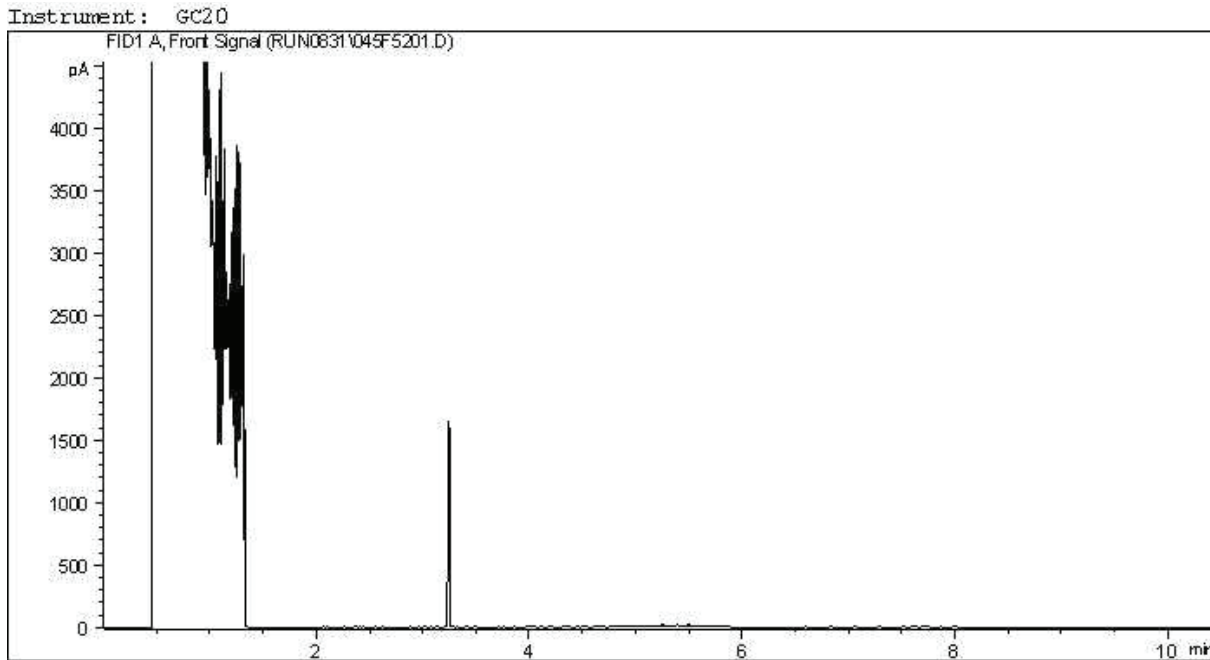
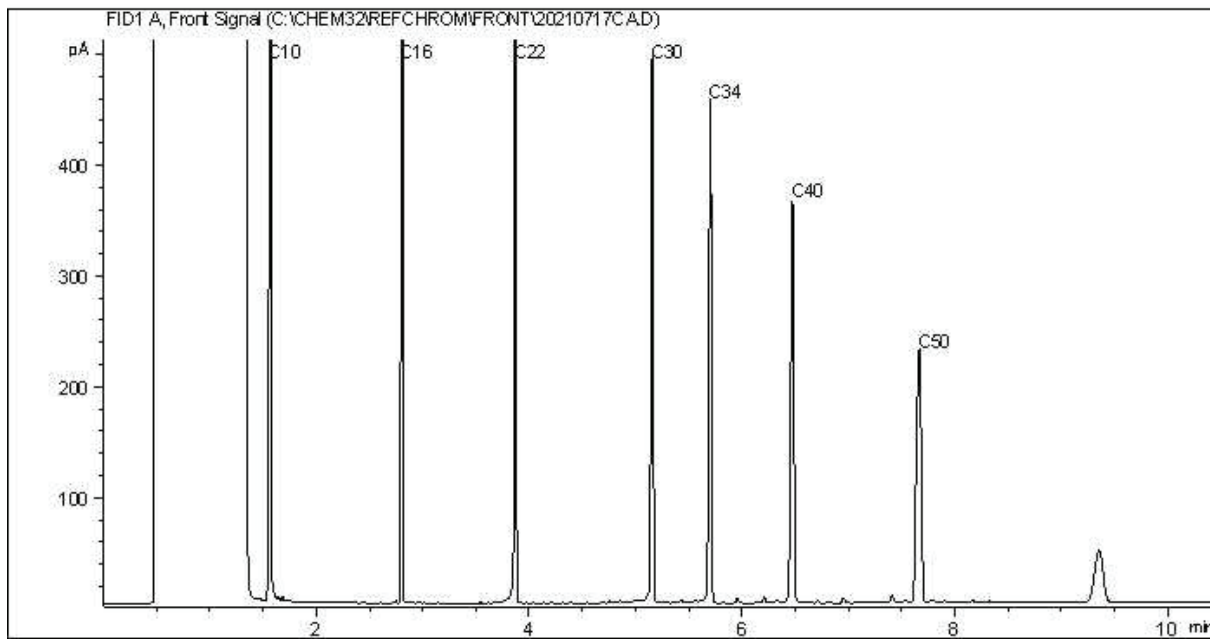


CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

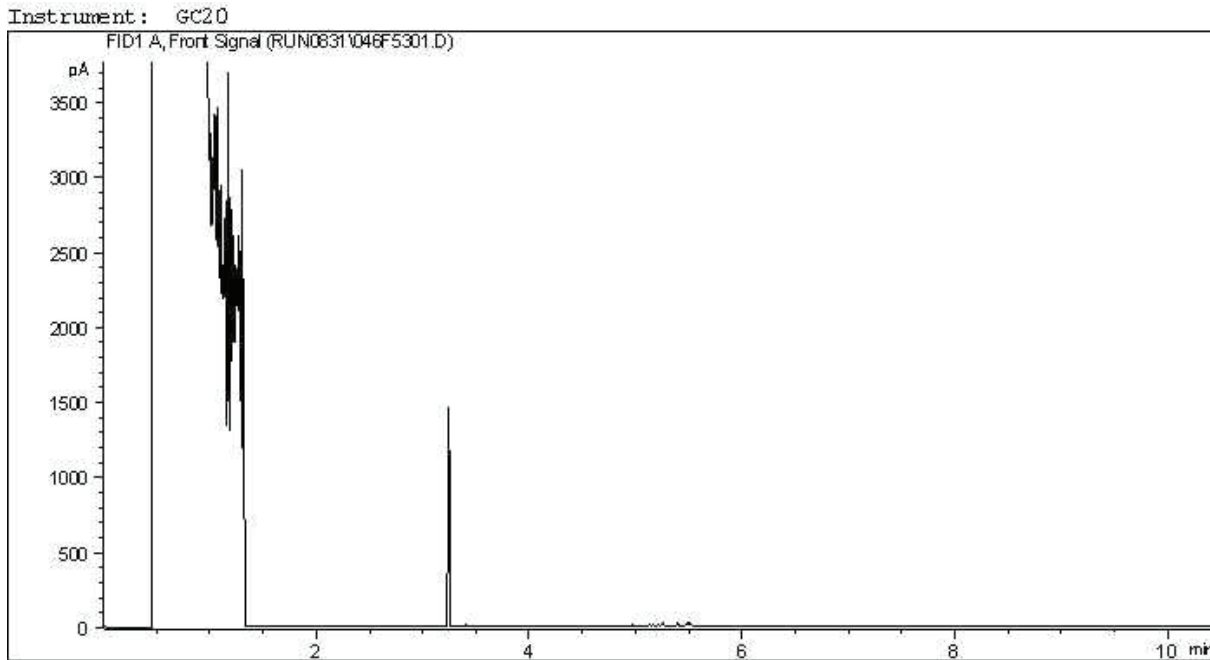


TYPICAL PRODUCT CARBON NUMBER RANGES

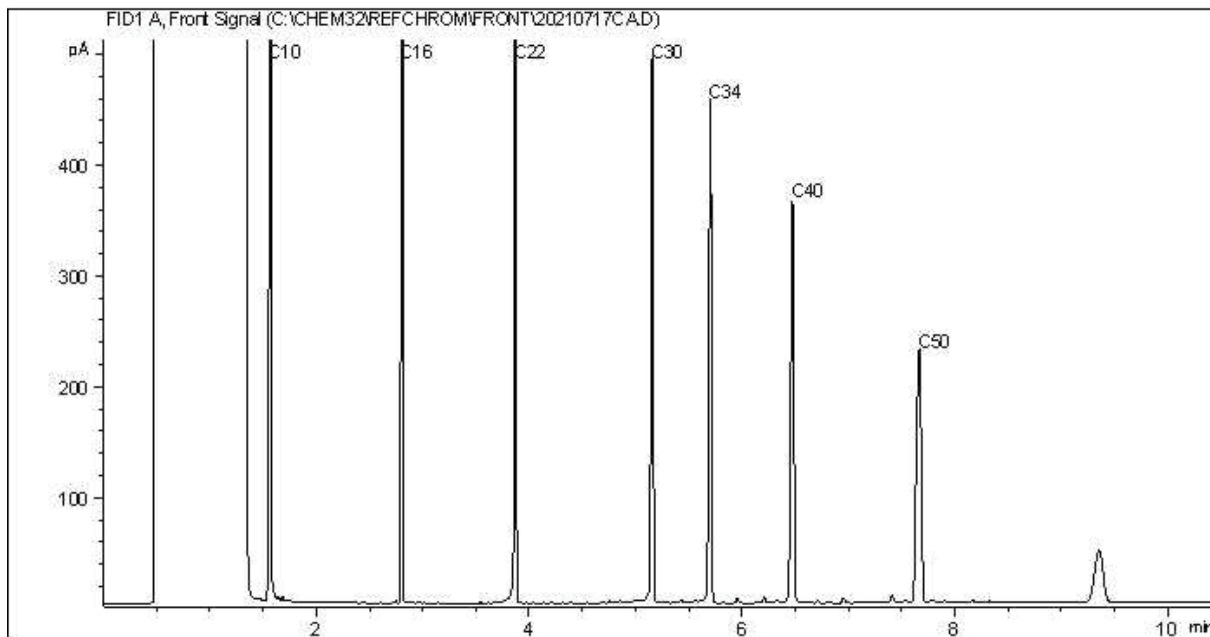
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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**



