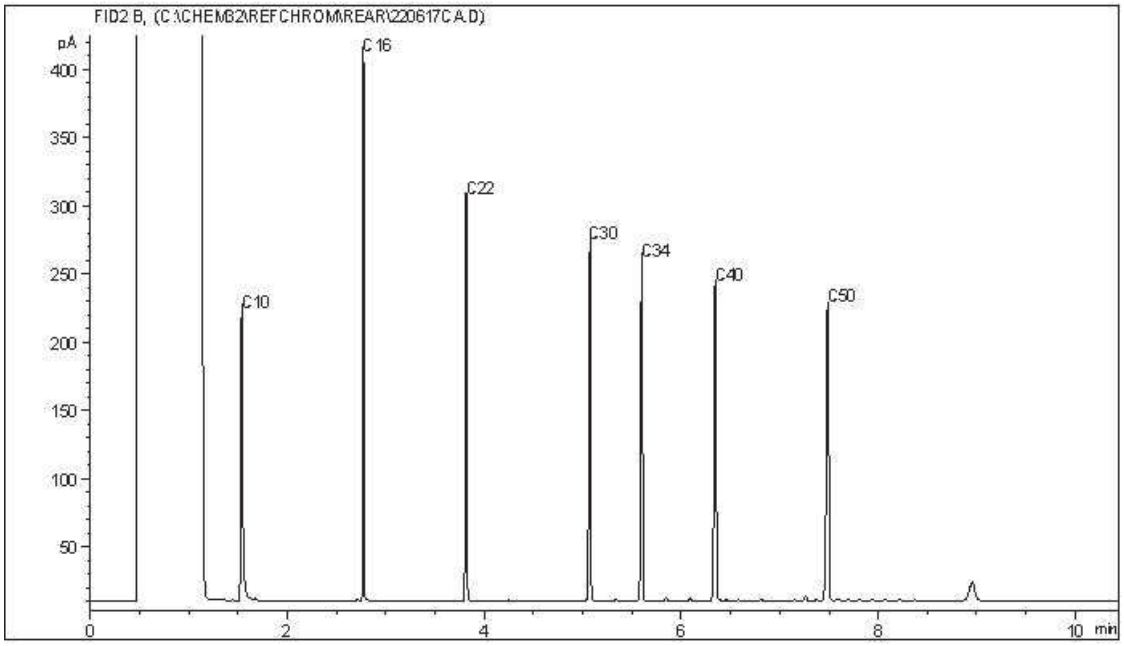
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



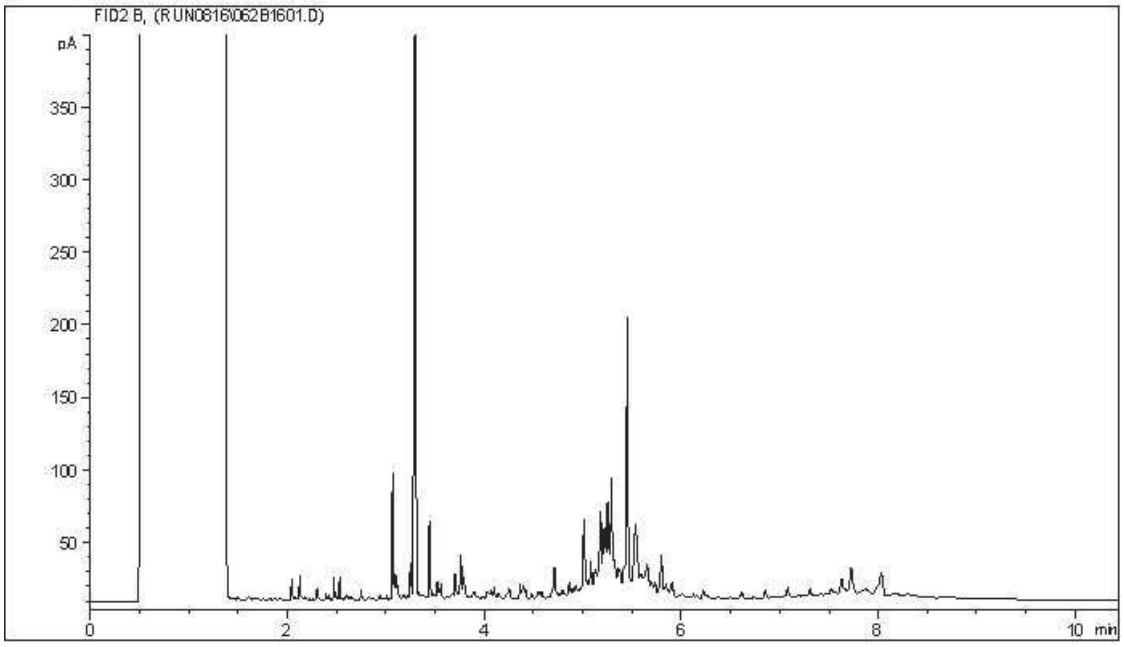
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



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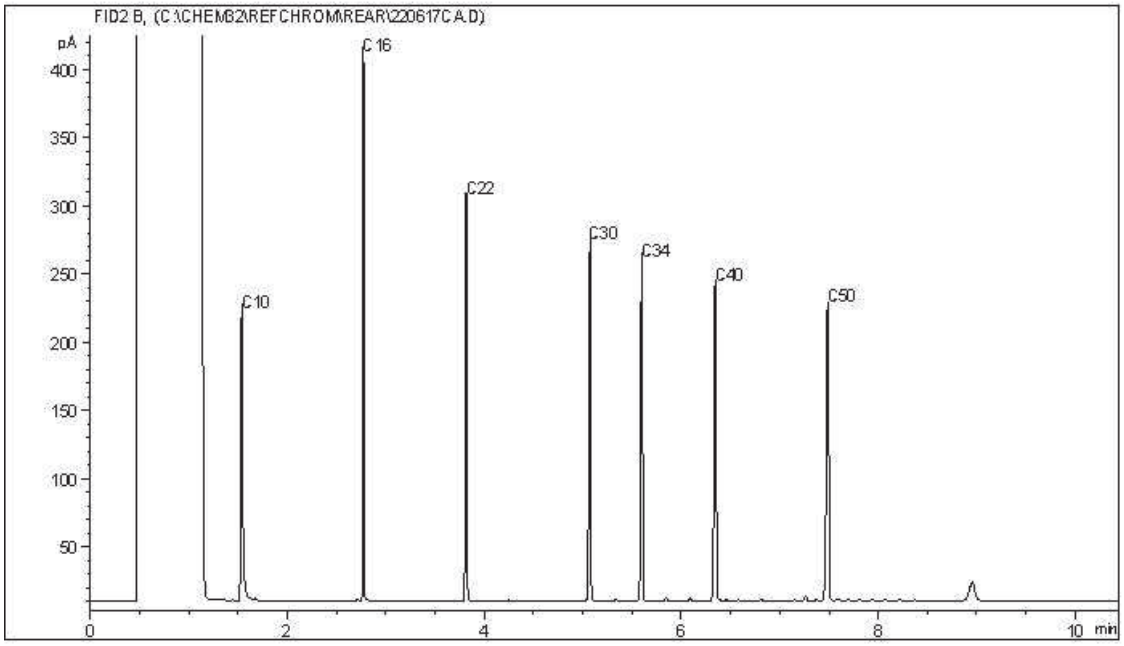

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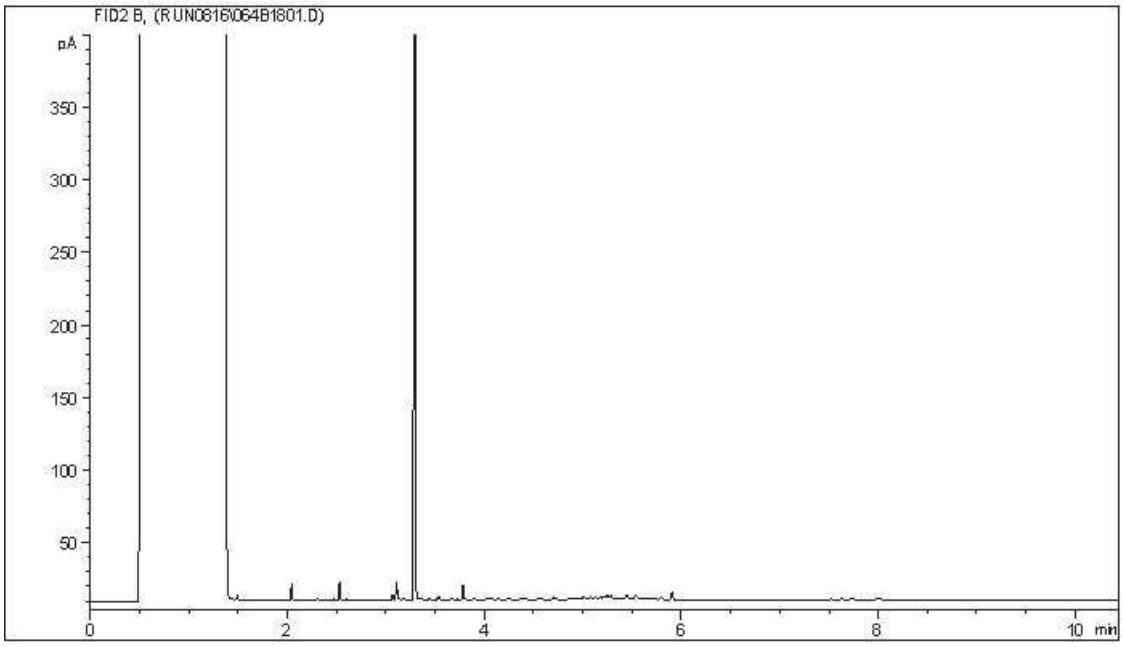

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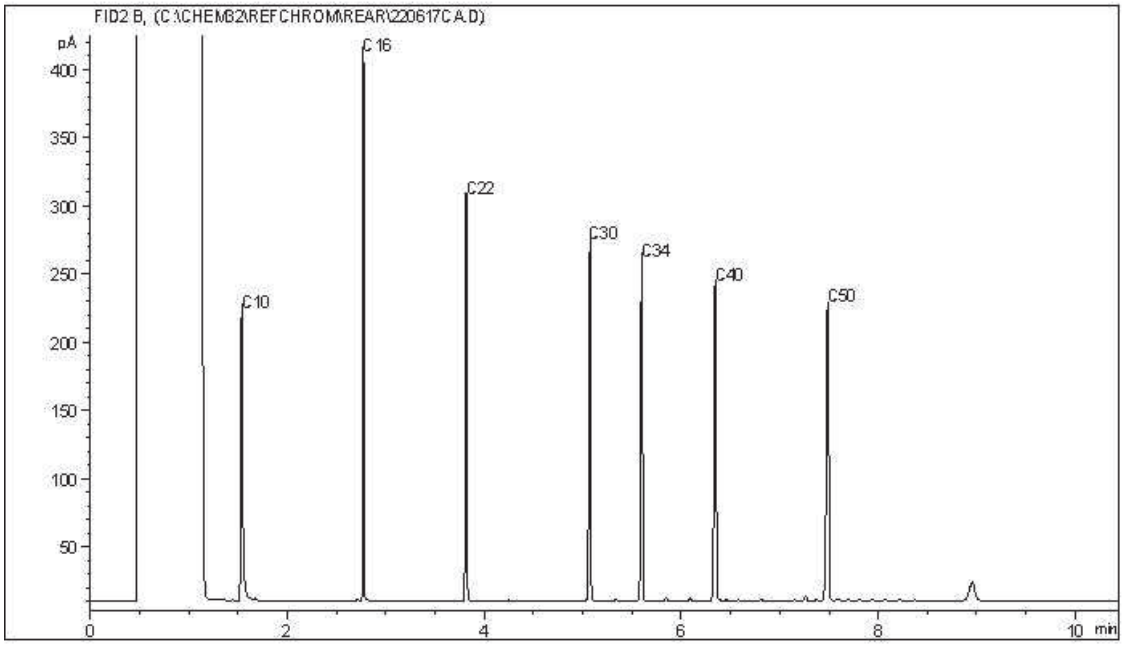

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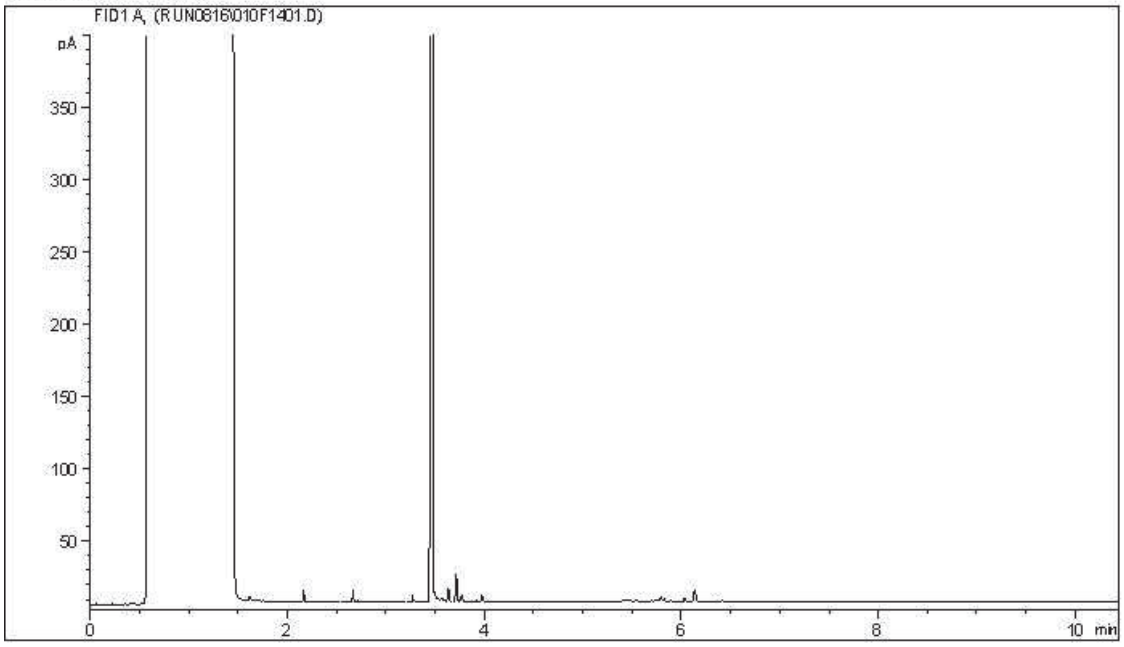
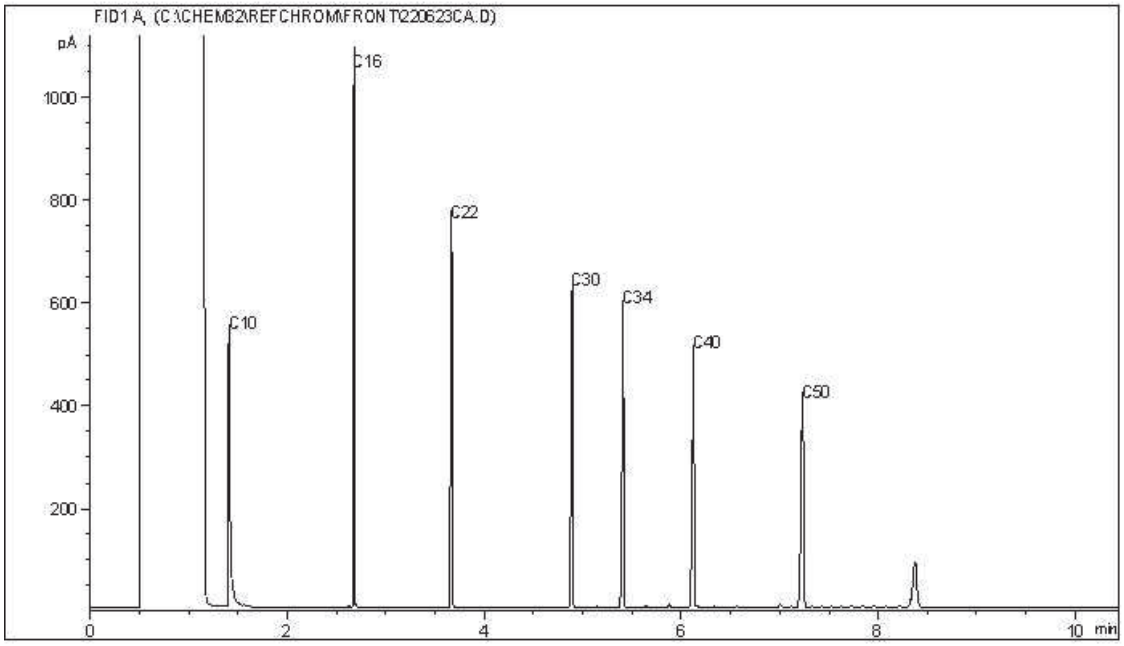


Carbon Range Distribution - Reference Chromatogram



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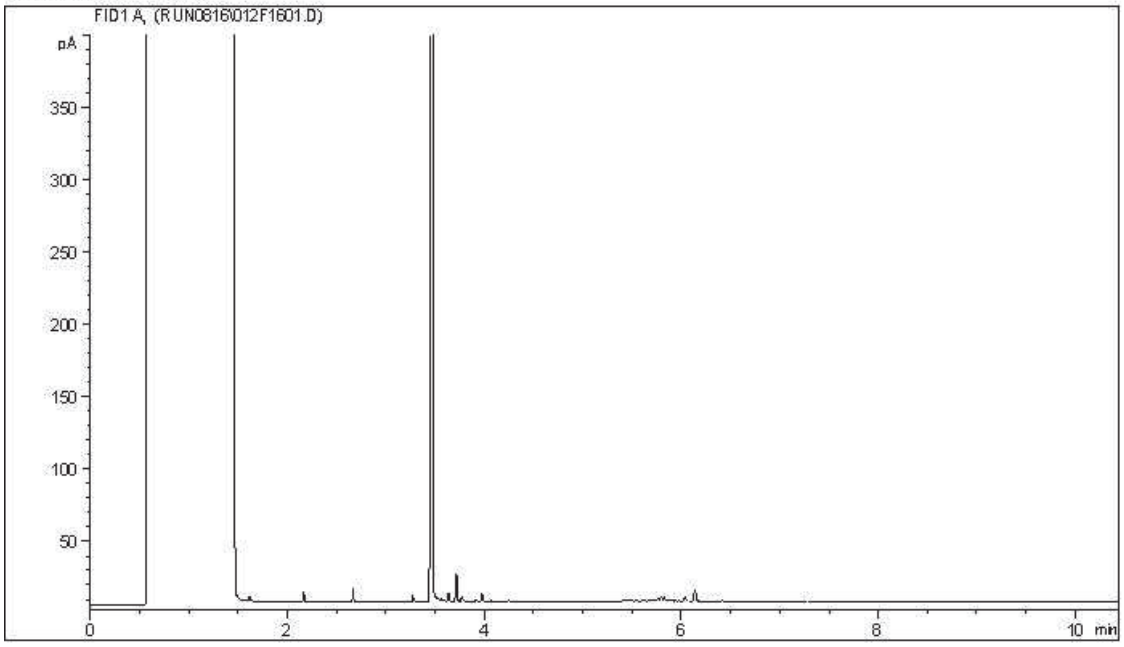
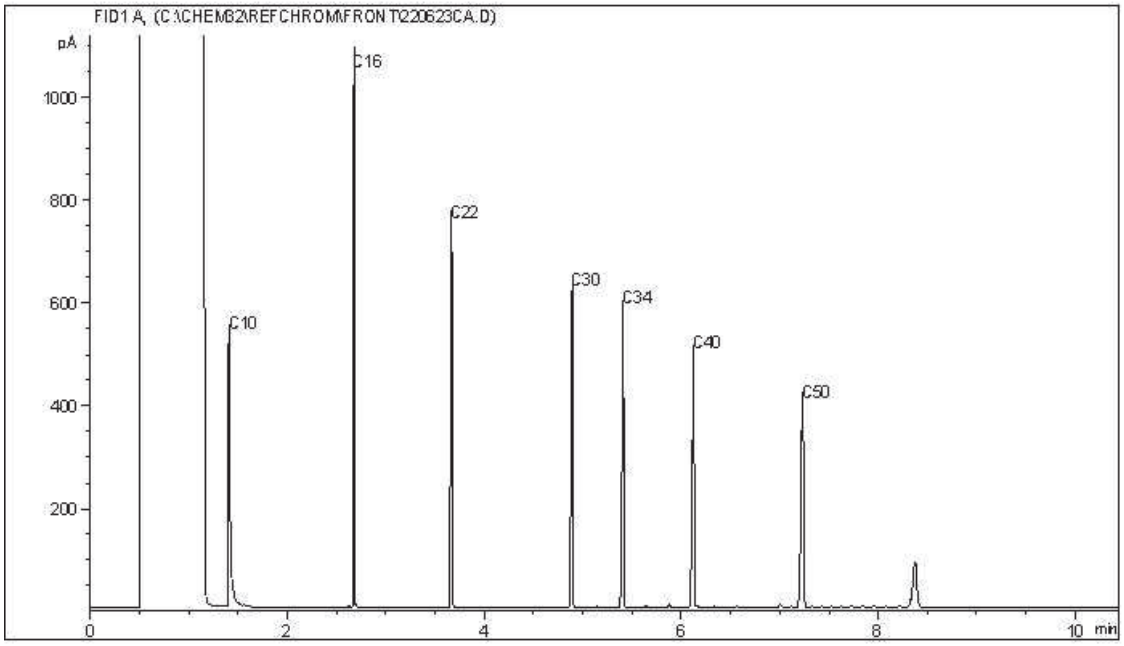


Carbon Range Distribution - Reference Chromatogram



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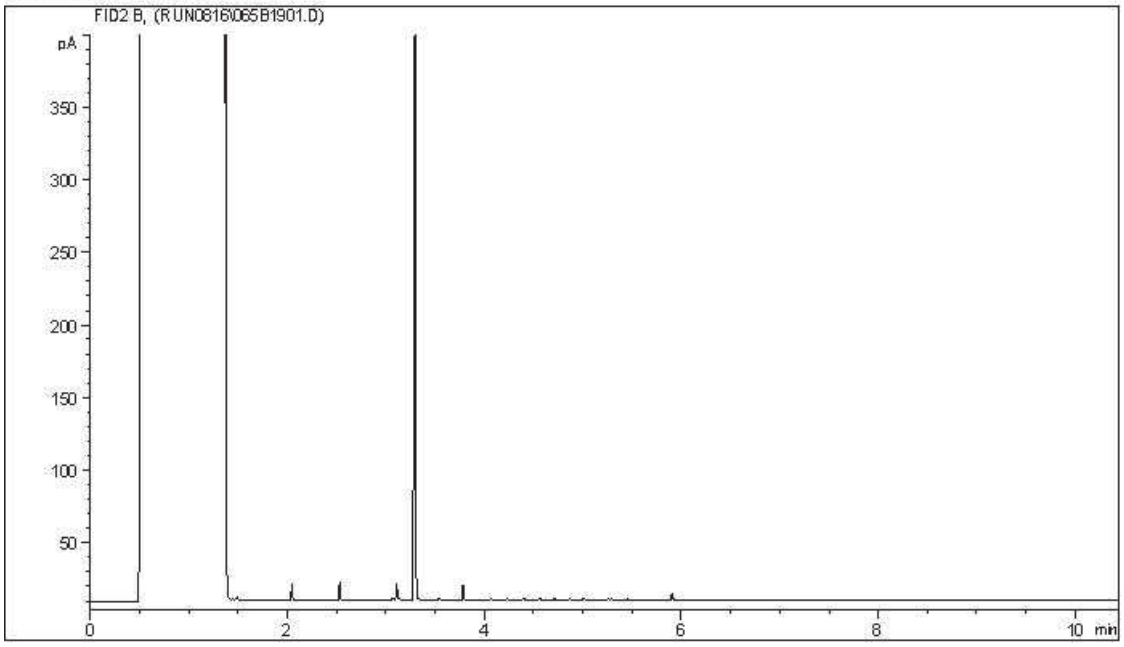
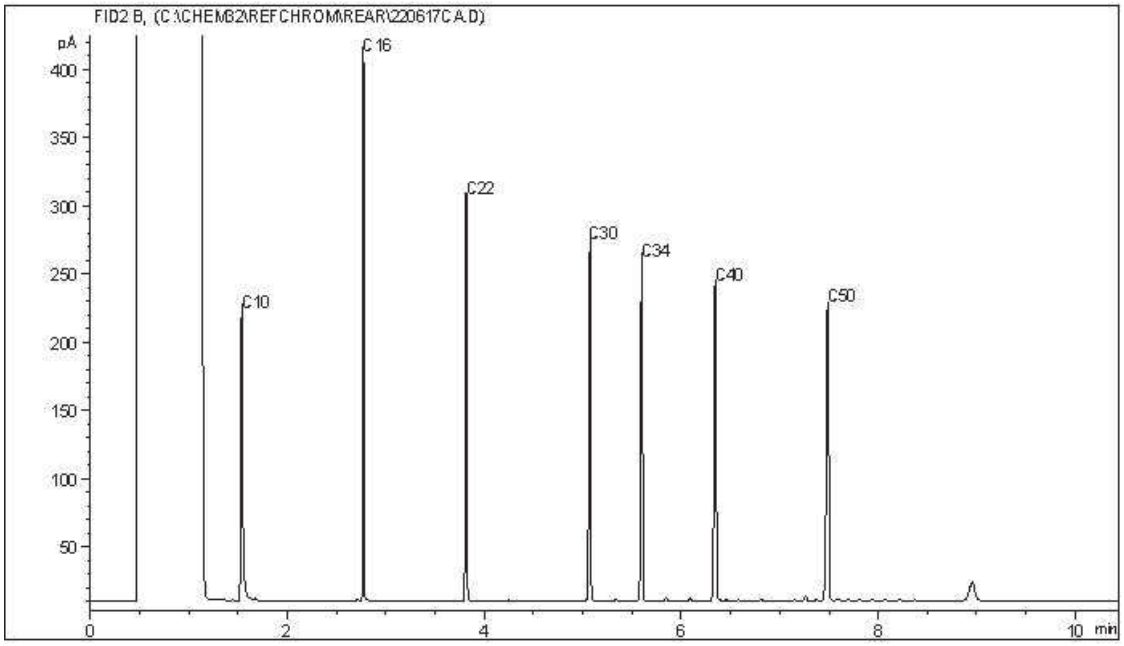


Carbon Range Distribution - Reference Chromatogram



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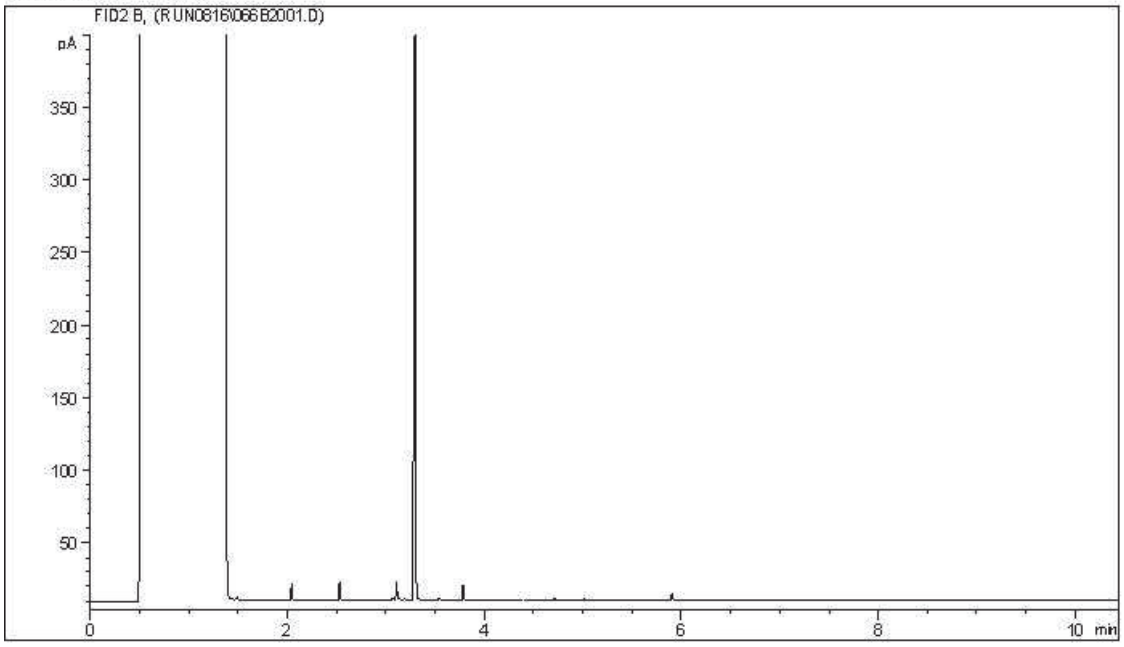
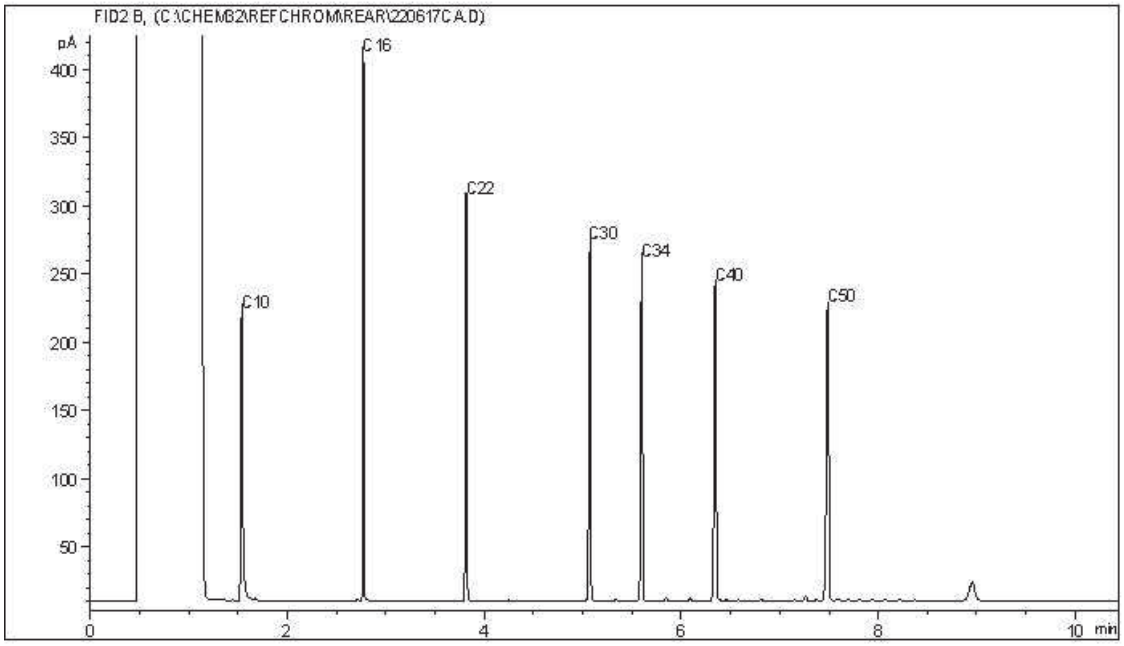