Carbon Range Distribution - Reference Chromatogram

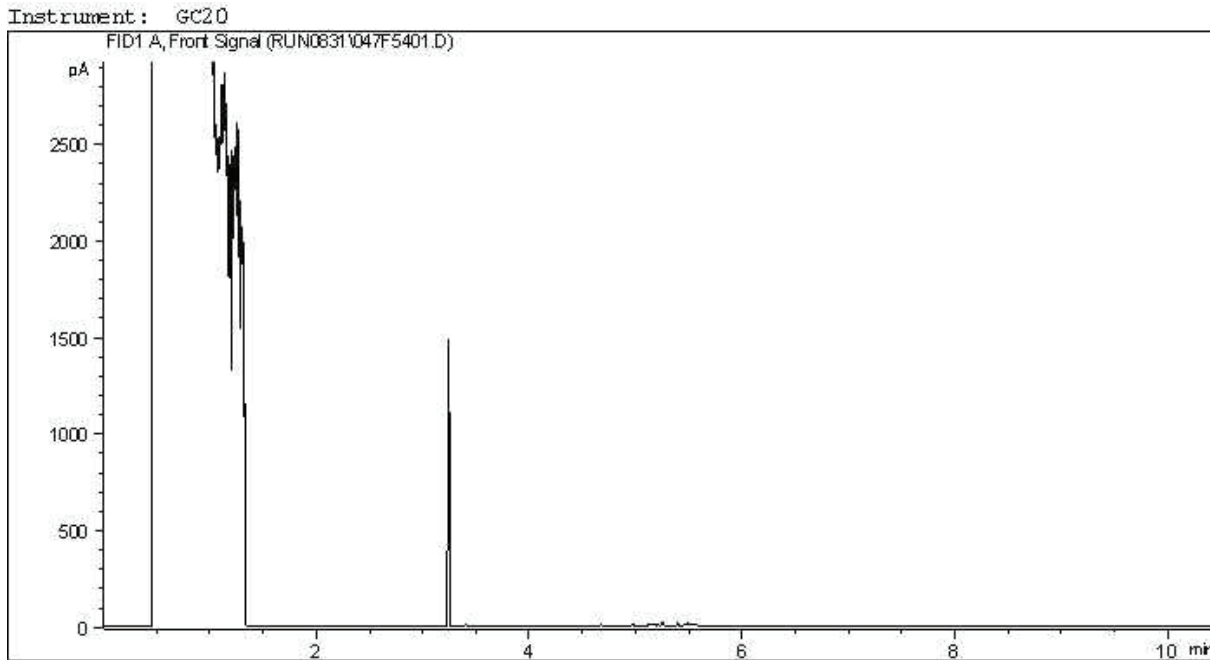


TYPICAL PRODUCT CARBON NUMBER RANGES

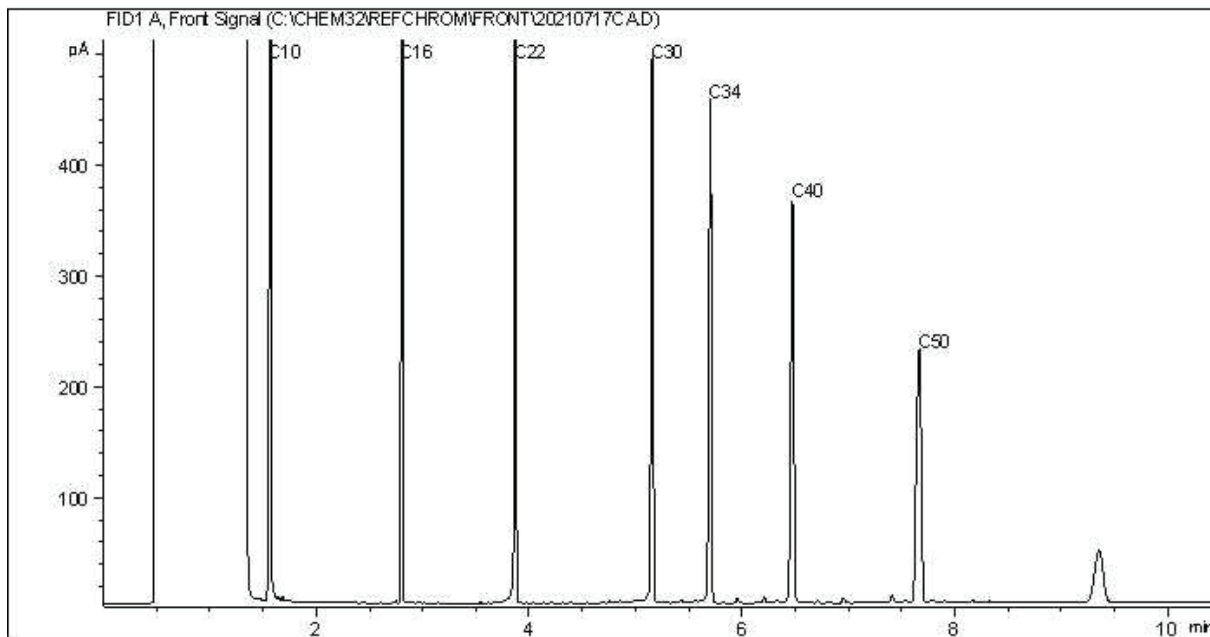
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

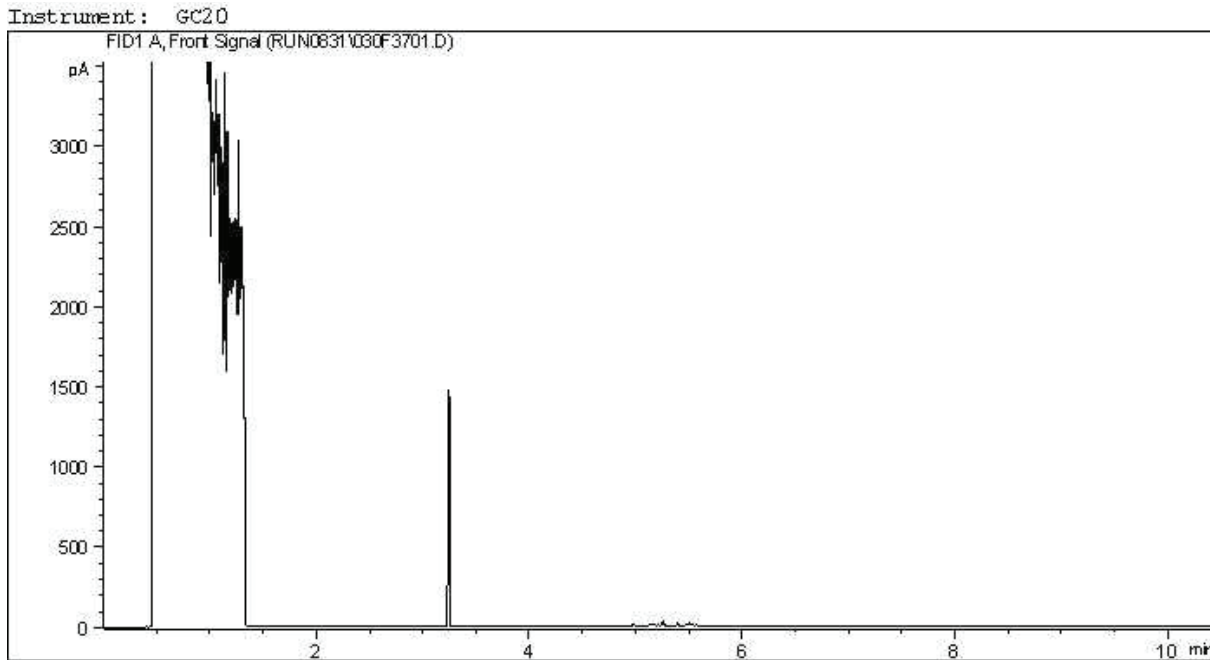


TYPICAL PRODUCT CARBON NUMBER RANGES

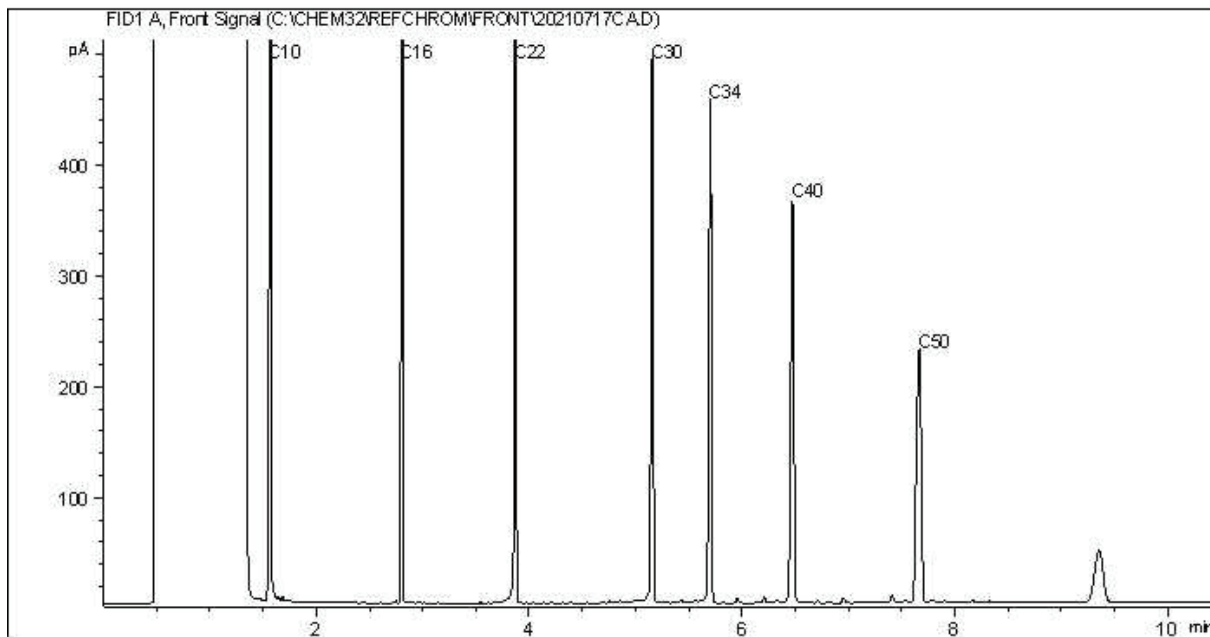
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



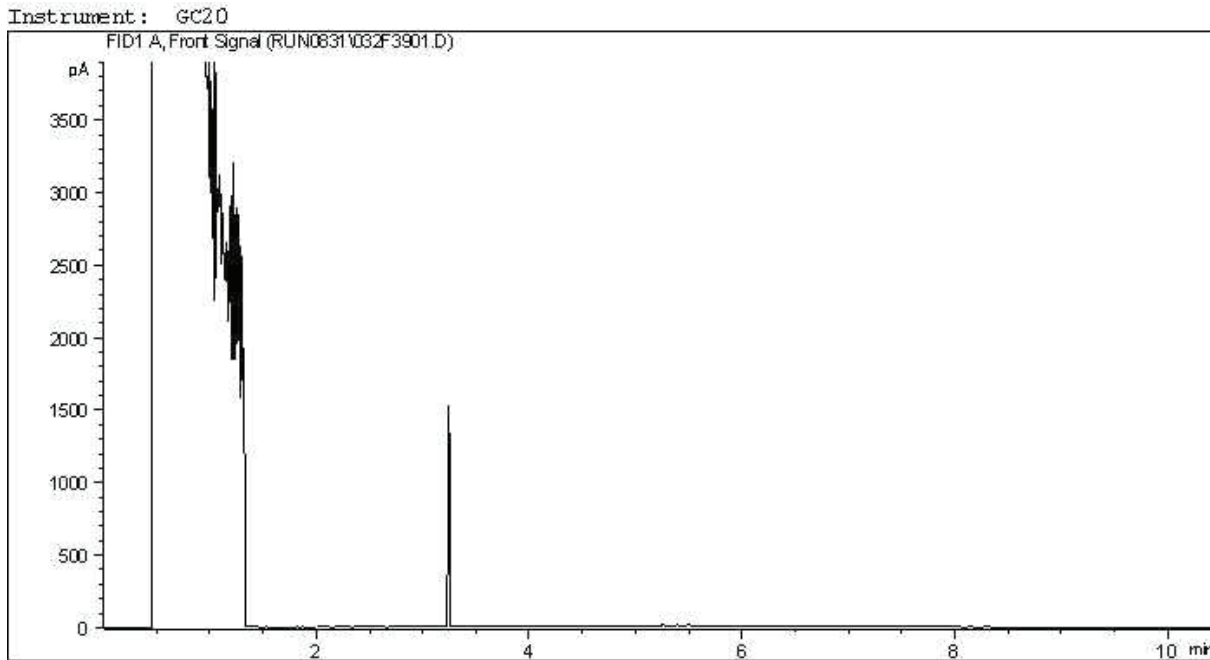
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

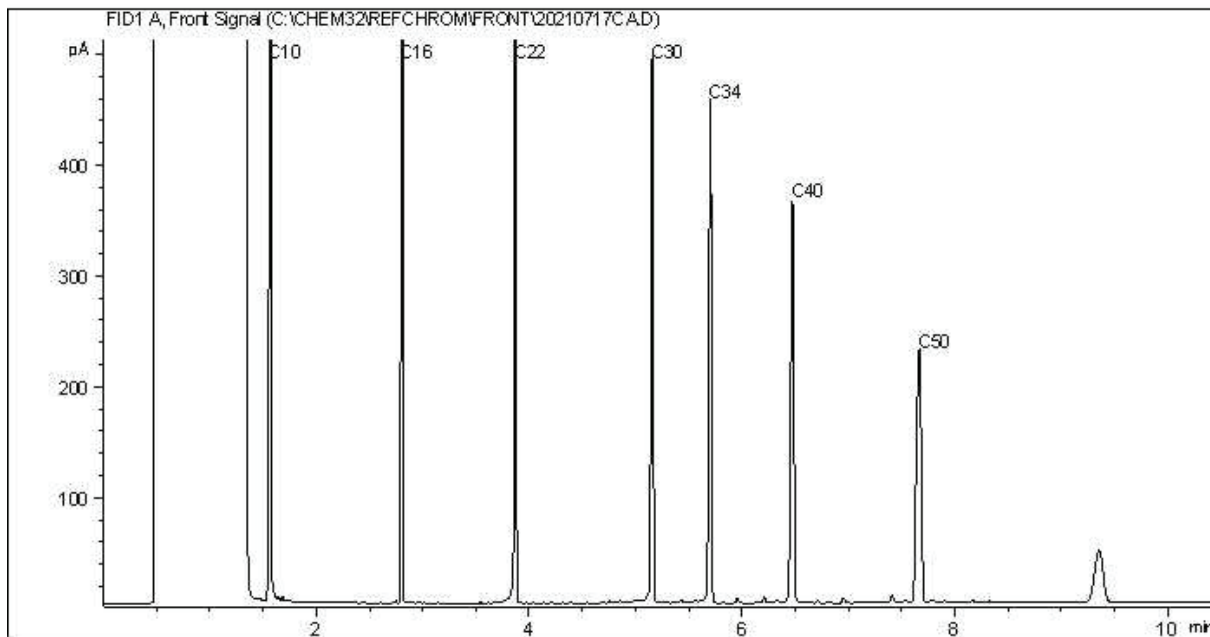
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

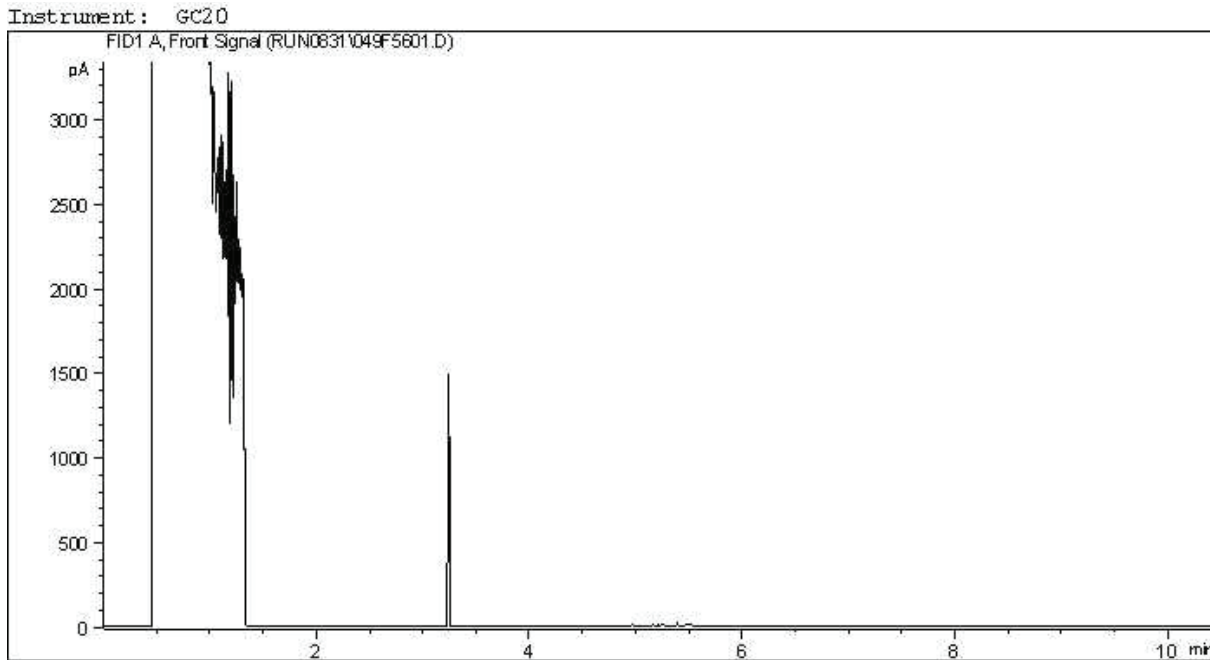


TYPICAL PRODUCT CARBON NUMBER RANGES

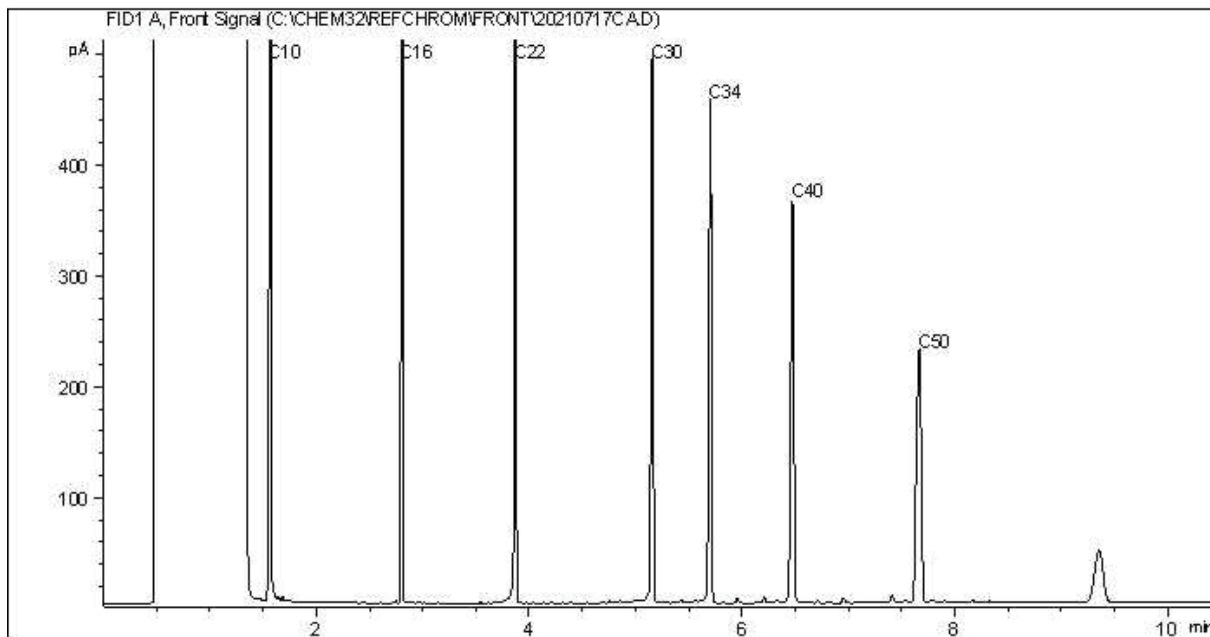
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