Carbon Range Distribution - Reference Chromatogram



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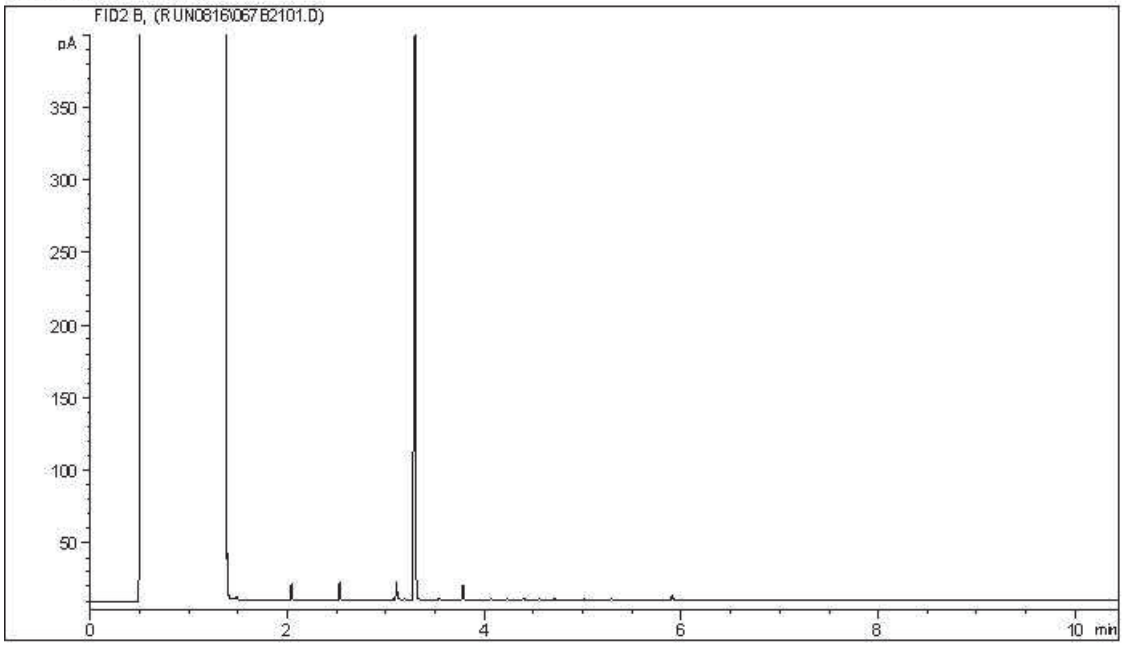

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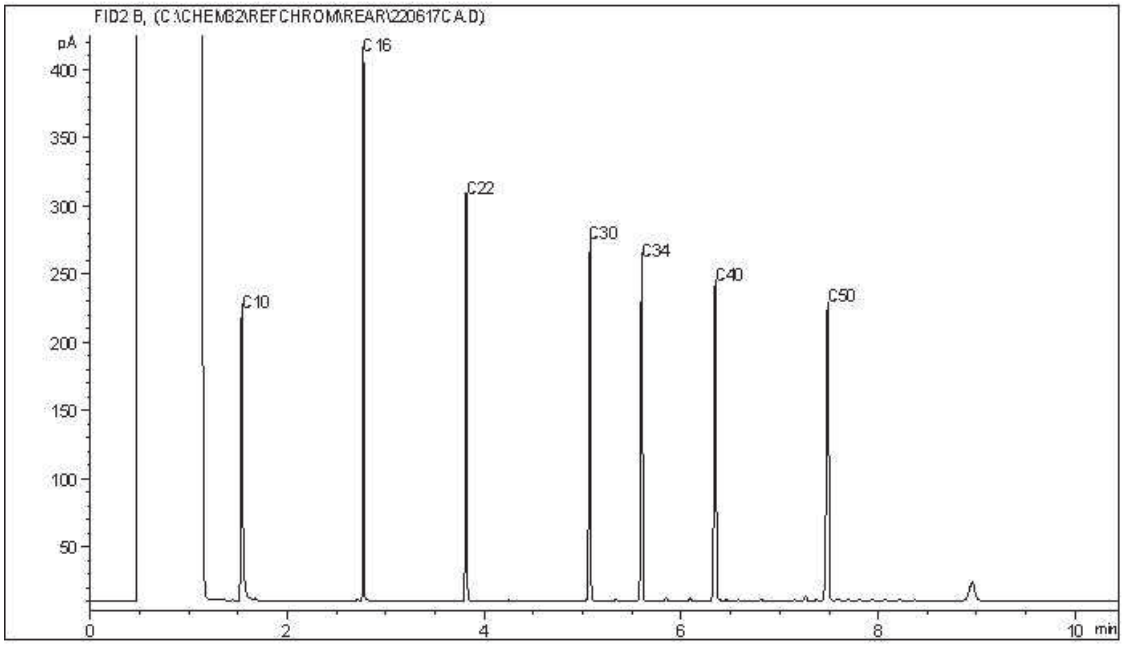

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Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC
2021 - 41ST STREET NE
Calgary, AB T2E6P2
(403) 291-3077

ATTENTION TO: Cynny Hagen

PROJECT: C260023

AGAT WORK ORDER: 22C940477

SOIL ANALYSIS REVIEWED BY: Loan Nguyen, Senior Analyst

DATE REPORTED: Sep 06, 2022

PAGES (INCLUDING COVER): 7

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Certificate of Analysis

AGAT WORK ORDER: 22C940477

PROJECT: C260023

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Metals - Barium by Fusion ICP

DATE RECEIVED: 2022-09-08

DATE REPORTED: 2022-09-06

				AZM220-BH22-	AZM223-BH22-
			SAMPLE DESCRIPTION:	24-01	24-04
			SAMPLE TYPE:	Soil	Soil
			DATE SAMPLED:	2022-09-02 10:20	2022-09-02 10:40
Parameter	Unit	G / S	RDL	4266910	4266912
True Barium by Fusion ICP	mg/kg		50	4930	3650

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4266910-4266912 Result is based on the dry weight of the sample.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940477

PROJECT: C260023

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Sep 06, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals - Barium by Fusion ICP															
Barium by Fusion ICP-OES	4266587		976	977	0.0%	< 40	95%	70%	130%				NA	70%	130%

Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
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Method Summary

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940477

PROJECT: C260023

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
True Barium by Fusion ICP	SOIL- 0620, INST- 0140	ASTM D4503.08	ICP/OES

1 -SEP '22 PM12:10

Sent To: **AGAT - Calgary**
2910 12th Street NE
Calgary, AB, T2E 7P7
Tel: (403) 735-2005

CHAIN OF CUSTODY RECORD FOR SUBCONTRACTED WORK

COC # C260023-CAGT-01-01

22C940477

REPORT INFORMATION	
Company:	Bureau Veritas
Address:	4000 19st N.E, Calgary, Alberta, T2E 6P8
Contact Name:	Cynny Hagen
Email:	Cynny.HAGEN@bureauveritas.com, Customersolutionswest@bureauveritas.co
Phone:	(403) 735-2273
Lab Project #:	C260023

#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	# CONT.	ANALYSIS REQUESTED: Barium on ICP using Fusion Extraction										ADDITIONAL SAMPLE INFORMATION
1	AZM220-BH22-24-01	SOIL	2022/08/08	10:20	ML	1	X										(P: 01)
2	AZM223-BH22-24-04	SOIL	2022/08/08	10:40	ML	1	X										(P: 01)
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

REGULATORY CRITERIA

SPECIAL INSTRUCTIONS

Please inform Bureau Veritas immediately if:
- You are not accredited for the requested test(s)
- The hold time is approaching for the requested test(s).

Please return a copy of this form with the report.

TURNAROUND TIME

[X] Rush Required

2022/09/07

Date Required

Please inform us if rush charges will be incurred.

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present	—					
Custody Seal Intact	—					
Cooling Media Present	—					
			NA			

RELINQUISHED BY: (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)	**RECEIVED BY:** (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)
1. Robert McIntyre	2022/09/01	09:30	1.	2022/09/01	12:10
2.			2.		

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Bureau Veritas

Courier: Jazoo Prepaid Collect

Waybill#_____

Branch: EDM GP FN FM RD VAN LYD FSJ EST SASK Other:___

If multiple sites were submitted at once: (Yes) No

Custody Seal Intact: Yes No (NA)

TAT: <24hr 24-48hr 48-72hr Reg Other_____

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Color , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry:_____

Hydrocarbons: Earliest Expiry _____

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:_____

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack (Bagged Ice) Free Ice Free Water None

Temperature (Bottles/Jars only) (N/A) if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) NA Soil =____°C 2(Bottle/Jar)___+___+___=____°C

3 (Bottle/Jar)___+___+___=____°C 4 (Bottle/Jar)___+___+___=____°C

5 (Bottle/Jar)___+___+___=____°C 6 (Bottle/Jar)___+___+___=____°C

7 (Bottle/Jar)___+___+___=____°C 8 (Bottle/Jar)___+___+___=____°C

9 (Bottle/Jar)___+___+___=____°C 10 (Bottle/Jar)___+___+___=____°C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 22C940477

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other: _____

Account Project Manager: _____ have they been notified of the above issues: Yes No

Whom spoken to: _____ Date/Time: _____

CPM Initial_____

General Comments: _____

* Subcontracted Analysis (See CPM)

- IN-CITY -

JAZOO EXPRESS COURIER

www.jazoocourier.com

CLIENT USE ONLY

Sender Name:	Robel Mebrahtu	Receiver Name:	Sample Reception	Billed To:	Bureau Veritas
Date:	2022/09/01	Delivery From:	Bureau Veritas Calgary		
		Delivery To:	AGAT-Calgary 2910 12th street NE Calgary,AB, T2E 7P7		
Total # Items:	2	Item Description: envelope, sm/med/lg box, cooler, etc.	1 Large Cooler, 1 Medium Cooler		
			Job/PO/Reference #:		
Authorized Shipper Signature:					

DRIVER USE ONLY

P/U Driver Name:		P/U Time:	11:50 am	D/O Time:	am
# Items P/U:	2		pm		12:05 pm

# Of Overweight	# Of TDG	# Of Same Day	Surcharge

Additional Info: DONE

Total # Items Dropped Off:	2	D/O Driver Name:	
Authorized Receiver Signature:			

HOTSHOT DETAILS

Total Km:		Or Total Charge ($):	

OFFICE USE ONLY

Verified By:		Invoiced By:	

To schedule a pickup please contact dispatch at the city nearest you:

Calgary	403-660-5504	**Fort McMurray**	587-645-6364
Edmonton	780-903-3628	**Grande Prairie**	587-297-8406

THANK YOU FOR SUPPORTING LOCAL AND CHOOSING JAZOO EXPRESS COURIER.

AGAT Laboratories

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CLIENT NAME: BUREAU VERITAS CANADA (2019) INC
2021 - 41ST STREET NE
Calgary, AB T2E6P2
(403) 291-3077

ATTENTION TO: Cynny Hagen

PROJECT: C260023

AGAT WORK ORDER: 22C940477

SOIL ANALYSIS REVIEWED BY: Loan Nguyen, Senior Analyst

DATE REPORTED: Sep 06, 2022

PAGES (INCLUDING COVER): 7

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005

*Notes

Disclaimer:

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- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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Certificate of Analysis

AGAT WORK ORDER: 22C940477

PROJECT: C260023

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Metals - Barium by Fusion ICP

DATE RECEIVED: 2022-09-08

DATE REPORTED: 2022-09-06

				AZM220-BH22-	AZM223-BH22-
			SAMPLE DESCRIPTION:	24-01	24-04
			SAMPLE TYPE:	Soil	Soil
			DATE SAMPLED:	2022-09-02 10:20	2022-09-02 10:40
Parameter	Unit	G / S	RDL	4266910	4266912
True Barium by Fusion ICP	mg/kg		50	4930	3650

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

4266910-4266912 Result is based on the dry weight of the sample.

Analysis performed at AGAT Calgary (unless marked by *)

Certified By:

AGAT Laboratories

2910 12TH STREET NE
CALGARY, ALBERTA
CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Quality Assurance

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940477

PROJECT: C260023

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Sep 06, 2022			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals - Barium by Fusion ICP															
Barium by Fusion ICP-OES	4266587		976	977	0.0%	< 40	95%	70%	130%				NA	70%	130%

Comments: Matrix spike NA: Spike level < native concentration. Matrix spike acceptance limits do not apply and are not calculated.
Duplicate NA: results are less than 5X the RDL and RDP will not be calculated.

Certified By:

AGAT Laboratories

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CANADA T2E 7P7
TEL (403)735-2005
FAX (403)735-2771
http://www.agatlabs.com

Method Summary

CLIENT NAME: BUREAU VERITAS CANADA (2019) INC

AGAT WORK ORDER: 22C940477

PROJECT: C260023

ATTENTION TO: Cynny Hagen

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
True Barium by Fusion ICP	SOIL- 0620, INST- 0140	ASTM D4503.08	ICP/OES

1 -SEP '22 PM12:10

Sent To: **AGAT - Calgary**
2910 12th Street NE
Calgary, AB, T2E 7P7
Tel: (403) 735-2005

CHAIN OF CUSTODY RECORD FOR SUBCONTRACTED WORK

COC # C260023-CAGT-01-01

22C940477

REPORT INFORMATION	
Company:	Bureau Veritas
Address:	4000 19st N.E, Calgary, Alberta, T2E 6P8
Contact Name:	Cynny Hagen
Email:	Cynny.HAGEN@bureauveritas.com, Customersolutionswest@bureauveritas.co
Phone:	(403) 735-2273
Lab Project #:	C260023

#	SAMPLE ID	MATRIX	DATE SAMPLED (YYYY/MM/DD)	TIME SAMPLED (HH:MM)	SAMPLER INITIALS	# CONT.	ANALYSIS REQUESTED: Barium on ICP using Fusion Extraction										ADDITIONAL SAMPLE INFORMATION
1	AZM220-BH22-24-01	SOIL	2022/08/08	10:20	ML	1	X										(P: 01)
2	AZM223-BH22-24-04	SOIL	2022/08/08	10:40	ML	1	X										(P: 01)
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

REGULATORY CRITERIA

SPECIAL INSTRUCTIONS

Please inform Bureau Veritas immediately if:
- You are not accredited for the requested test(s)
- The hold time is approaching for the requested test(s).

Please return a copy of this form with the report.

TURNAROUND TIME

[X] Rush Required

2022/09/07

Date Required

Please inform us if rush charges will be incurred.

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present						
Custody Seal Intact						
Cooling Media Present						

COOLER ID:	YES	NO	Temp: (°C)			
Custody Seal Present	—					
Custody Seal Intact	—					
Cooling Media Present	—					
			NA			

RELINQUISHED BY: (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)	**RECEIVED BY:** (SIGN & PRINT)	**DATE:** (YYYY/MM/DD)	**TIME:** (HH:MM)
1. Robert McIntyre	2022/09/01	09:30	1.	2022/09/01	12:10
2.			2.		

AGAT Laboratories

SAMPLE INTEGRITY RECEIPT FORM

RECEIVING BASICS - Shipping

Company/Consultant: Bureau Veritas

Courier: Jazoo Prepaid Collect

Waybill#_____

Branch: EDM GP FN FM RD VAN LYD FSJ EST SASK Other:___

If multiple sites were submitted at once: (Yes) No

Custody Seal Intact: Yes No (NA)

TAT: <24hr 24-48hr 48-72hr Reg Other_____

Cooler Quantity: 1

TIME SENSITIVE ISSUES - Shipping

ALREADY EXCEEDED HOLD TIME? Yes No

Inorganic Tests (Please Circle): Mibi , BOD , Nitrate/Nitrite , Turbidity , Color , Microtox , Ortho PO4 , Tedlar Bag , Residual Chlorine , Chlorophyll* , Chloroamines*

Earliest Expiry:_____

Hydrocarbons: Earliest Expiry _____

SAMPLE INTEGRITY - Shipping

Hazardous Samples: YES NO Precaution Taken:_____

Legal Samples: Yes No

International Samples: Yes No

Tape Sealed: Yes No

Coolant Used: Icepack (Bagged Ice) Free Ice Free Water None

Temperature (Bottles/Jars only) (N/A) if only Soil Bags Received

FROZEN (Please Circle if samples received Frozen)

1 (Bottle/Jar) NA Soil =____°C 2(Bottle/Jar)___+___+___=____°C

3 (Bottle/Jar)___+___+___=____°C 4 (Bottle/Jar)___+___+___=____°C

5 (Bottle/Jar)___+___+___=____°C 6 (Bottle/Jar)___+___+___=____°C

7 (Bottle/Jar)___+___+___=____°C 8 (Bottle/Jar)___+___+___=____°C

9 (Bottle/Jar)___+___+___=____°C 10 (Bottle/Jar)___+___+___=____°C

(If more than 10 coolers are received use another sheet of paper and attach)

LOGISTICS USE ONLY

Workorder No: 22C940477

Samples Damaged: Yes No If YES why?

No Bubble Wrap Frozen Courier

Other: _____

Account Project Manager: _____ have they been notified of the above issues: Yes No

Whom spoken to: _____ Date/Time: _____

CPM Initial_____

General Comments: _____

* Subcontracted Analysis (See CPM)

- IN-CITY -

JAZOO EXPRESS COURIER

www.jazoocourier.com

CLIENT USE ONLY

Sender Name:	Robel Mebrahtu	Receiver Name:	Sample Reception	Billed To:	Bureau Veritas
Date:	2022/09/01	Delivery From:	Bureau Veritas Calgary		
		Delivery To:	AGAT-Calgary 2910 12th street NE Calgary,AB, T2E 7P7		
Total # Items:	2	Item Description: envelope, sm/med/lg box, cooler, etc.	1 Large Cooler, 1 Medium Cooler		
			Job/PO/Reference #:		
Authorized Shipper Signature:					

DRIVER USE ONLY

P/U Driver Name:		P/U Time:	11:50 am	D/O Time:	am
# Items P/U:	2		pm		12:05 pm

# Of Overweight	# Of TDG	# Of Same Day	Surcharge

Additional Info: DONE

Total # Items Dropped Off:	2	D/O Driver Name:	
Authorized Receiver Signature:			

HOTSHOT DETAILS

Total Km:		Or Total Charge ($):	

OFFICE USE ONLY

Verified By:		Invoiced By:	

To schedule a pickup please contact dispatch at the city nearest you:

Calgary	403-660-5504	**Fort McMurray**	587-645-6364
Edmonton	780-903-3628	**Grande Prairie**	587-297-8406

THANK YOU FOR SUPPORTING LOCAL AND CHOOSING JAZOO EXPRESS COURIER.

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell, NT

Sampling Date: August 8, 2022

Golder Project Number: 22525414-1000

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C260023

Was the Cooler Received at the lab under a sealed and intact custody seal?	Yes
Was proper chain of custody of the samples documented and kept?	Yes
Were sample temperatures acceptable when they reached lab?:	Yes
Were all samples analyzed and extracted within hold times?:	Yes
Has lab warranted all tests were in statistical control in CoA?:	Yes
Was sufficient sample provided for the requested analysis?	Yes
Has lab warranted all samples were analyzed with limited headspace present?:	Yes

Are All Laboratory QC Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery		X		All remaining laboratory QC results are within
Method Blank Concentration		X		acceptance criteria, please see QA/QC
Laboratory Duplicate RPD	X			appendix.
Matrix Spike Recovery		X		
Blank Spike Recovery		X		

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	All field QC samples are within
Trip Blank Concentration			X	alert limits.
Field Duplicate RPD	X			

Is data considered reliable (Yes/No/Suspect)?: Yes

If answer is "No" or "Suspect", describe and provide rationale:

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: August 18, 2022

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1of 1, 1 OF 2, 2 of 2

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/08/17
Report #: R3217435
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C260026
Received: 2022/08/12, 09:00

Sample Matrix: Soil
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS - Soils (1)	12	2022/08/16	2022/08/17	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Elements by ICPMS - Soils (1)	2	2022/08/17	2022/08/17	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1of 1, 1 OF 2, 2 of 2

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/08/17
Report #: R3217435
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C260026
Received: 2022/08/12, 09:00

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
17 Aug 2022 16:37:26

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Cynny Hagen, Key Account Specialist
Email: Cynny.HAGEN@bureauveritas.com
Phone# (403)735-2273
==========
This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C260026
Report Date: 2022/08/17

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		AZM230		AZM231		AZM232	AZM232		AZM233		
Sampling Date		2022/08/08 15:45		2022/08/08 15:50		2022/08/08 16:00	2022/08/08 16:00		2022/08/08 15:20		
COC Number		1 OF 2		1 OF 2		1 OF 2	1 OF 2		1 OF 2		
	UNITS	BH22-35-01	QC Batch	BH22-35-02	QC Batch	BH22-35-03	BH22-35-03 Lab-Dup	QC Batch	BH22-34-01	RDL	QC Batch
Elements											
Total Chromium (Cr)	mg/kg	8.4	A683218	6.1	A683223	6.9	6.7	A682611	8.9	1.0	A683218
Total Nickel (Ni)	mg/kg	7.6	A683218	6.5	A683223	10	11	A682611	8.0	1.0	A683218

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas ID		AZM234		AZM235		AZM236		AZM237		
Sampling Date		2022/08/08 15:25		2022/08/08 15:30		2022/08/08 15:15		2022/08/08 15:00		
COC Number		1 OF 2		1 OF 2		1 OF 2		1 OF 2		
	UNITS	BH22-34-02	QC Batch	BH22-34-03	QC Batch	BH22-33-04	QC Batch	BH22-33-01	RDL	QC Batch
Elements										
Total Chromium (Cr)	mg/kg	9.4	A683218	6.7	A684023	7.3	A683801	8.2	1.0	A683218
Total Nickel (Ni)	mg/kg	20	A683218	11	A684023	13	A683801	7.5	1.0	A683218

RDL = Reportable Detection Limit

Bureau Veritas ID		AZM238	AZM239		AZM240	AZM241	AZM243	AZM244		
Sampling Date		2022/08/08 15:05	2022/08/08 15:10		2022/08/08 14:30	2022/08/08 14:40	2022/08/08 14:45	2022/08/08 14:45		
COC Number		1 OF 2	1 OF 2		1 OF 2	1 OF 2	2 of 2	2 of 2		
	UNITS	BH22-33-02	BH22-33-03	QC Batch	BH22-32-01	BH22-32-02	BH22-32-03	DUP F	RDL	QC Batch
Elements										
Total Chromium (Cr)	mg/kg	9.1	13	A682611	9.6	8.9	6.9	8.9	1.0	A683218
Total Nickel (Ni)	mg/kg	8.0	16	A682611	8.3	9.6	8.8	8.3	1.0	A683218

RDL = Reportable Detection Limit

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.0°C

Results relate only to the items tested.

Bureau Veritas Job #: C260026
Report Date: 2022/08/17

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A682611	MKJ	Matrix Spike [AZM232-01]	Total Chromium (Cr)	2022/08/17		113	%	75 - 125
			Total Nickel (Ni)	2022/08/17		104	%	75 - 125
A682611	MKJ	QC Standard	Total Chromium (Cr)	2022/08/17		113	%	59 - 141
			Total Nickel (Ni)	2022/08/17		110	%	79 - 121
A682611	MKJ	Spiked Blank	Total Chromium (Cr)	2022/08/17		97	%	80 - 120
			Total Nickel (Ni)	2022/08/17		96	%	80 - 120
A682611	MKJ	Method Blank	Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
A682611	MKJ	RPD [AZM232-01]	Total Chromium (Cr)	2022/08/17	1.9		%	30
			Total Nickel (Ni)	2022/08/17	5.2		%	30
A683218	MKJ	Matrix Spike	Total Chromium (Cr)	2022/08/17		98	%	75 - 125
			Total Nickel (Ni)	2022/08/17		90	%	75 - 125
A683218	MKJ	QC Standard	Total Chromium (Cr)	2022/08/17		104	%	59 - 141
			Total Nickel (Ni)	2022/08/17		109	%	79 - 121
A683218	MKJ	Spiked Blank	Total Chromium (Cr)	2022/08/17		98	%	80 - 120
			Total Nickel (Ni)	2022/08/17		97	%	80 - 120
A683218	MKJ	Method Blank	Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
A683218	MKJ	RPD	Total Chromium (Cr)	2022/08/17	1.4		%	30
			Total Nickel (Ni)	2022/08/17	5.5		%	30
A683223	KH2	Matrix Spike	Total Chromium (Cr)	2022/08/17		113	%	75 - 125
			Total Nickel (Ni)	2022/08/17		106	%	75 - 125
A683223	KH2	QC Standard	Total Chromium (Cr)	2022/08/17		78	%	59 - 141
			Total Nickel (Ni)	2022/08/17		81	%	79 - 121
A683223	KH2	Spiked Blank	Total Chromium (Cr)	2022/08/17		97	%	80 - 120
			Total Nickel (Ni)	2022/08/17		96	%	80 - 120
A683223	KH2	Method Blank	Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
A683223	KH2	RPD	Total Chromium (Cr)	2022/08/17	7.9		%	30
			Total Nickel (Ni)	2022/08/17	4.8		%	30
A683801	MKJ	Matrix Spike	Total Chromium (Cr)	2022/08/17		104	%	75 - 125
			Total Nickel (Ni)	2022/08/17		90	%	75 - 125
A683801	MKJ	QC Standard	Total Chromium (Cr)	2022/08/17		92	%	59 - 141
			Total Nickel (Ni)	2022/08/17		104	%	79 - 121
A683801	MKJ	Spiked Blank	Total Chromium (Cr)	2022/08/17		99	%	80 - 120
			Total Nickel (Ni)	2022/08/17		98	%	80 - 120
A683801	MKJ	Method Blank	Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
A683801	MKJ	RPD	Total Chromium (Cr)	2022/08/17	5.9		%	30
			Total Nickel (Ni)	2022/08/17	8.0		%	30
A684023	KH2	Matrix Spike	Total Chromium (Cr)	2022/08/17		120	%	75 - 125
			Total Nickel (Ni)	2022/08/17		106	%	75 - 125
A684023	KH2	QC Standard	Total Chromium (Cr)	2022/08/17		99	%	59 - 141
			Total Nickel (Ni)	2022/08/17		110	%	79 - 121
A684023	KH2	Spiked Blank	Total Chromium (Cr)	2022/08/17		101	%	80 - 120
			Total Nickel (Ni)	2022/08/17		100	%	80 - 120
A684023	KH2	Method Blank	Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
A684023	KH2	RPD	Total Chromium (Cr)	2022/08/17	10		%	30

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260026
Report Date: 2022/08/17

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Nickel (Ni)	2022/08/17	5.9		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260026
Report Date: 2022/08/17

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

www.BVNA.com

Choose Location:
☐ Calgary, AB: 4000 19th St. NE, T2E 6P8 Toll Free (800) 386-7247
☐ Edmonton, AB: 9331-48 St. T6B 2R4 Toll Free (800) 386-7247
☐ Winnipeg, MB: D-675 Berry St. R3H 1A7 Toll Free (866) 800-6208

639

CHAIN OF CUSTODY RECORD
ENV COC - 00013v3

12-Aug-22 09:00
Cynny Hagen
C260026
TKU INS-0475

Invoice Information	Invoice to (requires report) ☐	Report Information (if differs from invoice)		Project Information	
Company:	Client #254, Golder Associates	Company:	Golder Associates	Quotation #:	Shell
Contact Name:	237 - 4 Ave SW Suite 3300	Contact Name:	Aurelie Bellavance	P.O. #/ AFE#:	22525414-~~100~~-104
Street Address:		Street Address:		Project #:	22525414-1000
City:	Calgary, Prov: AB, Postal Code:	City:	Calgary, AB, Postal Code: T2P 4K3	Site #:	NA
Phone:		Phone:	403-299-5600	Site Location:	Camp Farewell ~~WEST CHANNEL~~, NT
Email:	Canada Account Payable	Email:	aurelie.bellavance@wsp.com	Site Location Province:	NT
Copies:		Copies:	peter.tan@wsp.com	Sampled By:	Melissa Lord, Harmanjeet Kaur

Regulatory Criteria: ☐ AT1 ☐ CCME ☐ Drinking Water - Canada ☐ Drinking Water - Manitoba ☐ Saskatchewan ☐ Drinking Water - Alberta ☑ Other AMSRP

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

Regular Turnaround Time (TAT): ☐ 5 to 7 Day ☐ 10 Day
Rush Turnaround Time (TAT) Surcharges apply: ☐ Same Day ☐ 1 Day ☑ 2 Day ☐ 3 Day ☐ 4 Day
Date Required: YY MM DD