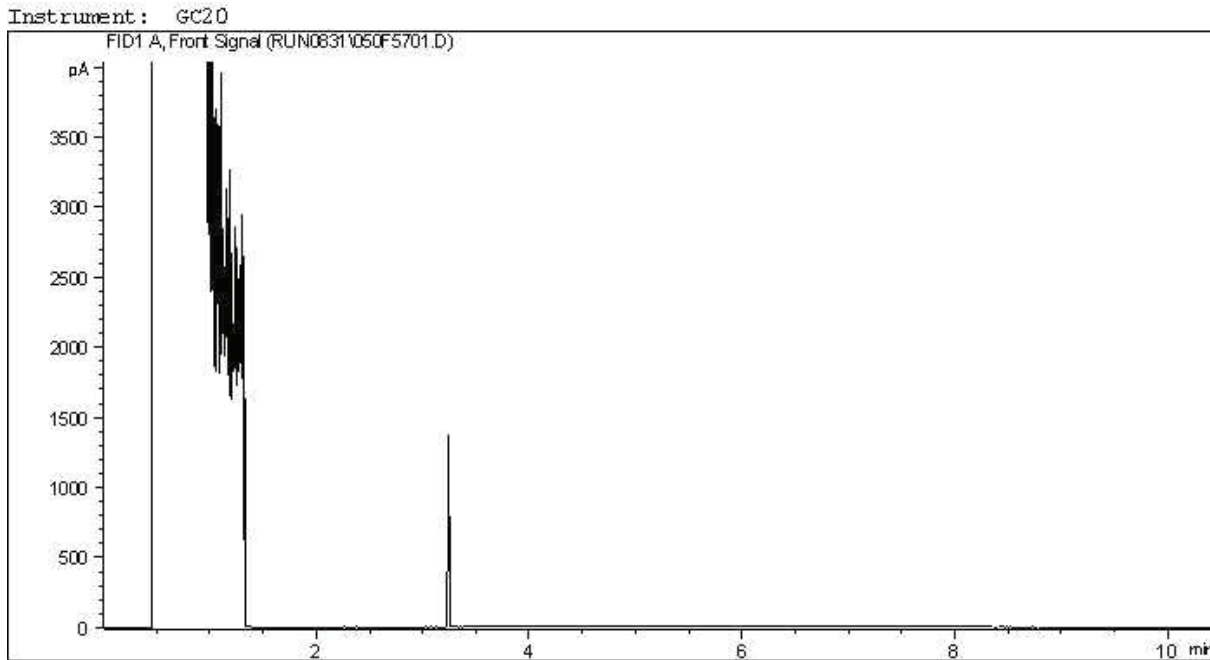


TYPICAL PRODUCT CARBON NUMBER RANGES

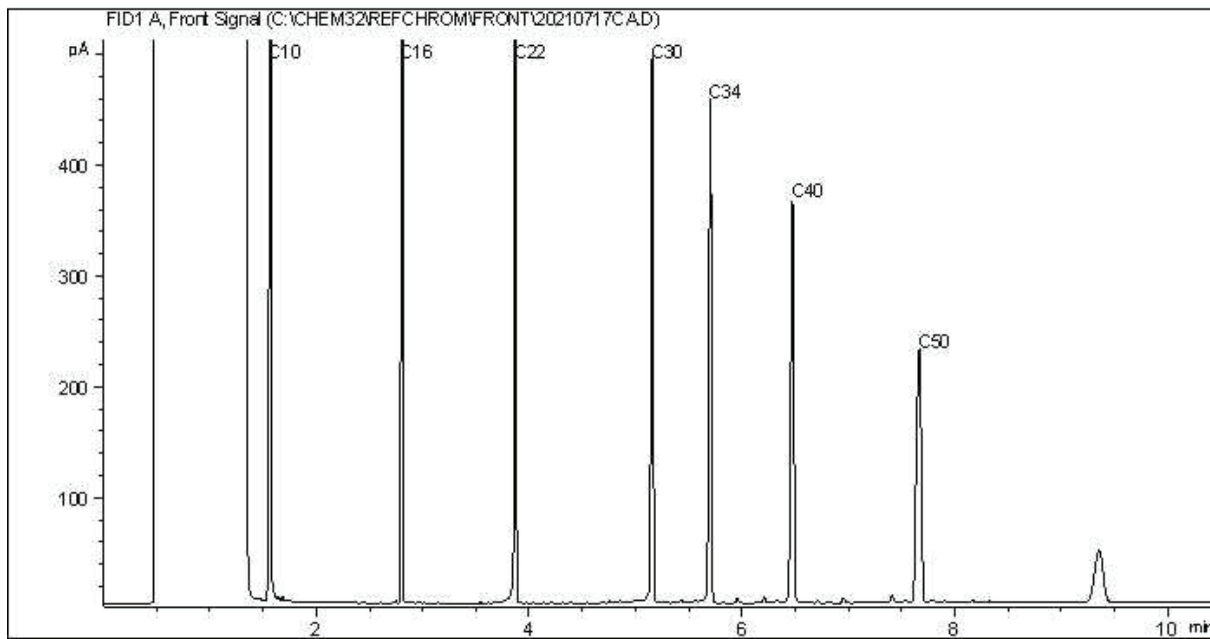
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

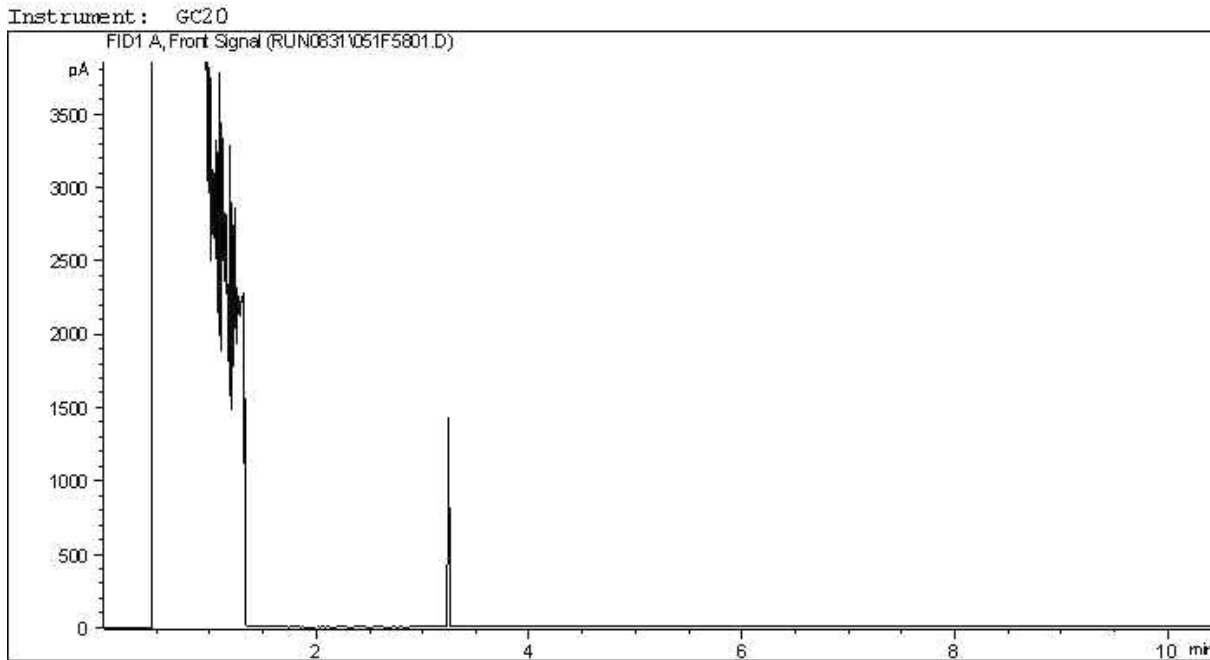


TYPICAL PRODUCT CARBON NUMBER RANGES

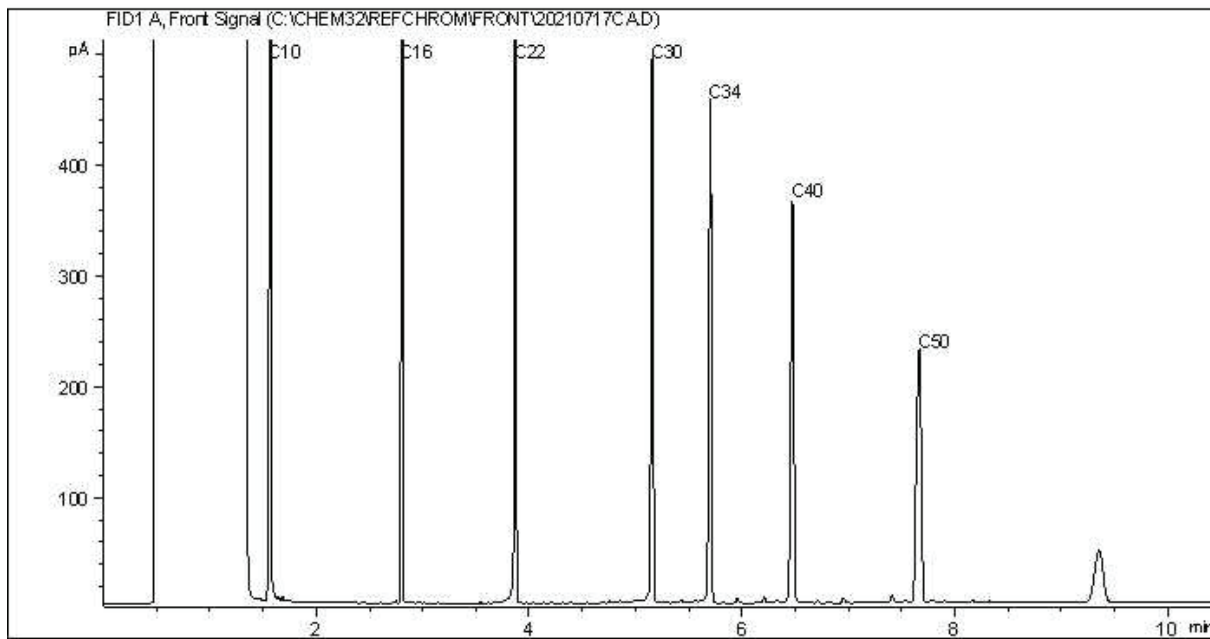
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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



Carbon Range Distribution - Reference Chromatogram

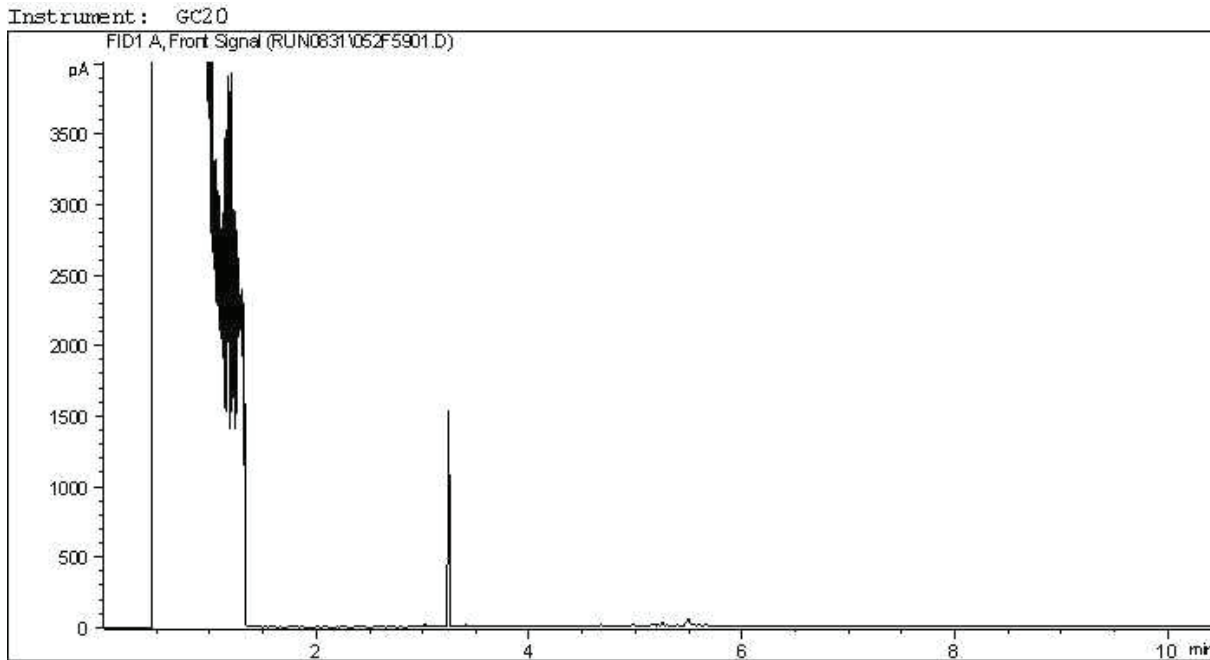


TYPICAL PRODUCT CARBON NUMBER RANGES

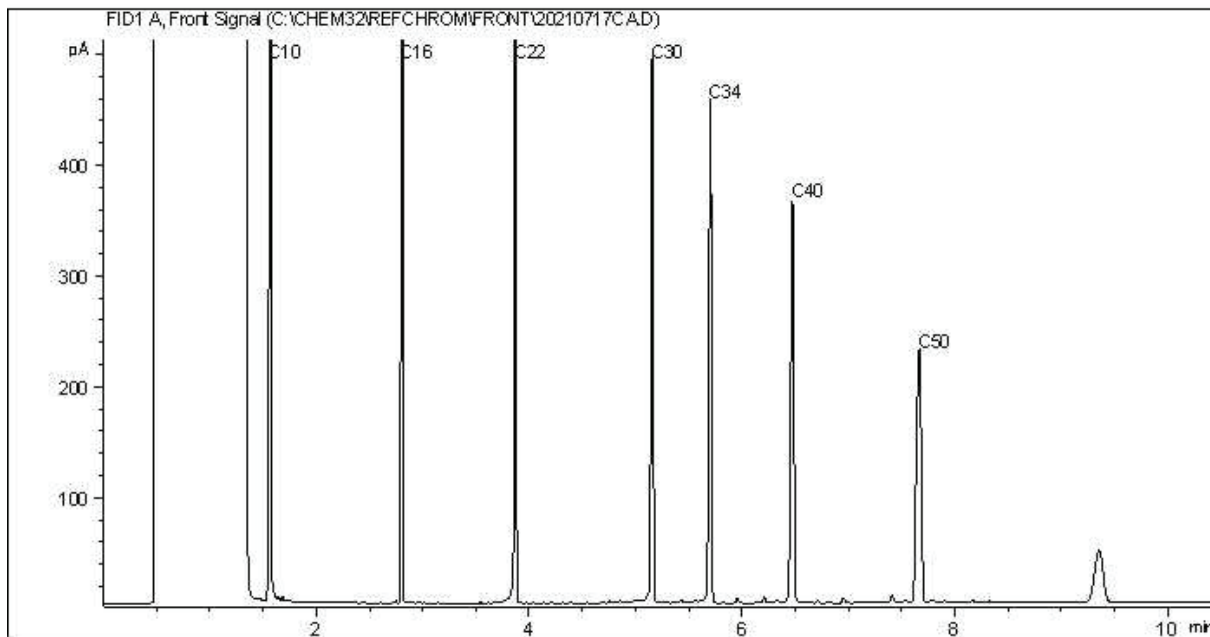
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Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

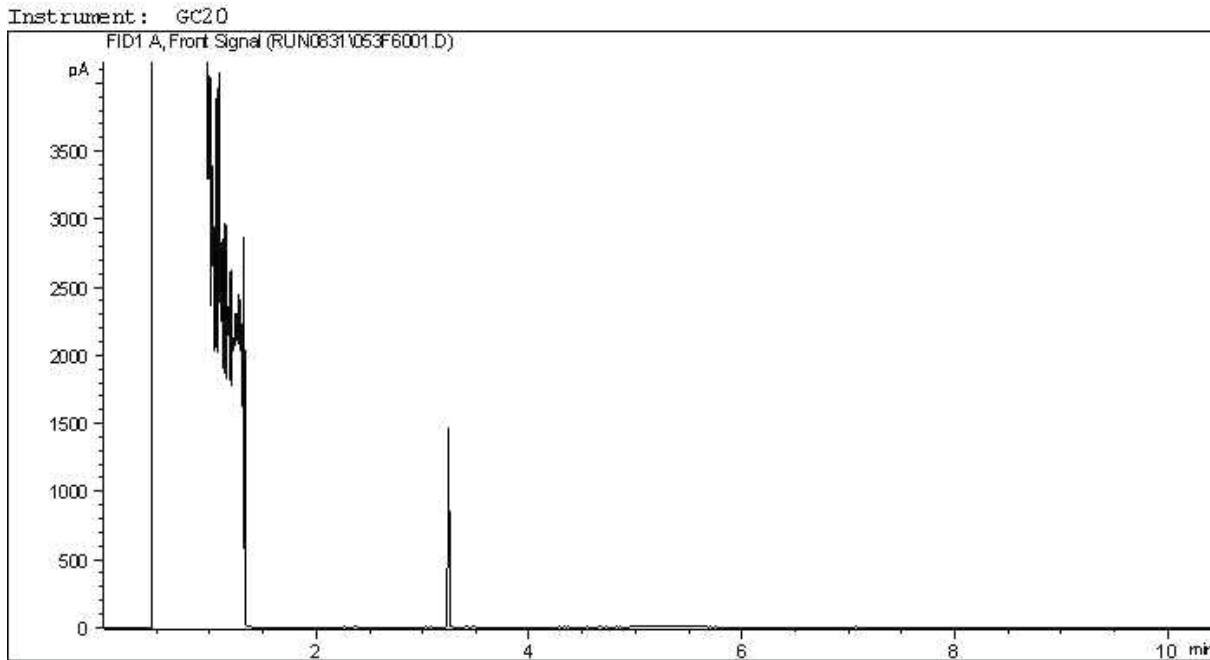


TYPICAL PRODUCT CARBON NUMBER RANGES

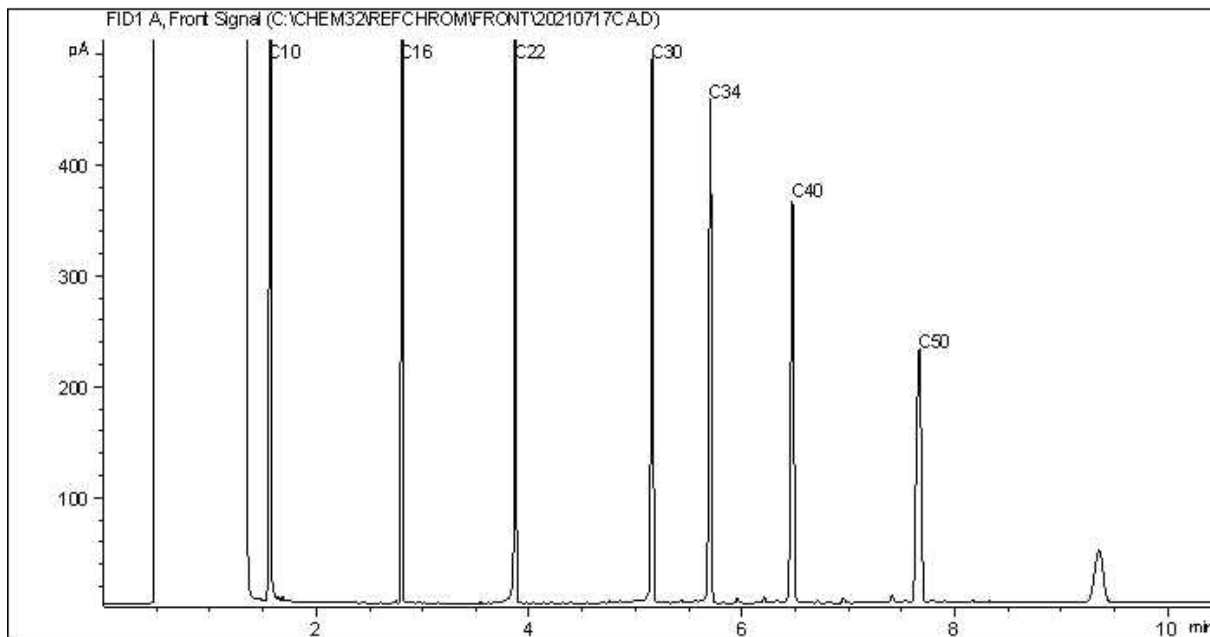
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram

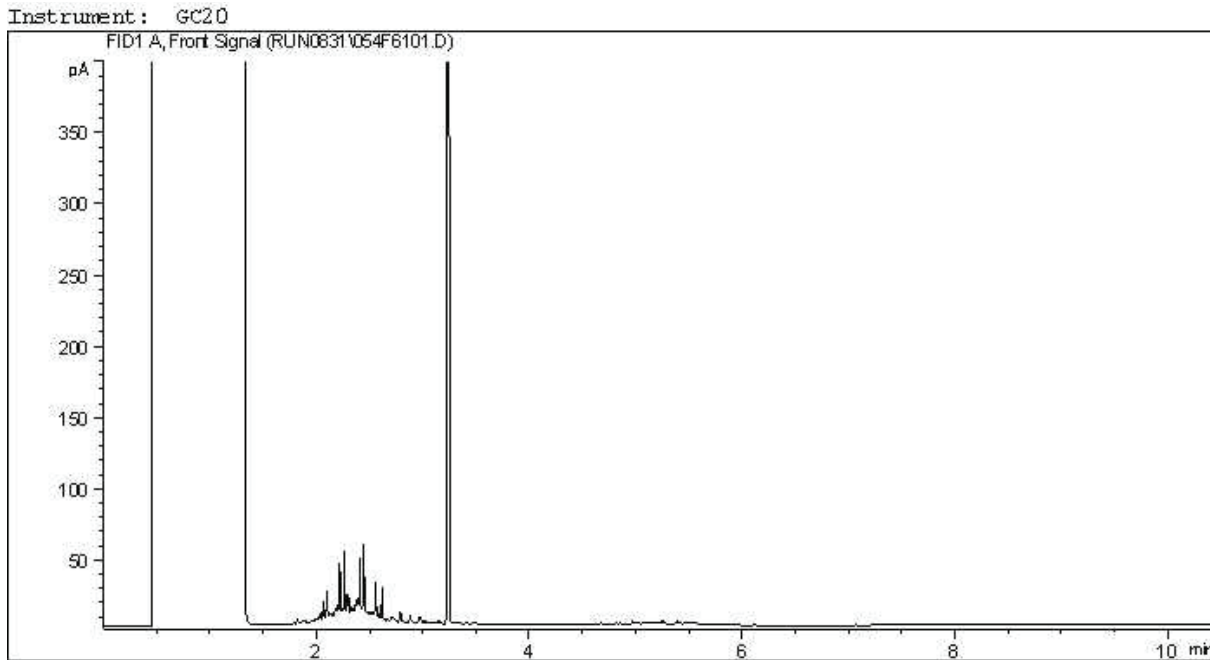


TYPICAL PRODUCT CARBON NUMBER RANGES

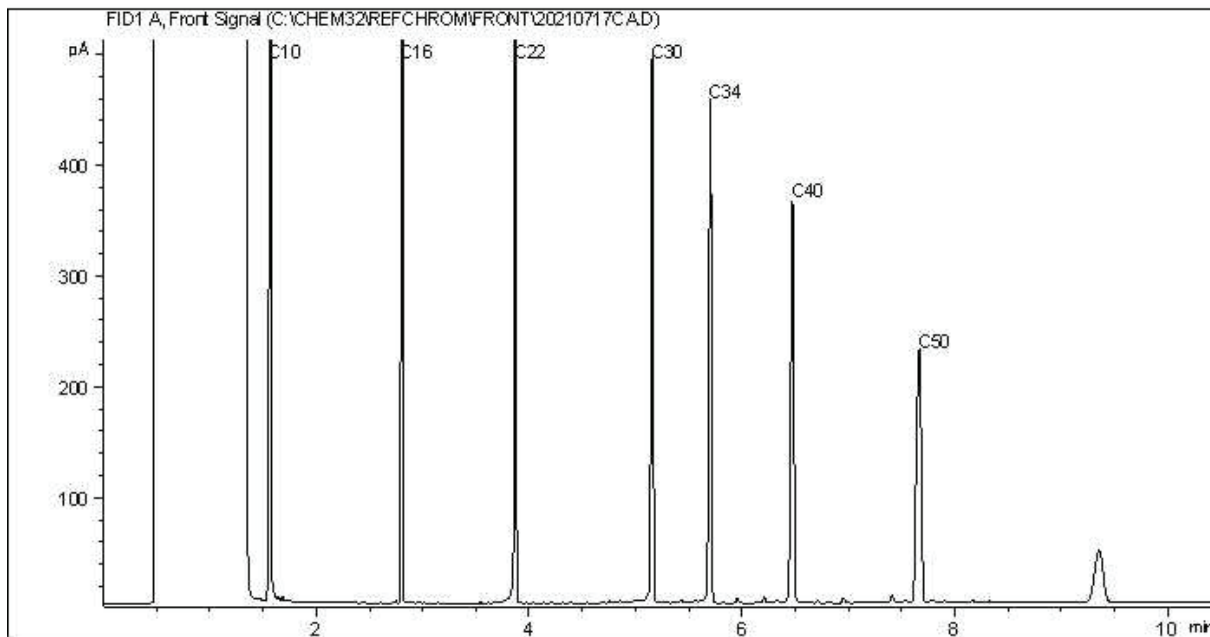
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Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