#	Sample Identification	YY	MM	DD	HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX F1-F4	5 PAHS	6 BTEX F1-F2	7 BARIUM TRUE TOTAL	8 Routine water	9 Regulated metals - total	10 Regulated metals - dissolved	11 Mercury - total	12 Mercury - dissolved	13 Salinity 4	14 Sieve (75 micron)	15 Texture (% sand, silt, clay)	16 Basic class II landfill	17 Cr (total)	18 Nickel	19	20 LIMITED SAMPLE	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	Comments
1	BH22-35-01	22	08	08	15	45	Soil																	X	X			2		email report to:
2	BH22-35-02	22	08	08	15	50	Soil																	X	X			2		gld.SHELLDQR@equis.com
3	BH22-35-03	22	08	08	16	00	Soil																	X	X			2		gld.iol-equis@wsp.com
4	BH22-34-01	22	08	08	15	20	Soil																	X	X			2		Upload to facility code
5	BH22-34-02	22	08	08	15	25	Soil																	X	X			2		41259544
6	BH22-34-03	22	08	08	15	30	Soil																	X	X			2		Received in Yellowknife
7	BH22-33-04	22	08	08	15	15	Soil																	X	X		X	1		By: J.Mercer 7.0
8	BH22-33-01	22	08	08	15	00	Soil																	X	X			2		@ 9:00 am
9	BH22-33-02	22	08	08	15	05	Soil																	X	X			2		AUG 12 2022
10	BH22-33-03	22	08	08	15	10	Soil																	X	X			2		ice-yes / cs-yes
11	BH22-32-01	22	08	08	14	30	Soil																	X	X			2		Temp: 6 / 3 / 9
12	BH22-32-02	22	08	08	14	40	Soil																	X	X			2		

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present	✓			2.5	3	5
Seal intact	✓					
Cooling media present	✓					

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling media present						

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling media present						

Temperature reading by:

	Relinquished by: (Signature/ Print)	YY	MM	DD	HH	MM		Received by: (Signature/ Print)	YY	MM	DD	HH	MM	Special instructions
1	[signature] / Melissa Lord	22	08	09	08	00	1	[signature] Megan Fran	22	08	13	15	03	
2							2							

www.BVNA.com

Calgary, AB: 4000 19th St. NE, T2E 6P8 Toll Free (800) 386-7247
Edmonton, AB: 9331-48 St. T6B 2R4 Toll Free (800) 386-7247
Winnipeg, MB: D-675 Berry St. R3H 1A7 Toll Free (866) 800-6208

CHAIN OF CUSTODY RECORD

ENV COC - 00013v3

CONTINUED

[PAGE 1 REFERENCE]

Company:	Client #254, Golder Associates
Contact Name:	237 - 4 Ave SW Suite 3300
Project #:	22525414-~~8000~~ 1000

12-Aug-22 09:00
Cynny Hagen
C260026
TKU INS-0475

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX F1	5 VOCs	6 BTEX F1-F2	7 BTEX F1-F4	8 Routine water	9 Regulated metals - total	10 Regulated metals - dissolved	11 Mercury - total	12 Mercury - dissolved	13 Salinity 4	14 Sieve (75 micron)	15 Texture (% sand, silt, clay)	16 Basic class II landfill	17 Cr (total)	18 Nickel	19	20	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE
13	BH22-32-03	22	08	08	14	45	Soil																	X	X			2	
14	DUP F	22	08	08	14	45	Soil																	X	X			2	
15																													
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GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell, NT

Sampling Date: August 8, 2022

Golder Project Number: 22525414-1000

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C260026

Was the Cooler Received at the lab under a sealed and intact custody seal?	Yes
Was proper chain of custody of the samples documented and kept?	Yes
Were sample temperatures acceptable when they reached lab?:	Yes
Were all samples analyzed and extracted within hold times?:	Yes
Has lab warranted all tests were in statistical control in CoA?:	Yes
Was sufficient sample provided for the requested analysis?	Yes
Has lab warranted all samples were analyzed with limited headspace present?:	Yes

Are All Laboratory QC Within Acceptance Criteria (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Surrogate Recovery			X	All laboratory QC results are within
Method Blank Concentration	X			acceptance criteria.
Laboratory Duplicate RPD	X			
Matrix Spike Recovery	X			
Blank Spike Recovery	X			

Are All Field QC Samples Within Alert Limits (Yes, No, Not Applicable)?

	Yes	No	NA	Comments
Field Blank Concentration			X	All field QC samples are within
Trip Blank Concentration			X	alert limits.
Field Duplicate RPD	X			

Is data considered reliable (Yes/No/Suspect)?: Yes

If answer is "No" or "Suspect", describe and provide rationale:

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: August 18, 2022

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/09/06
Report #: R3226583
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260028
Received: 2022/08/12, 09:00

Sample Matrix: Soil
Samples Received: 11

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble) (1)	4	2022/08/16	2022/08/16	AB SOP-00034 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 3)	11	N/A	2022/08/16	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	11	N/A	2022/08/17		Auto Calc
Hexavalent Chromium (1, 4)	4	2022/08/16	2022/08/16	AB SOP-00063	SM 23 3500-Cr B m
Barium on ICP using Fusion Extraction (2)	4	N/A	2022/09/06		
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	3	2022/08/15	2022/08/15	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	8	2022/08/15	2022/08/16	AB SOP-00036	CCME PHC-CWS m
Elements by ICPMS - Soils (1)	4	2022/08/16	2022/08/17	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Moisture (1)	11	N/A	2022/08/16	AB SOP-00002	CCME PHC-CWS m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Calgary, 4000 - 19 St. , Calgary, AB, T2E 6P8

Your P.O. #: 22525414-1100-1104
Your Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your C.O.C. #: 1 of 1

Attention: Aurelie Bellavance

GOLDER ASSOCIATES LTD.
2800, 700 -2nd Street SW
CALGARY, AB
CANADA T2P 2W2

Report Date: 2022/09/06
Report #: R3226583
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C260028

Received: 2022/08/12, 09:00

(2) This test was performed by AGAT - Calgary, 2910 12th Street NE , Calgary, AB, T2E 7P7
(3) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is date sampled unless otherwise stated.
(4) Some soil samples may react with the Cr(VI) spike reducing it to Cr(III). These samples are highly unlikely to contain native hexavalent chromium. Thus a failed spike recovery does not invalidate a negative result on the native sample.
(5) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil, Validation of Performance-Based Alternative Methods September 2003. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
06 Sep 2022 12:44:36

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Cynny Hagen, Key Account Specialist
Email: Cynny.HAGEN@bureauveritas.com
Phone# (403)735-2273

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Job #: C260028
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM245		AZM246		AZM247	AZM248	AZM249		
Sampling Date		2022/08/09 13:30		2022/08/09 13:40		2022/08/09 13:50	2022/08/09 09:20	2022/08/09 09:10		
COC Number		1 of 1		1 of 1		1 of 1	1 of 1	1 of 1		
	UNITS	BH22-28-01	RDL	BH22-28-02	RDL	BH22-28-03	BH22-40-04	BH22-40-03	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	<10	10	<10	37	<10	10	A681077
F3 (C16-C34 Hydrocarbons)	mg/kg	180	50	110	50	<50	<50	<50	50	A681077
F4 (C34-C50 Hydrocarbons)	mg/kg	97	50	<50	50	<50	<50	<50	50	A681077
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	Yes	Yes	Yes	N/A	A681077
Physical Properties										
Moisture	%	5.7	0.30	22	0.30	4.8	17	16	0.30	A681090
Volatiles										
Xylenes (Total)	mg/kg	<0.045	0.045	<0.11	0.11	<0.045	<0.045	<0.045	0.045	A679841
F1 (C6-C10) - BTEX	mg/kg	<10	10	<24	24	<10	<10	<10	10	A679841
Field Preserved Volatiles										
Benzene	mg/kg	<0.0050	0.0050	<0.010 (1)	0.010	<0.0050	<0.0050	0.016	0.0050	A680674
Toluene	mg/kg	<0.050	0.050	<0.050 (1)	0.050	<0.050	<0.050	<0.050	0.050	A680674
Ethylbenzene	mg/kg	<0.010	0.010	<0.019 (1)	0.019	<0.010	<0.010	0.025	0.010	A680674
m & p-Xylene	mg/kg	<0.040	0.040	<0.095 (2)	0.095	<0.040	<0.040	<0.040	0.040	A680674
o-Xylene	mg/kg	<0.020	0.020	<0.048 (2)	0.048	<0.020	<0.020	0.031	0.020	A680674
F1 (C6-C10)	mg/kg	<10	10	<24 (2)	24	<10	<10	<10	10	A680674
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	84	N/A	83	N/A	86	83	85	N/A	A680674
4-Bromofluorobenzene (sur.)	%	94	N/A	95	N/A	95	93	92	N/A	A680674
D10-o-Xylene (sur.)	%	102	N/A	107	N/A	96	97	100	N/A	A680674
D4-1,2-Dichloroethane (sur.)	%	85	N/A	85	N/A	86	83	84	N/A	A680674
O-TERPHENYL (sur.)	%	98	N/A	84	N/A	83	98	93	N/A	A681077

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limit reported based on MDL and sample weight used for analysis.
(2) Detection limits raised based on sample weight used for analysis.

Bureau Veritas Job #: C260028
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM250		AZM251	AZM251	AZM252	AZM253	AZM254		
Sampling Date		2022/08/09 09:00		2022/08/09 09:10	2022/08/09 09:10	2022/08/09 14:00	2022/08/09 14:10	2022/08/09 14:20		
COC Number		1 of 1		1 of 1	1 of 1	1 of 1	1 of 1	1 of 1		
	UNITS	BH22-40-02	RDL	DUP G	DUP G Lab-Dup	BH22-26-01	BH22-26-02	BH22-26-03	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	17000	10	<10	N/A	15	22	22	10	A681077
F3 (C16-C34 Hydrocarbons)	mg/kg	1300	50	<50	N/A	80	130	130	50	A681077
F4 (C34-C50 Hydrocarbons)	mg/kg	470	50	<50	N/A	<50	<50	<50	50	A681077
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	Yes	Yes	Yes	N/A	A681077
Physical Properties										
Moisture	%	40	0.30	20	19	3.6	15	9.8	0.30	A681090
Volatiles										
Xylenes (Total)	mg/kg	57	0.11	<0.045	N/A	<0.045	<0.045	<0.045	0.045	A679841
F1 (C6-C10) - BTEX	mg/kg	2200	24	<10	N/A	<10	<10	<10	10	A679841
Field Preserved Volatiles										
Benzene	mg/kg	0.88 (1)	0.012	0.022	N/A	<0.0050	<0.0050	<0.0050	0.0050	A680674
Toluene	mg/kg	16 (1)	0.12	<0.050	N/A	<0.050	<0.050	<0.050	0.050	A680674
Ethylbenzene	mg/kg	12 (1)	0.024	0.020	N/A	<0.010	<0.010	<0.010	0.010	A680674
m & p-Xylene	mg/kg	37 (1)	0.094	<0.040	N/A	<0.040	<0.040	<0.040	0.040	A680674
o-Xylene	mg/kg	19 (1)	0.047	0.040 (2)	N/A	<0.020	<0.020	<0.020	0.020	A680674
F1 (C6-C10)	mg/kg	2300 (1)	24	<10	N/A	<10	<10	<10	10	A680674
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	86	N/A	85	N/A	89	83	86	N/A	A680674
4-Bromofluorobenzene (sur.)	%	99	N/A	90	N/A	96	90	90	N/A	A680674
D10-o-Xylene (sur.)	%	112	N/A	104	N/A	94	101	89	N/A	A680674
D4-1,2-Dichloroethane (sur.)	%	84	N/A	84	N/A	87	80	93	N/A	A680674
O-TERPHENYL (sur.)	%	98	N/A	103	N/A	95	89	96	N/A	A681077

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Detection limits raised based on sample weight used for analysis.
(2) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260028
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AZM255		
Sampling Date		2022/08/09 14:30		
COC Number		1 of 1		
	UNITS	BH22-26-04	RDL	QC Batch
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	38	10	A681077
F3 (C16-C34 Hydrocarbons)	mg/kg	220	50	A681077
F4 (C34-C50 Hydrocarbons)	mg/kg	100	50	A681077
Reached Baseline at C50	mg/kg	Yes	N/A	A681077
Physical Properties				
Moisture	%	21	0.30	A681090
Volatiles				
Xylenes (Total)	mg/kg	<0.045	0.045	A679841
F1 (C6-C10) - BTEX	mg/kg	<10	10	A679841
Field Preserved Volatiles				
Benzene	mg/kg	<0.0050	0.0050	A680674
Toluene	mg/kg	<0.050	0.050	A680674
Ethylbenzene	mg/kg	<0.010	0.010	A680674
m & p-Xylene	mg/kg	<0.040	0.040	A680674
o-Xylene	mg/kg	<0.020	0.020	A680674
F1 (C6-C10)	mg/kg	<10	10	A680674
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	88	N/A	A680674
4-Bromofluorobenzene (sur.)	%	92	N/A	A680674
D10-o-Xylene (sur.)	%	108	N/A	A680674
D4-1,2-Dichloroethane (sur.)	%	90	N/A	A680674
O-TERPHENYL (sur.)	%	102	N/A	A681077

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Job #: C260028
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

CCME REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AZM252		AZM253	AZM254	AZM254	AZM255	AZM255		
Sampling Date		2022/08/09 14:00		2022/08/09 14:10	2022/08/09 14:20	2022/08/09 14:20	2022/08/09 14:30	2022/08/09 14:30		
COC Number		1 of 1		1 of 1	1 of 1	1 of 1	1 of 1	1 of 1		
	UNITS	BH22-26-01	QC Batch	BH22-26-02	BH22-26-03	BH22-26-03 Lab-Dup	BH22-26-04	BH22-26-04 Lab-Dup	RDL	QC Batch
Elements										
Soluble (Hot water) Boron (B)	mg/kg	0.12	A683007	1.2	0.77	N/A	0.77	0.80	0.10	A683000
Hex. Chromium (Cr 6+)	mg/kg	<0.080	A682697	<0.080	<0.080	<0.080	<0.080	N/A	0.080	A682697
Total Antimony (Sb)	mg/kg	<0.50	A682611	<0.50	<0.50	N/A	<0.50	N/A	0.50	A683223
Total Arsenic (As)	mg/kg	5.3	A682611	4.6	4.8	N/A	4.5	N/A	1.0	A683223
Total Barium (Ba)	mg/kg	1600	A682611	1200	1500	N/A	1400	N/A	1.0	A683223
Total Beryllium (Be)	mg/kg	<0.40	A682611	<0.40	<0.40	N/A	<0.40	N/A	0.40	A683223
Total Cadmium (Cd)	mg/kg	0.19	A682611	0.19	0.19	N/A	0.15	N/A	0.050	A683223
Total Chromium (Cr)	mg/kg	7.8	A682611	15	27	N/A	20	N/A	1.0	A683223
Total Cobalt (Co)	mg/kg	2.2	A682611	2.8	3.2	N/A	3.1	N/A	0.50	A683223
Total Copper (Cu)	mg/kg	7.9	A682611	7.6	7.5	N/A	6.5	N/A	1.0	A683223
Total Lead (Pb)	mg/kg	19	A682611	14	15	N/A	11	N/A	0.50	A683223
Total Mercury (Hg)	mg/kg	0.054	A682611	<0.050	0.055	N/A	0.058	N/A	0.050	A683223
Total Molybdenum (Mo)	mg/kg	0.41	A682611	0.87	1.3	N/A	0.98	N/A	0.40	A683223
Total Nickel (Ni)	mg/kg	5.5	A682611	10	16	N/A	13	N/A	1.0	A683223
Total Selenium (Se)	mg/kg	<0.50	A682611	<0.50	<0.50	N/A	<0.50	N/A	0.50	A683223
Total Silver (Ag)	mg/kg	<0.20	A682611	<0.20	<0.20	N/A	<0.20	N/A	0.20	A683223
Total Thallium (Tl)	mg/kg	<0.10	A682611	<0.10	<0.10	N/A	<0.10	N/A	0.10	A683223
Total Tin (Sn)	mg/kg	<1.0	A682611	<1.0	<1.0	N/A	<1.0	N/A	1.0	A683223
Total Uranium (U)	mg/kg	0.40	A682611	0.46	0.44	N/A	0.43	N/A	0.20	A683223
Total Vanadium (V)	mg/kg	16	A682611	12	12	N/A	14	N/A	1.0	A683223
Total Zinc (Zn)	mg/kg	81	A682611	44	42	N/A	37	N/A	10	A683223

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260028
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

RESULTS OF CHEMICAL ANALYSES OF SOIL

Bureau Veritas ID		AZM252	AZM253	AZM254	AZM255	
Sampling Date		2022/08/09 14:00	2022/08/09 14:10	2022/08/09 14:20	2022/08/09 14:30	
COC Number		1 of 1	1 of 1	1 of 1	1 of 1	
	UNITS	**BH22-26-01**	**BH22-26-02**	**BH22-26-03**	**BH22-26-04**	**QC Batch**
Parameter						
Subcontract Parameter	N/A	ATTACHED	ATTACHED	ATTACHED	ATTACHED	A705525

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260028
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.7°C

Version 2: Report reissued to include results for Barium - True Total on below samples as per client request received 2022/08/24.
BH22-26-01/AZM252
BH22-26-02/AZM253
BH22-26-03/AZM254
BH22-26-04/AZM255

Sample AZM252 [BH22-26-01] : Please see attachment for Barium on ICP using Fusion Extraction results.