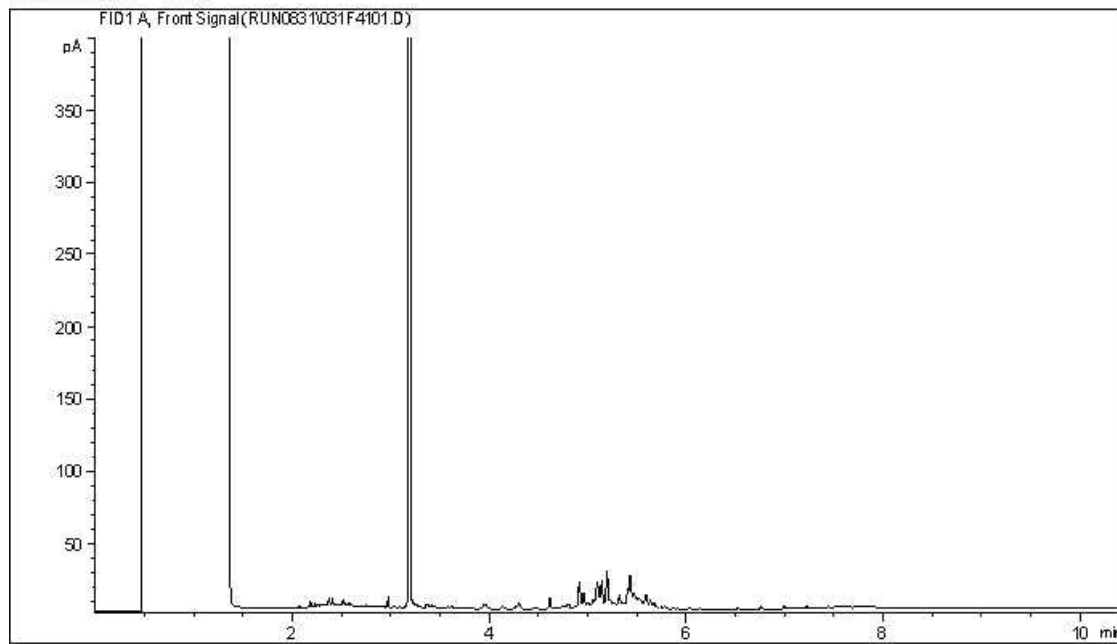
TYPICAL PRODUCT CARBON NUMBER RANGES

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

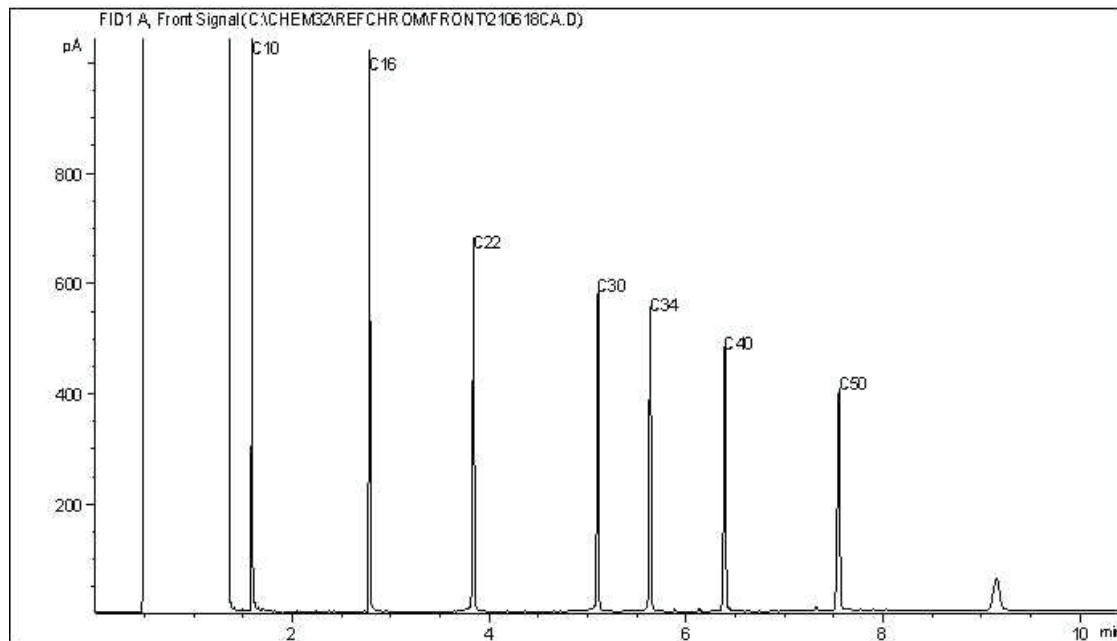
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

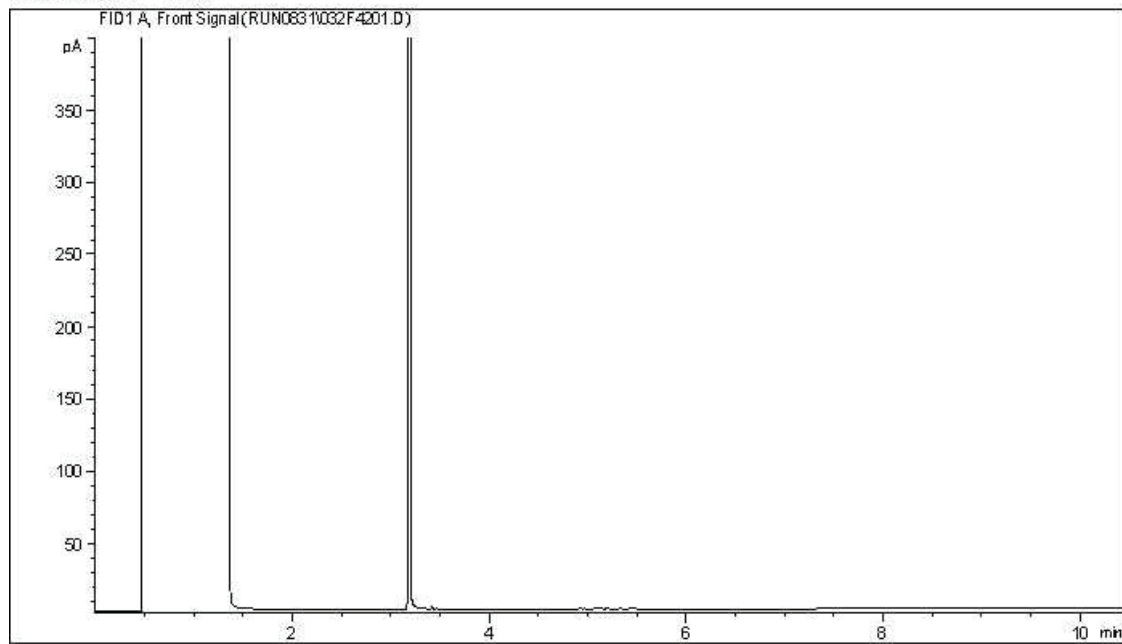
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