Sample AZM253 [BH22-26-02] : Please see attachment for Barium on ICP using Fusion Extraction results.

Sample AZM254 [BH22-26-03] : Please see attachment for Barium on ICP using Fusion Extraction results.

Sample AZM255 [BH22-26-04] : Please see attachment for Barium on ICP using Fusion Extraction results.

Results relate only to the items tested.

Bureau Veritas Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

Bureau Veritas Job #: C260028
Report Date: 2022/09/06

GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A680674	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2022/08/16		85	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		93	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		113	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		86	%	50 - 140
			Benzene	2022/08/16		71	%	50 - 140
			Toluene	2022/08/16		83	%	50 - 140
			Ethylbenzene	2022/08/16		86	%	50 - 140
			m & p-Xylene	2022/08/16		88	%	50 - 140
			o-Xylene	2022/08/16		86	%	50 - 140
			F1 (C6-C10)	2022/08/16		106	%	60 - 140
A680674	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2022/08/16		87	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		90	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		98	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		86	%	50 - 140
			Benzene	2022/08/16		73	%	60 - 130
			Toluene	2022/08/16		80	%	60 - 130
			Ethylbenzene	2022/08/16		86	%	60 - 130
			m & p-Xylene	2022/08/16		86	%	60 - 130
			o-Xylene	2022/08/16		86	%	60 - 130
			F1 (C6-C10)	2022/08/16		97	%	60 - 140
A680674	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2022/08/16		82	%	50 - 140
			4-Bromofluorobenzene (sur.)	2022/08/16		94	%	50 - 140
			D10-o-Xylene (sur.)	2022/08/16		90	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2022/08/16		85	%	50 - 140
			Benzene	2022/08/16	<0.0050		mg/kg	
			Toluene	2022/08/16	<0.050		mg/kg	
			Ethylbenzene	2022/08/16	<0.010		mg/kg	
			m & p-Xylene	2022/08/16	<0.040		mg/kg	
			o-Xylene	2022/08/16	<0.020		mg/kg	
			F1 (C6-C10)	2022/08/16	<10		mg/kg	
A680674	DO1	RPD	Benzene	2022/08/16	NC		%	50
			Toluene	2022/08/16	NC		%	50
			Ethylbenzene	2022/08/16	14		%	50
			m & p-Xylene	2022/08/16	NC		%	50
			o-Xylene	2022/08/16	NC		%	50
			F1 (C6-C10)	2022/08/16	NC		%	30
A681077	GG3	Matrix Spike	O-TERPHENYL (sur.)	2022/08/15		81	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/15		77	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/15		77	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/15		72	%	60 - 140
A681077	GG3	Spiked Blank	O-TERPHENYL (sur.)	2022/08/15		81	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/15		78	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2022/08/15		79	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2022/08/15		74	%	60 - 140
A681077	GG3	Method Blank	O-TERPHENYL (sur.)	2022/08/15		83	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2022/08/15	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2022/08/15	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2022/08/15	<50		mg/kg	
A681077	GG3	RPD	F2 (C10-C16 Hydrocarbons)	2022/08/15	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2022/08/15	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2022/08/15	NC		%	40
A681090	A1H	Method Blank	Moisture	2022/08/16	<0.30		%	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A681090	A1H	RPD [AZM251-01]	Moisture	2022/08/16	2.1		%	20
A682611	MKJ	Matrix Spike	Total Antimony (Sb)	2022/08/17		101	%	75 - 125
			Total Arsenic (As)	2022/08/17		97	%	75 - 125
			Total Barium (Ba)	2022/08/17		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/17		96	%	75 - 125
			Total Cadmium (Cd)	2022/08/17		98	%	75 - 125
			Total Chromium (Cr)	2022/08/17		113	%	75 - 125
			Total Cobalt (Co)	2022/08/17		99	%	75 - 125
			Total Copper (Cu)	2022/08/17		100	%	75 - 125
			Total Lead (Pb)	2022/08/17		99	%	75 - 125
			Total Mercury (Hg)	2022/08/17		96	%	75 - 125
			Total Molybdenum (Mo)	2022/08/17		101	%	75 - 125
			Total Nickel (Ni)	2022/08/17		104	%	75 - 125
			Total Selenium (Se)	2022/08/17		100	%	75 - 125
			Total Silver (Ag)	2022/08/17		99	%	75 - 125
			Total Thallium (Tl)	2022/08/17		98	%	75 - 125
			Total Tin (Sn)	2022/08/17		102	%	75 - 125
			Total Uranium (U)	2022/08/17		95	%	75 - 125
			Total Vanadium (V)	2022/08/17		140 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/17		102	%	75 - 125
A682611	MKJ	QC Standard	Total Antimony (Sb)	2022/08/17		109	%	15 - 182
			Total Arsenic (As)	2022/08/17		103	%	53 - 147
			Total Barium (Ba)	2022/08/17		103	%	80 - 119
			Total Cadmium (Cd)	2022/08/17		94	%	72 - 128
			Total Chromium (Cr)	2022/08/17		113	%	59 - 141
			Total Cobalt (Co)	2022/08/17		101	%	58 - 142
			Total Copper (Cu)	2022/08/17		103	%	83 - 117
			Total Lead (Pb)	2022/08/17		111	%	79 - 121
			Total Molybdenum (Mo)	2022/08/17		122	%	67 - 133
			Total Nickel (Ni)	2022/08/17		110	%	79 - 121
			Total Silver (Ag)	2022/08/17		89	%	47 - 153
			Total Tin (Sn)	2022/08/17		98	%	67 - 133
			Total Uranium (U)	2022/08/17		98	%	77 - 123
			Total Vanadium (V)	2022/08/17		111	%	79 - 121
			Total Zinc (Zn)	2022/08/17		103	%	79 - 121
A682611	MKJ	Spiked Blank	Total Antimony (Sb)	2022/08/17		102	%	80 - 120
			Total Arsenic (As)	2022/08/17		95	%	80 - 120
			Total Barium (Ba)	2022/08/17		96	%	80 - 120
			Total Beryllium (Be)	2022/08/17		92	%	80 - 120
			Total Cadmium (Cd)	2022/08/17		95	%	80 - 120
			Total Chromium (Cr)	2022/08/17		97	%	80 - 120
			Total Cobalt (Co)	2022/08/17		97	%	80 - 120
			Total Copper (Cu)	2022/08/17		97	%	80 - 120
			Total Lead (Pb)	2022/08/17		97	%	80 - 120
			Total Mercury (Hg)	2022/08/17		100	%	80 - 120
			Total Molybdenum (Mo)	2022/08/17		96	%	80 - 120
			Total Nickel (Ni)	2022/08/17		96	%	80 - 120
			Total Selenium (Se)	2022/08/17		99	%	80 - 120
			Total Silver (Ag)	2022/08/17		96	%	80 - 120
			Total Thallium (Tl)	2022/08/17		97	%	80 - 120
			Total Tin (Sn)	2022/08/17		96	%	80 - 120
			Total Uranium (U)	2022/08/17		97	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Vanadium (V)	2022/08/17		97	%	80 - 120
			Total Zinc (Zn)	2022/08/17		97	%	80 - 120
A682611	MKJ	Method Blank	Total Antimony (Sb)	2022/08/17	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/17	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/17	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/17	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/17	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/17	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/17	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/17	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/17	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/17	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/17	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/17	<0.20		mg/kg	
			Total Thallium (Tl)	2022/08/17	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/17	<1.0		mg/kg	
			Total Uranium (U)	2022/08/17	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/17	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/17	<10		mg/kg	
A682611	MKJ	RPD	Total Chromium (Cr)	2022/08/17	1.9		%	30
			Total Nickel (Ni)	2022/08/17	5.2		%	30
A682697	FM0	Matrix Spike [AZM254-03]	Hex. Chromium (Cr 6+)	2022/08/16		97	%	75 - 125
A682697	FM0	Spiked Blank	Hex. Chromium (Cr 6+)	2022/08/16		98	%	80 - 120
A682697	FM0	Method Blank	Hex. Chromium (Cr 6+)	2022/08/16	<0.080		mg/kg	
A682697	FM0	RPD [AZM254-03]	Hex. Chromium (Cr 6+)	2022/08/16	NC		%	35
A683000	MPU	Matrix Spike [AZM255-03]	Soluble (Hot water) Boron (B)	2022/08/16		95	%	75 - 125
A683000	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/16		89	%	80 - 120
A683000	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/16	<0.10		mg/kg	
A683000	MPU	RPD [AZM255-03]	Soluble (Hot water) Boron (B)	2022/08/16	4.3		%	35
A683007	MPU	Matrix Spike	Soluble (Hot water) Boron (B)	2022/08/16		91	%	75 - 125
A683007	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2022/08/16		94	%	80 - 120
A683007	MPU	Method Blank	Soluble (Hot water) Boron (B)	2022/08/16	<0.10		mg/kg	
A683007	MPU	RPD	Soluble (Hot water) Boron (B)	2022/08/16	6.8		%	35
A683223	KH2	Matrix Spike	Total Antimony (Sb)	2022/08/17		104	%	75 - 125
			Total Arsenic (As)	2022/08/17		100	%	75 - 125
			Total Barium (Ba)	2022/08/17		NC	%	75 - 125
			Total Beryllium (Be)	2022/08/17		105	%	75 - 125
			Total Cadmium (Cd)	2022/08/17		101	%	75 - 125
			Total Chromium (Cr)	2022/08/17		113	%	75 - 125
			Total Cobalt (Co)	2022/08/17		102	%	75 - 125
			Total Copper (Cu)	2022/08/17		101	%	75 - 125
			Total Lead (Pb)	2022/08/17		103	%	75 - 125
			Total Mercury (Hg)	2022/08/17		101	%	75 - 125
			Total Molybdenum (Mo)	2022/08/17		106	%	75 - 125
			Total Nickel (Ni)	2022/08/17		106	%	75 - 125
			Total Selenium (Se)	2022/08/17		100	%	75 - 125
			Total Silver (Ag)	2022/08/17		104	%	75 - 125
			Total Thallium (Tl)	2022/08/17		102	%	75 - 125

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Tin (Sn)	2022/08/17		105	%	75 - 125
			Total Uranium (U)	2022/08/17		101	%	75 - 125
			Total Vanadium (V)	2022/08/17		131 (1)	%	75 - 125
			Total Zinc (Zn)	2022/08/17		113	%	75 - 125
A683223	KH2	QC Standard	Total Antimony (Sb)	2022/08/17		96	%	15 - 182
			Total Arsenic (As)	2022/08/17		73	%	53 - 147
			Total Barium (Ba)	2022/08/17		89	%	80 - 119
			Total Cadmium (Cd)	2022/08/17		85	%	72 - 128
			Total Chromium (Cr)	2022/08/17		78	%	59 - 141
			Total Cobalt (Co)	2022/08/17		73	%	58 - 142
			Total Copper (Cu)	2022/08/17		101	%	83 - 117
			Total Lead (Pb)	2022/08/17		98	%	79 - 121
			Total Molybdenum (Mo)	2022/08/17		112	%	67 - 133
			Total Nickel (Ni)	2022/08/17		81	%	79 - 121
			Total Silver (Ag)	2022/08/17		80	%	47 - 153
			Total Tin (Sn)	2022/08/17		86	%	67 - 133
			Total Uranium (U)	2022/08/17		81	%	77 - 123
			Total Vanadium (V)	2022/08/17		79	%	79 - 121
			Total Zinc (Zn)	2022/08/17		101	%	79 - 121
A683223	KH2	Spiked Blank	Total Antimony (Sb)	2022/08/17		101	%	80 - 120
			Total Arsenic (As)	2022/08/17		94	%	80 - 120
			Total Barium (Ba)	2022/08/17		97	%	80 - 120
			Total Beryllium (Be)	2022/08/17		98	%	80 - 120
			Total Cadmium (Cd)	2022/08/17		96	%	80 - 120
			Total Chromium (Cr)	2022/08/17		97	%	80 - 120
			Total Cobalt (Co)	2022/08/17		97	%	80 - 120
			Total Copper (Cu)	2022/08/17		97	%	80 - 120
			Total Lead (Pb)	2022/08/17		97	%	80 - 120
			Total Mercury (Hg)	2022/08/17		102	%	80 - 120
			Total Molybdenum (Mo)	2022/08/17		99	%	80 - 120
			Total Nickel (Ni)	2022/08/17		96	%	80 - 120
			Total Selenium (Se)	2022/08/17		96	%	80 - 120
			Total Silver (Ag)	2022/08/17		98	%	80 - 120
			Total Thallium (Tl)	2022/08/17		98	%	80 - 120
			Total Tin (Sn)	2022/08/17		97	%	80 - 120
			Total Uranium (U)	2022/08/17		98	%	80 - 120
			Total Vanadium (V)	2022/08/17		98	%	80 - 120
			Total Zinc (Zn)	2022/08/17		95	%	80 - 120
A683223	KH2	Method Blank	Total Antimony (Sb)	2022/08/17	<0.50		mg/kg	
			Total Arsenic (As)	2022/08/17	<1.0		mg/kg	
			Total Barium (Ba)	2022/08/17	<1.0		mg/kg	
			Total Beryllium (Be)	2022/08/17	<0.40		mg/kg	
			Total Cadmium (Cd)	2022/08/17	<0.050		mg/kg	
			Total Chromium (Cr)	2022/08/17	<1.0		mg/kg	
			Total Cobalt (Co)	2022/08/17	<0.50		mg/kg	
			Total Copper (Cu)	2022/08/17	<1.0		mg/kg	
			Total Lead (Pb)	2022/08/17	<0.50		mg/kg	
			Total Mercury (Hg)	2022/08/17	<0.050		mg/kg	
			Total Molybdenum (Mo)	2022/08/17	<0.40		mg/kg	
			Total Nickel (Ni)	2022/08/17	<1.0		mg/kg	
			Total Selenium (Se)	2022/08/17	<0.50		mg/kg	
			Total Silver (Ag)	2022/08/17	<0.20		mg/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Thallium (Tl)	2022/08/17	<0.10		mg/kg	
			Total Tin (Sn)	2022/08/17	<1.0		mg/kg	
			Total Uranium (U)	2022/08/17	<0.20		mg/kg	
			Total Vanadium (V)	2022/08/17	<1.0		mg/kg	
			Total Zinc (Zn)	2022/08/17	<10		mg/kg	
A683223	KH2	RPD	Total Antimony (Sb)	2022/08/17	NC		%	30
			Total Arsenic (As)	2022/08/17	10		%	30
			Total Barium (Ba)	2022/08/17	14		%	35
			Total Beryllium (Be)	2022/08/17	NC		%	30
			Total Cadmium (Cd)	2022/08/17	0.64		%	30
			Total Chromium (Cr)	2022/08/17	7.9		%	30
			Total Cobalt (Co)	2022/08/17	7.9		%	30
			Total Copper (Cu)	2022/08/17	5.9		%	30
			Total Lead (Pb)	2022/08/17	3.3		%	35
			Total Mercury (Hg)	2022/08/17	NC		%	35
			Total Molybdenum (Mo)	2022/08/17	2.7		%	35
			Total Nickel (Ni)	2022/08/17	4.8		%	30
			Total Selenium (Se)	2022/08/17	NC		%	30
			Total Silver (Ag)	2022/08/17	NC		%	35
			Total Thallium (Tl)	2022/08/17	NC		%	30
			Total Tin (Sn)	2022/08/17	NC		%	35
			Total Uranium (U)	2022/08/17	5.0		%	30
			Total Vanadium (V)	2022/08/17	11		%	30
			Total Zinc (Zn)	2022/08/17	6.1		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Bureau Veritas Job #: C260028
Report Date: 2022/09/06