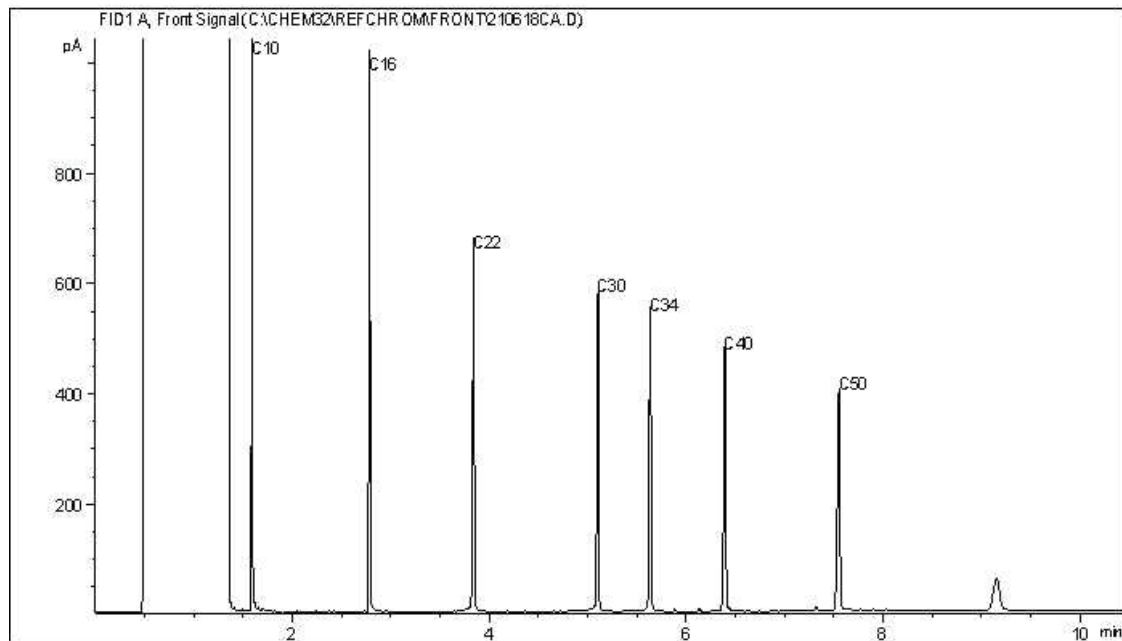


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



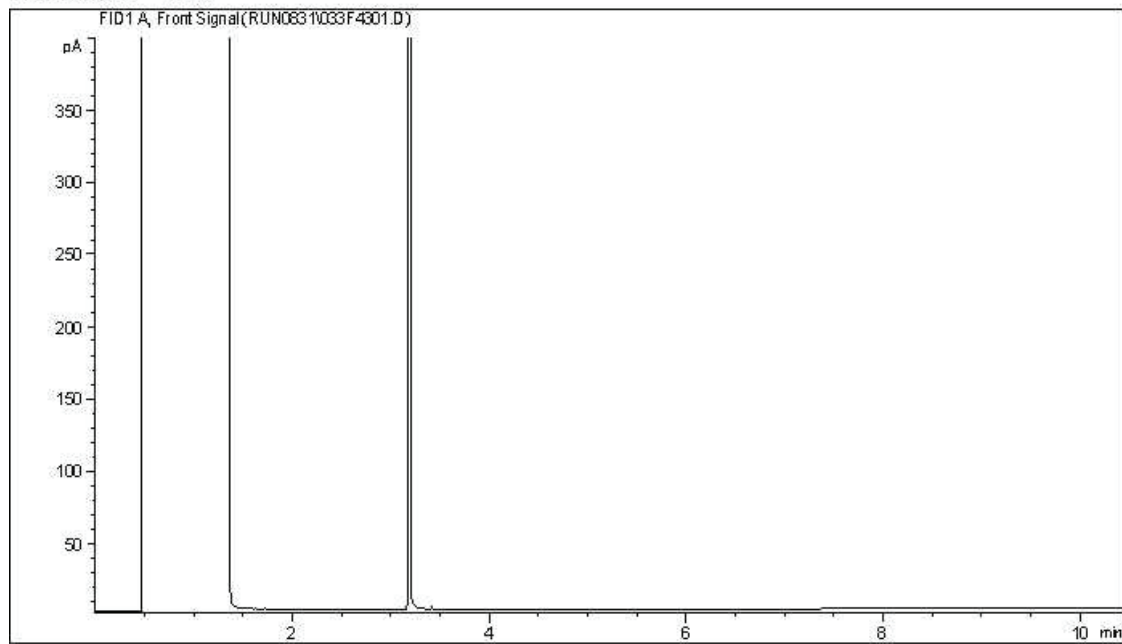
TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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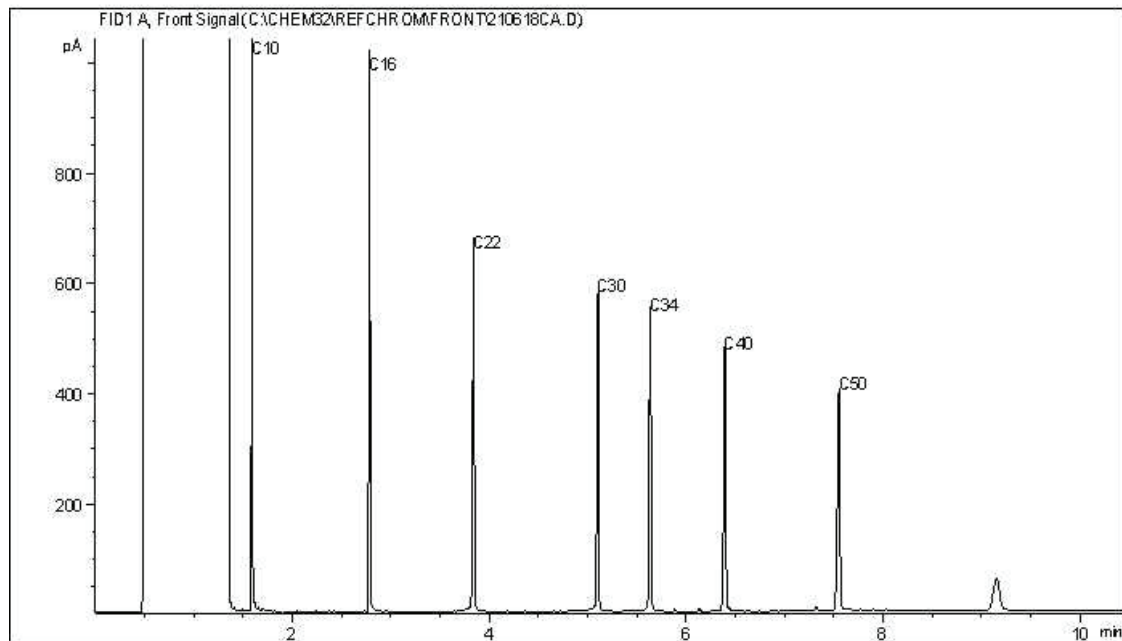
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



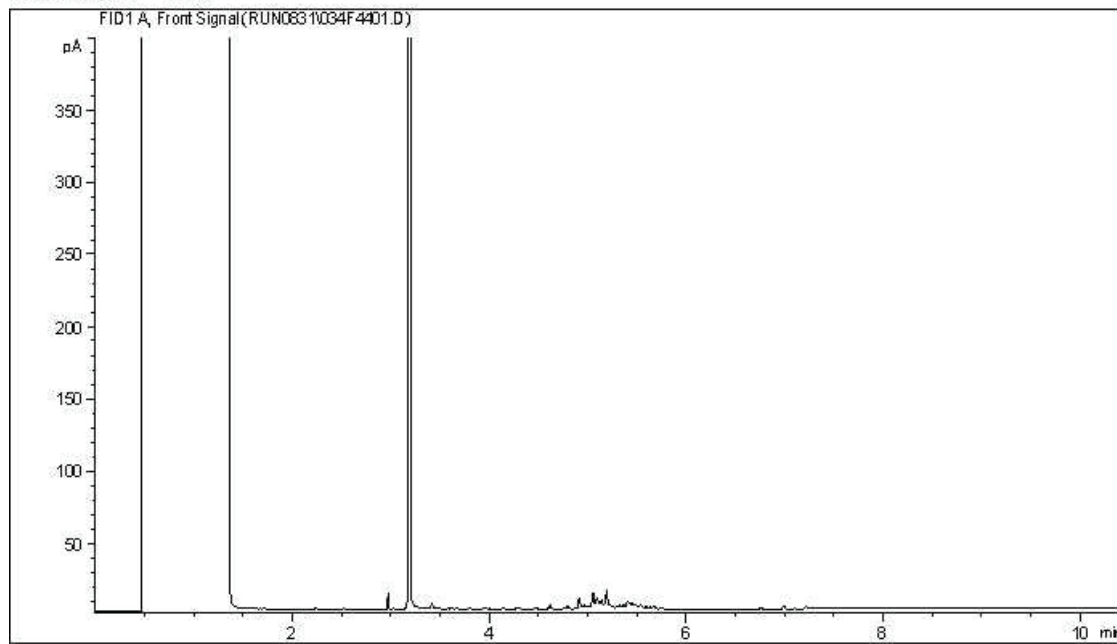
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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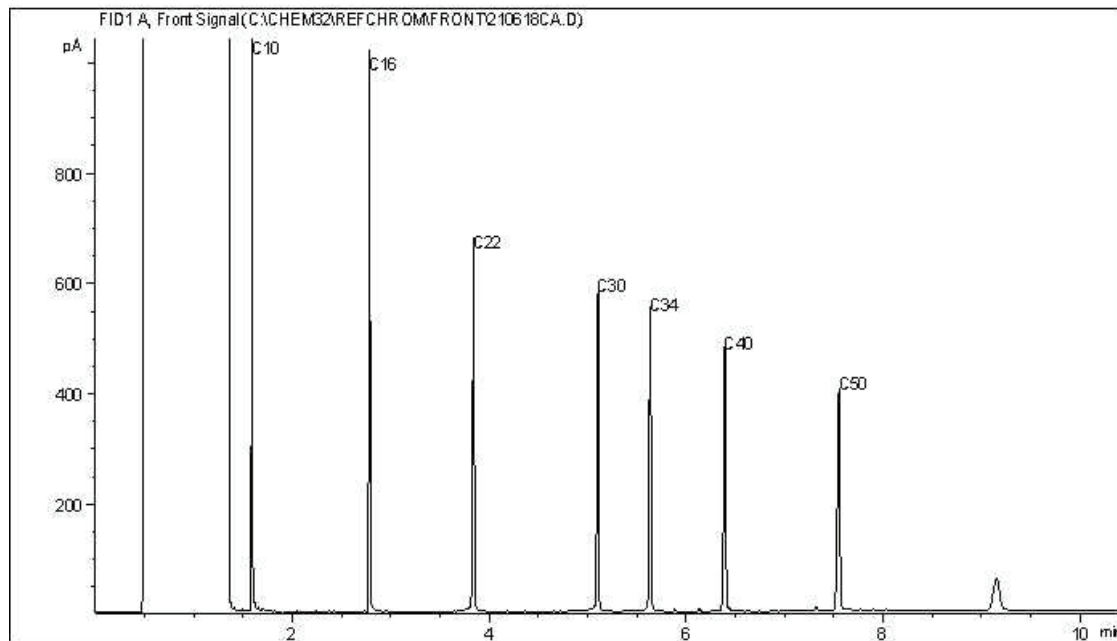
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