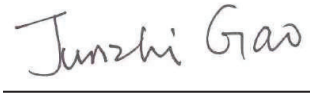
GOLDER ASSOCIATES LTD.
Client Project #: 22525414-1000
Site Location: CAMP FAREWELL,NT
Your P.O. #: 22525414-1100-1104
Sampler Initials: ML

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Chantal Vincent, Customer Solutions Representative

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics



Janet Gao, B.Sc., QP, Supervisor, Organics

Suwan (Sze Yeung) Fock, B.Sc., Scientific Specialist

Veronica Falk, B.Sc., P.Chem., QP, Scientific Specialist, Organics

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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CHAIN OF CUSTODY RECORD

ENV COC - 00013v3

Invoice Information	Invoice to (requires report) ☐	Report Information (if differs from invoice)		Project Information	
Company:	Client #254, Golder Associates	Company:	Golder Associates	Quotation #:	Shell
Contact Name:	237 - 4 Ave SW Suite 3300	Contact Name:	Aurelie Bellavance	P.O. #/ AFE#:	22525414-$100-$104
Street Address:		Street Address:		Project #:	22525414-$000
City:	Calgary Prov: AB Postal Code:	City:	Calgary AB Postal Code: T2P 4K3	Site #:	Camp Farewell NA
Phone:		Phone:	403-299-5600	Site Location:	↳ ~~WEST CHANNEL~~, NT
Email:	Canada Account Payable	Email:	aurelie.bellavance@wsp.com	Site Location Province:	NT
Copies:		Copies:	peter.tan@wsp.com	Sampled By:	Melissa Lord, Harmanjeet Kaur

C2 60028

LAB USE ONLY - PLACE STICKER HERE

Rush Confirmation #:

Regulatory Criteria

☐ AT1 ☐ CCME ☐ Drinking Water - Canada ☐ Drinking Water - Manitoba
☐ Saskatchewan ☐ Drinking Water - Alberta ☒ Other AMSRP

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

Regular Turnaround Time (TAT)
☐ 5 to 7 Day ☐ 10 Day

Rush Turnaround Time (TAT) Surcharges apply
☐ Same Day ☐ 1 Day
☒ 2 Day ☐ 3 Day
☐ 4 Day

Date Required: YY | MM | DD

#	Sample Identification	Date Sampled YY	MM	DD	Time (24hr) HH	MM	Matrix	1 FIELD FILTERED	2 FIELD PRESERVED	3 LAB FILTRATION REQUIRED	4 BTEX F1-F4	5 PAHS	6 BTEX F1-F2	7 BARIUM TRUE TOTAL	8 Routine water	9 Regulated metals - total	10 Regulated metals - dissolved	11 Mercury - total	12 Mercury - dissolved	13 Salinity 4	14 Sieve (75 micron)	15 Texture (% sand, silt, clay)	16 Basic class II landfill	17	18	19 Headspace present	20 LIMITED SAMPLE	21 # OF CONTAINERS SUBMITTED	22 HOLD - DO NOT ANALYZE	Comments
1	BH22-28-01	22	08	09	13	30	Soil				X																	3		email report to:
2	BH22-28-02				13	40	Soil				X															X	X	2		gld.SHELLDQR@equis.com
3	BH22-28-03				13	50	Soil				X																	3		gld.iol-equis@wsp.com
4	BH22-40-04				09	20	Soil				X																	3		Upload to facility code
5	BH22-40-03				09	10	Soil				X																	3		41259544
6	BH22-40-02				09	20	Soil				X																	3		
7	DUP G				09	10	Soil				X																	3		Received in Yellowknife
8	BH22-26-01				14	00	Soil				X					X												5		By: J Mercer
9	BH22-26-02				14	10	Soil				X					X												5		@9:00h
10	BH22-26-03				14	20	Soil				X					X												5		AUG 12 2022
11	BH22-26-04				14	30	Soil				X					X												5		ice-yes/cs-y
12																														Temp: 4 / 8 / 5

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present	✓			5	7	8
Seal intact	✓					
Cooling media present	✓					

LAB USE ONLY	Yes	No	°C	1	2	3
Seal present						
Seal intact						
Cooling media present						

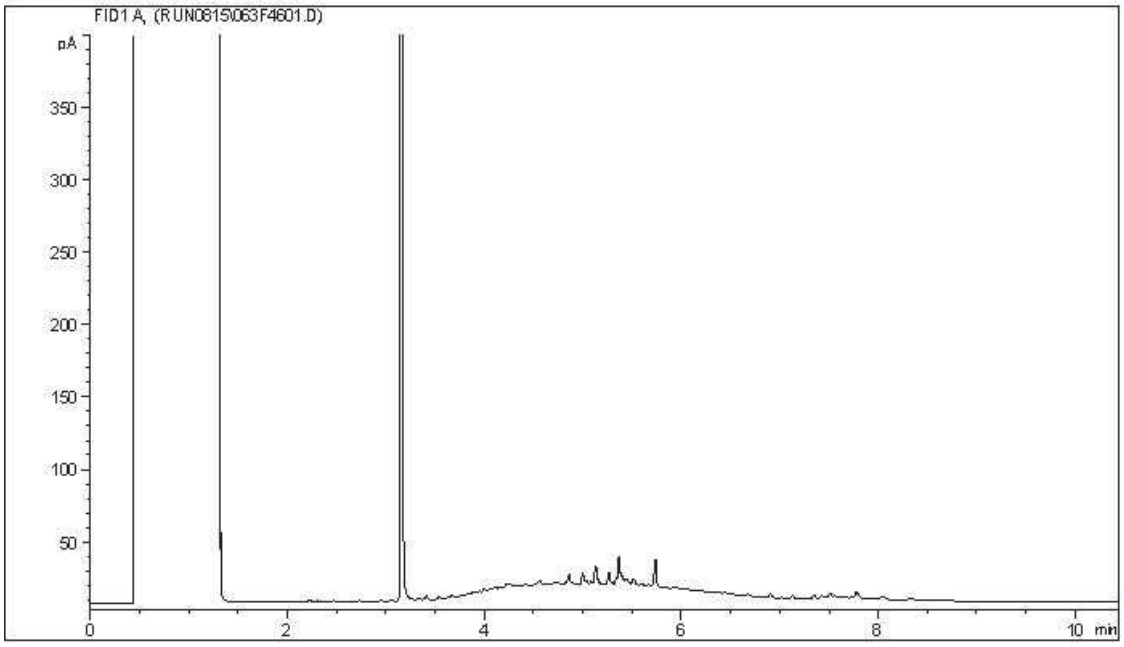
LAB USE ONLY	Yes	No	°C	1	2	3	Temperature reading by:
Seal present							
Seal intact							
Cooling media present							

	Relinquished by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Received by: (Signature/ Print)	Date YY	MM	DD	Time HH	MM	Special instructions
1	[signature] / Melissa Lord	22	08	10	08	00	[signature] Megan Foran	22	08	13	15	03	
2													

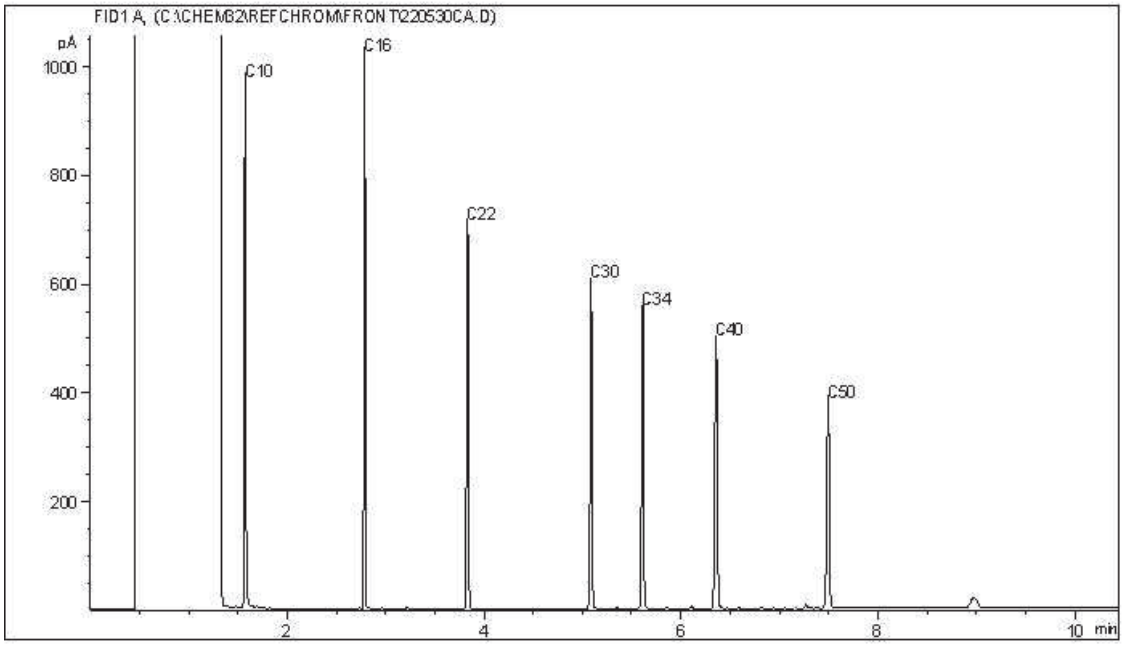
(2)

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC7



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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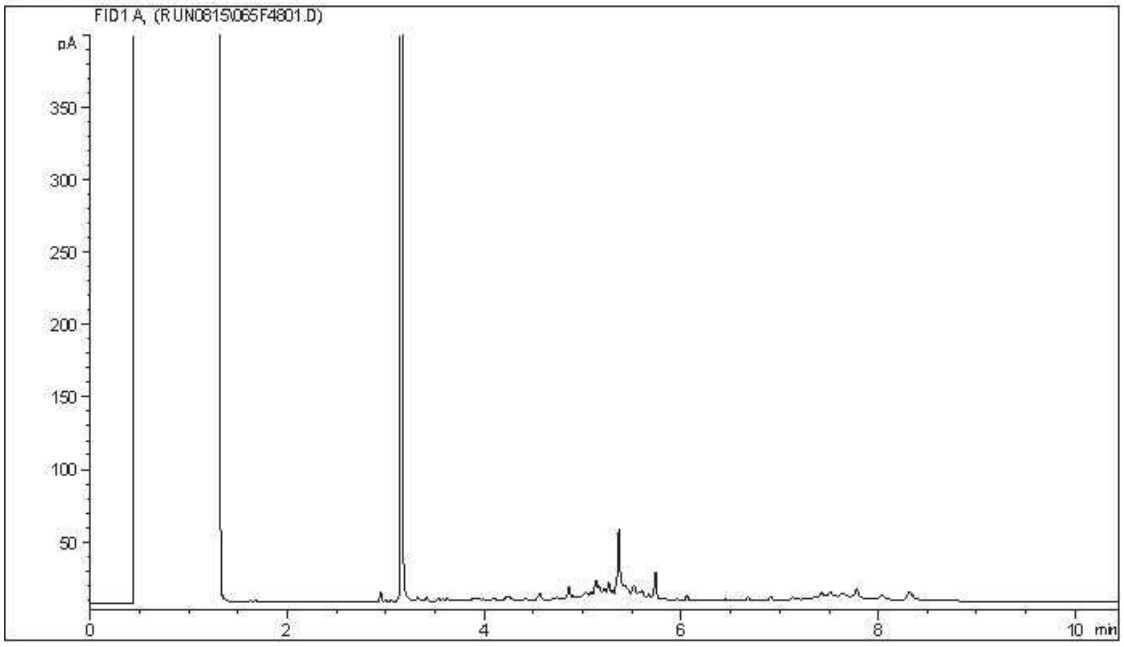

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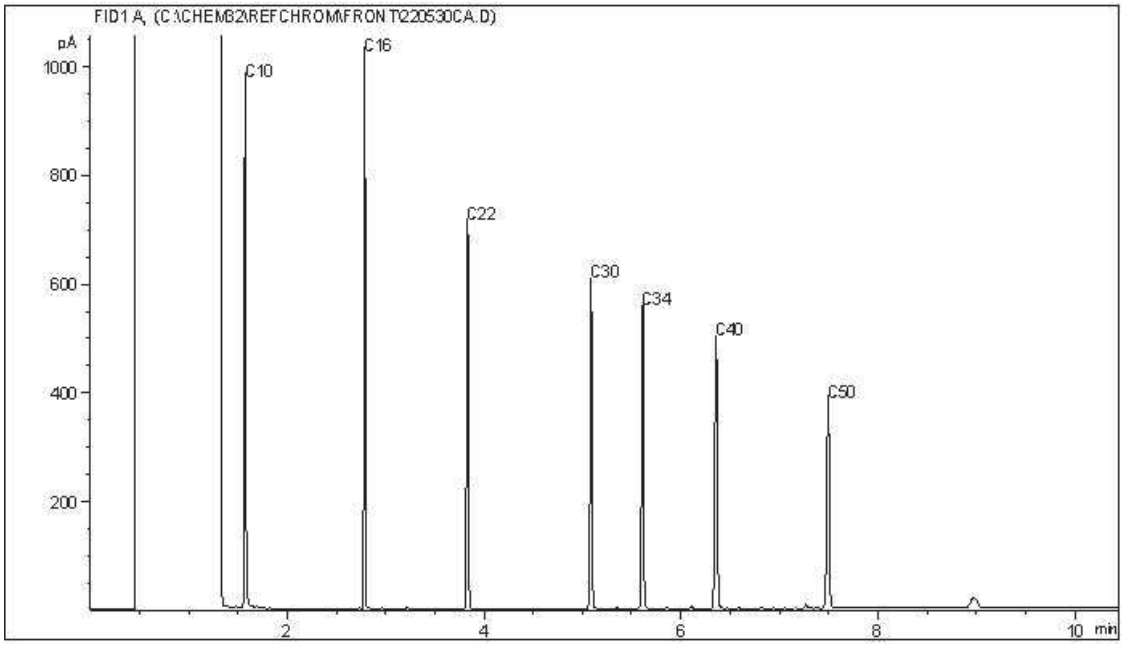

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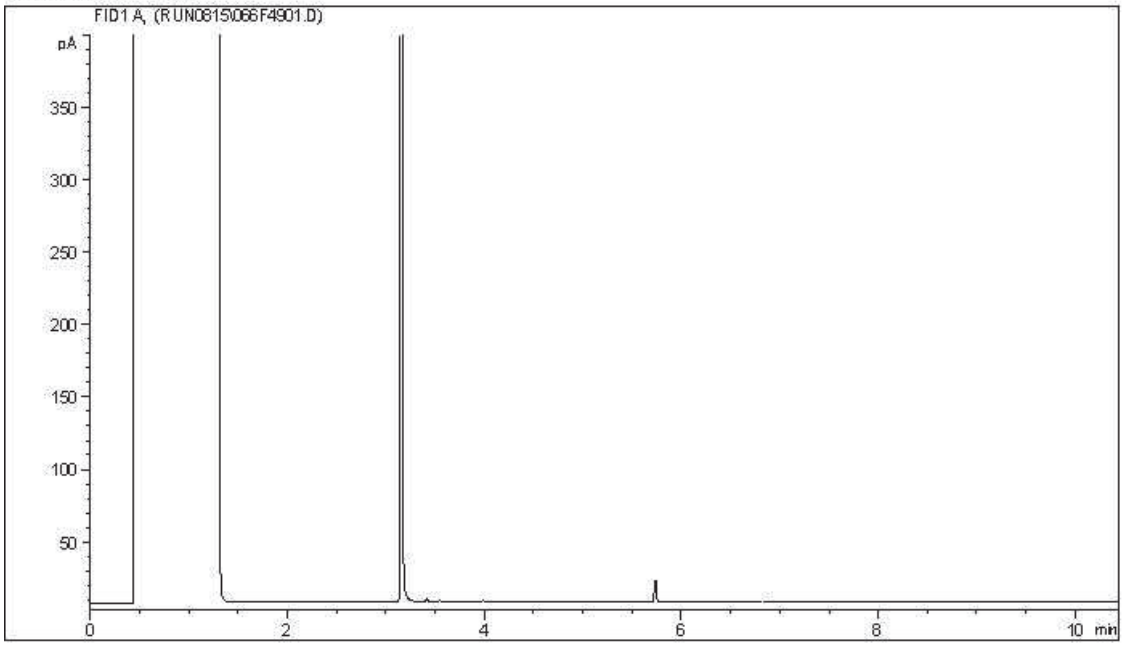

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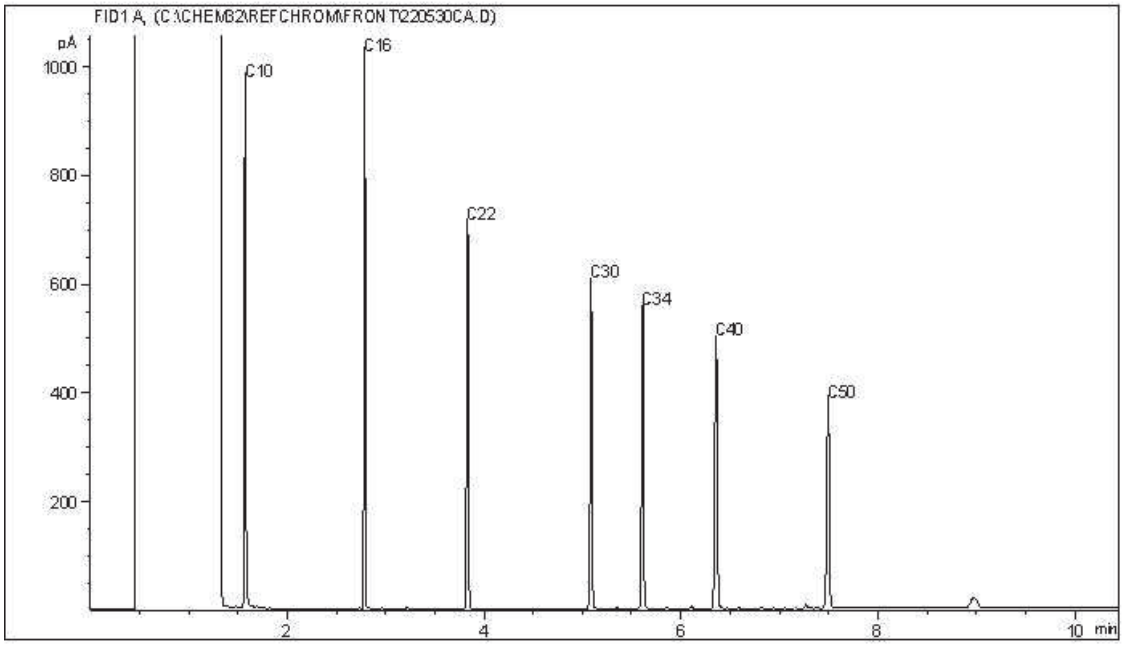

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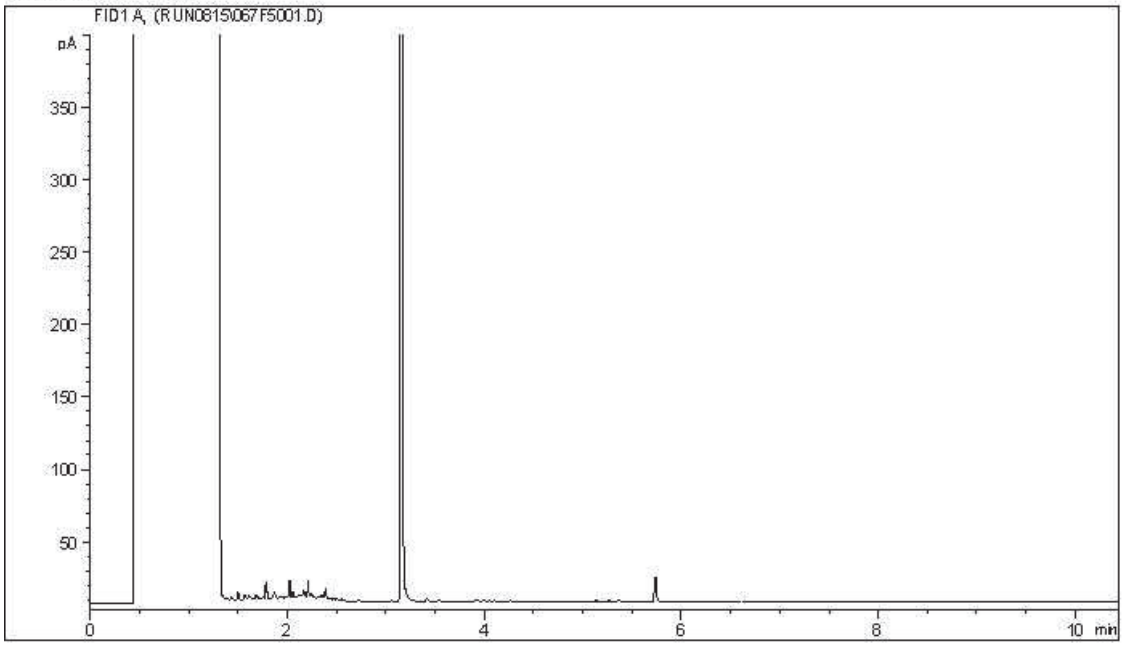

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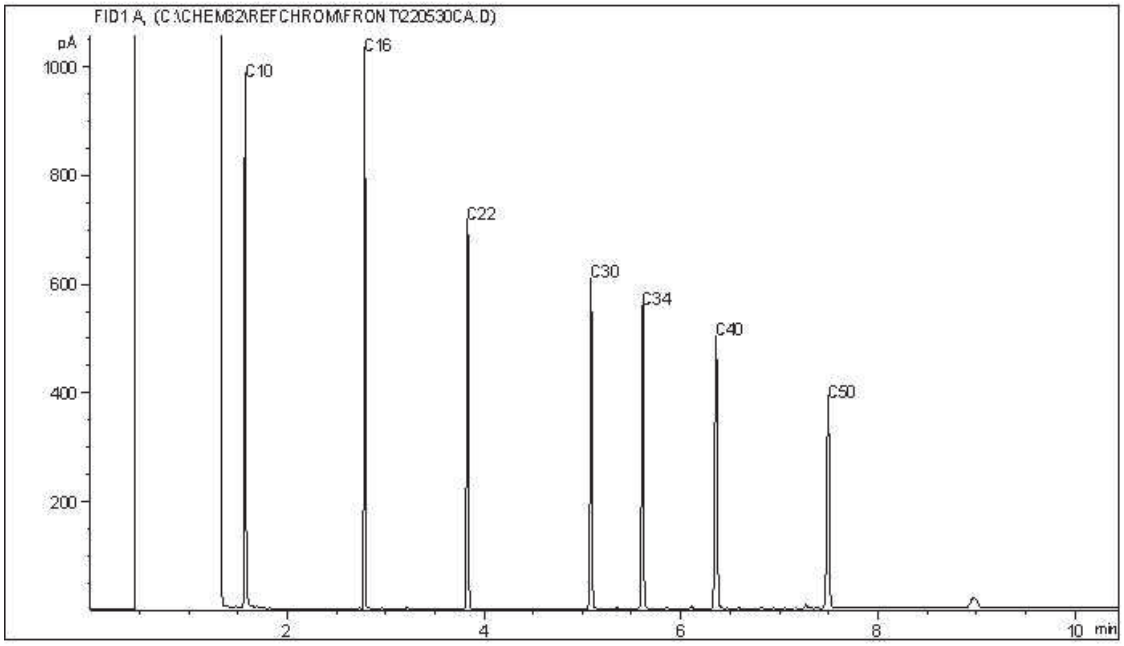

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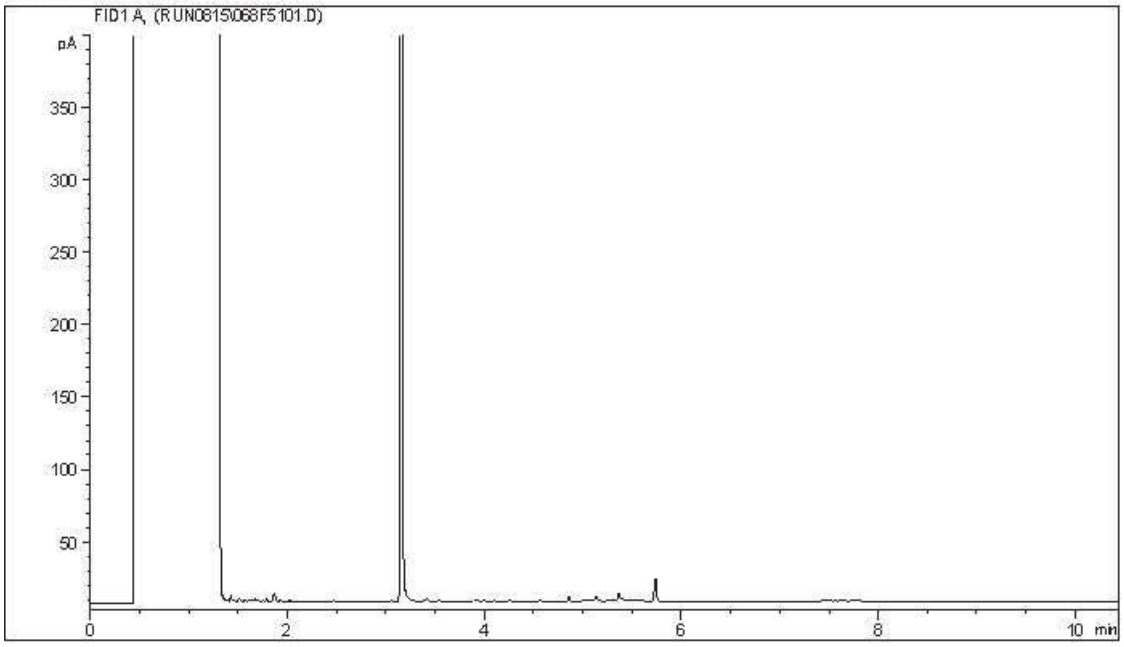

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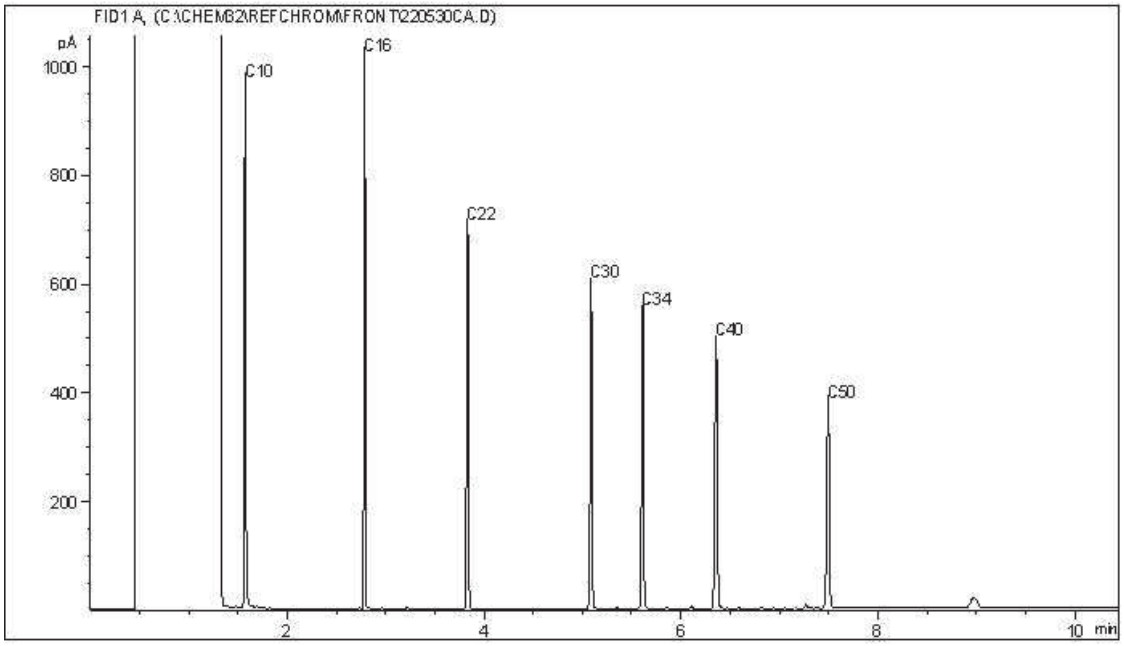

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