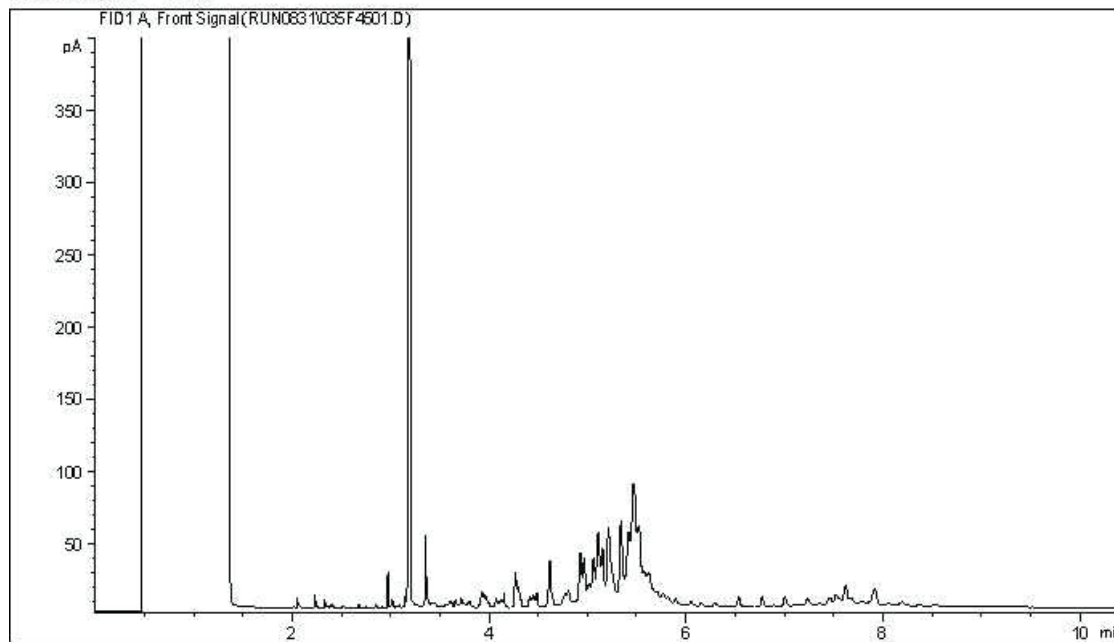
TYPICAL PRODUCT CARBON NUMBER RANGES

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

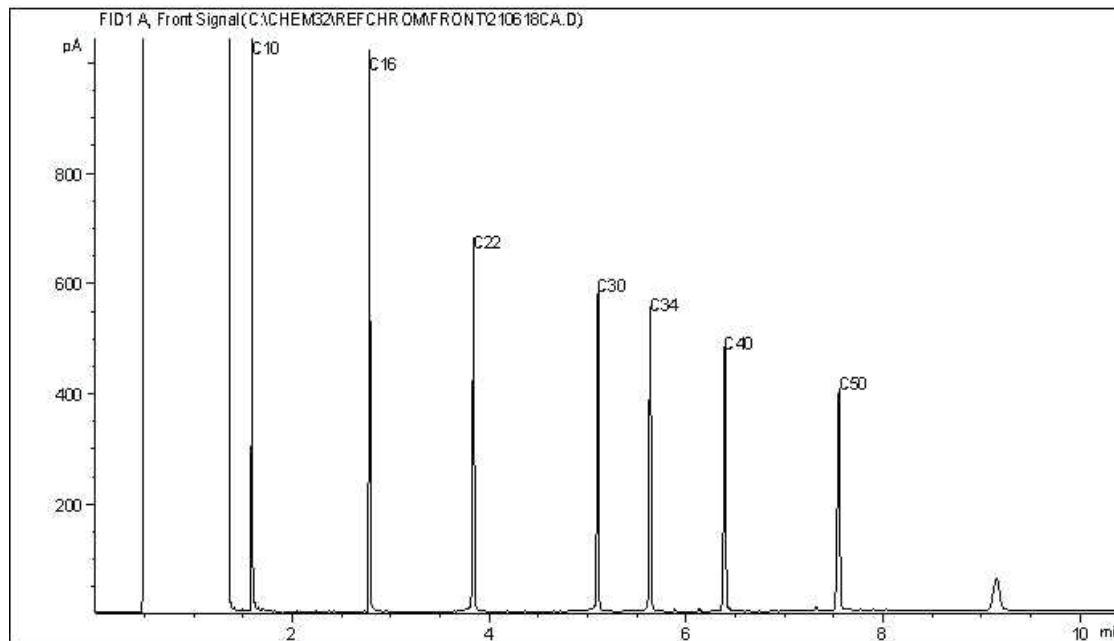
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



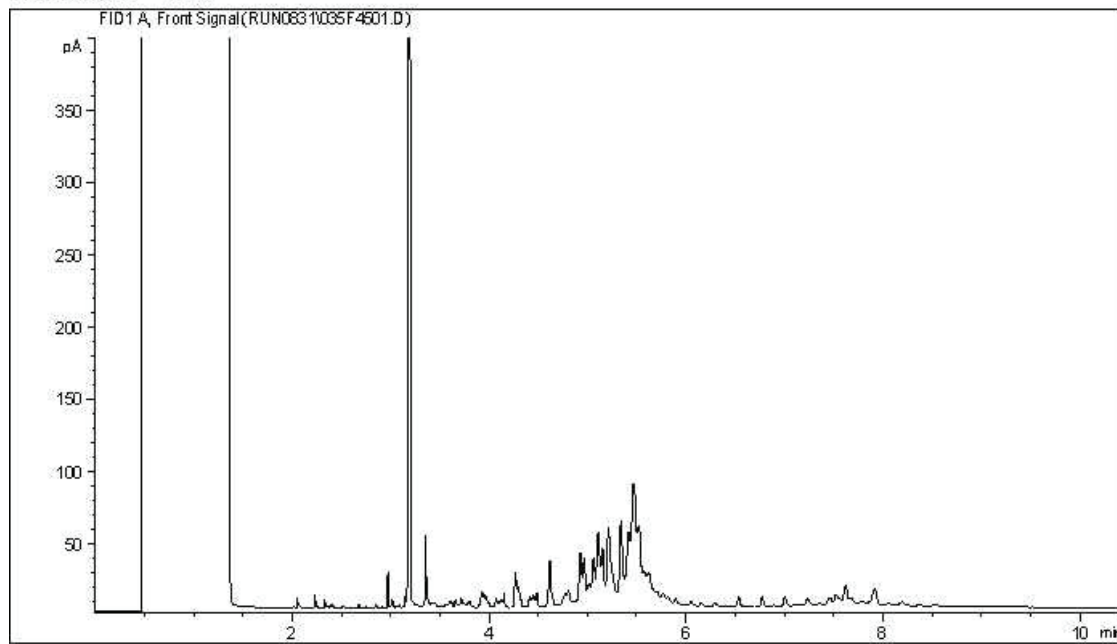
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

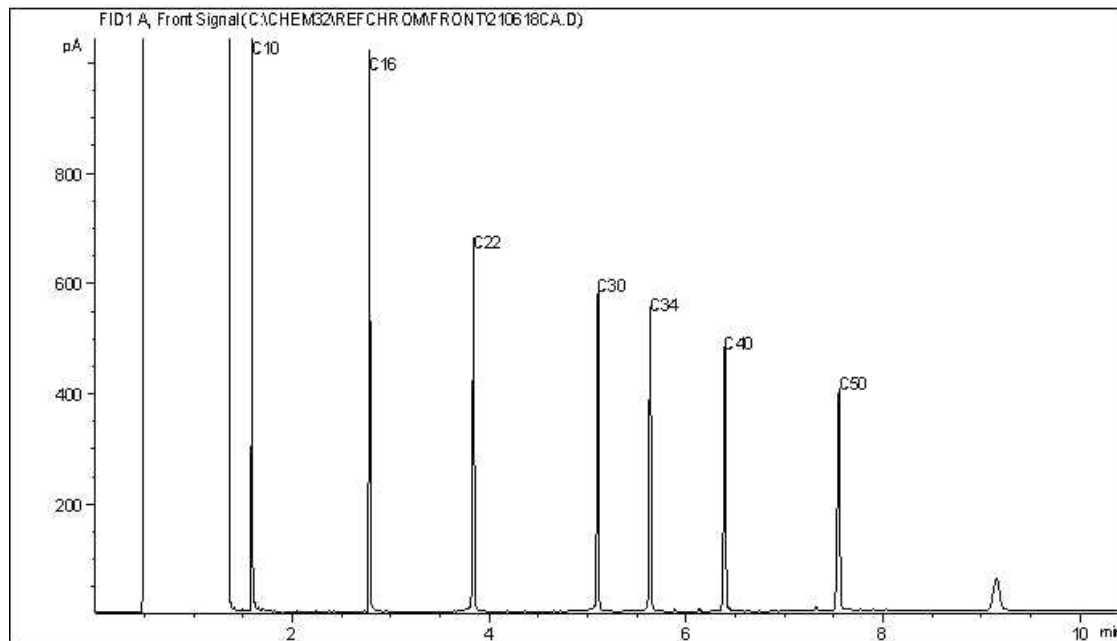
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CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



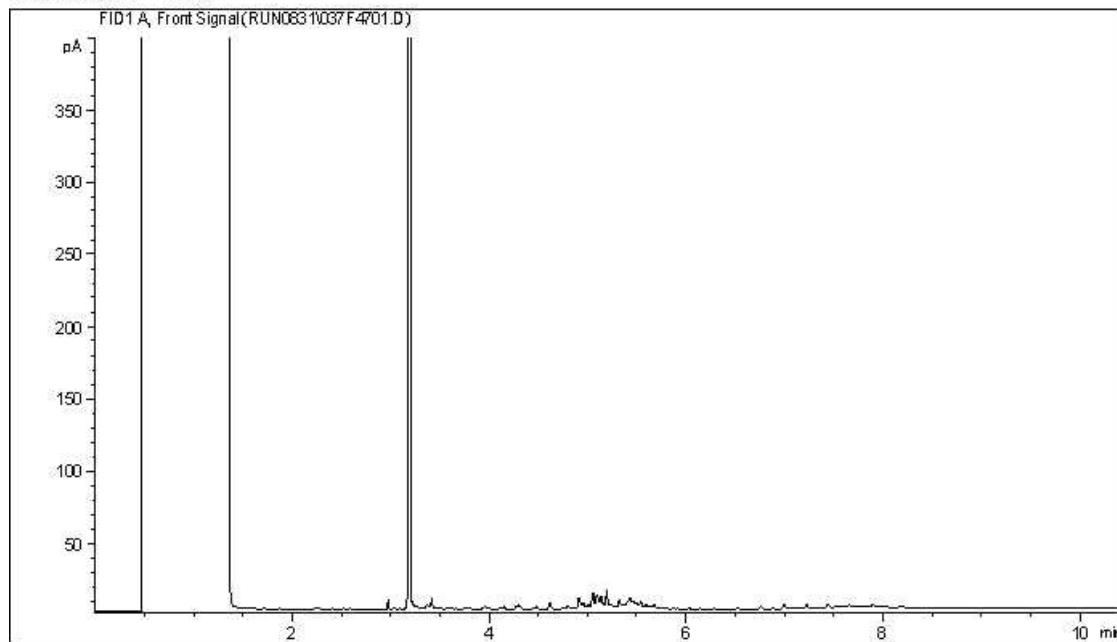
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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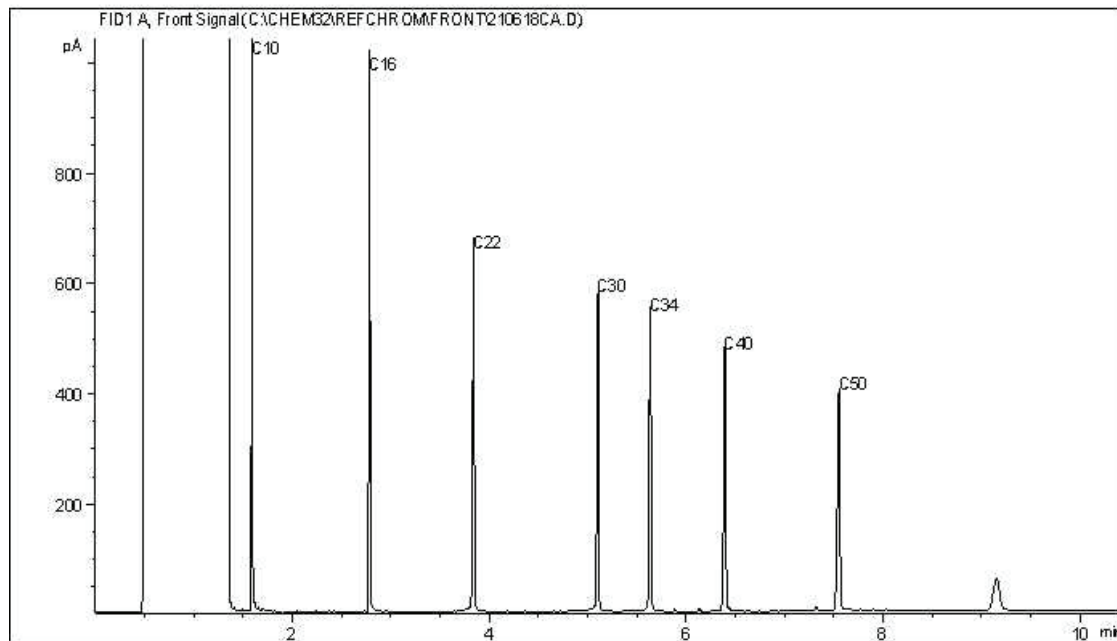
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



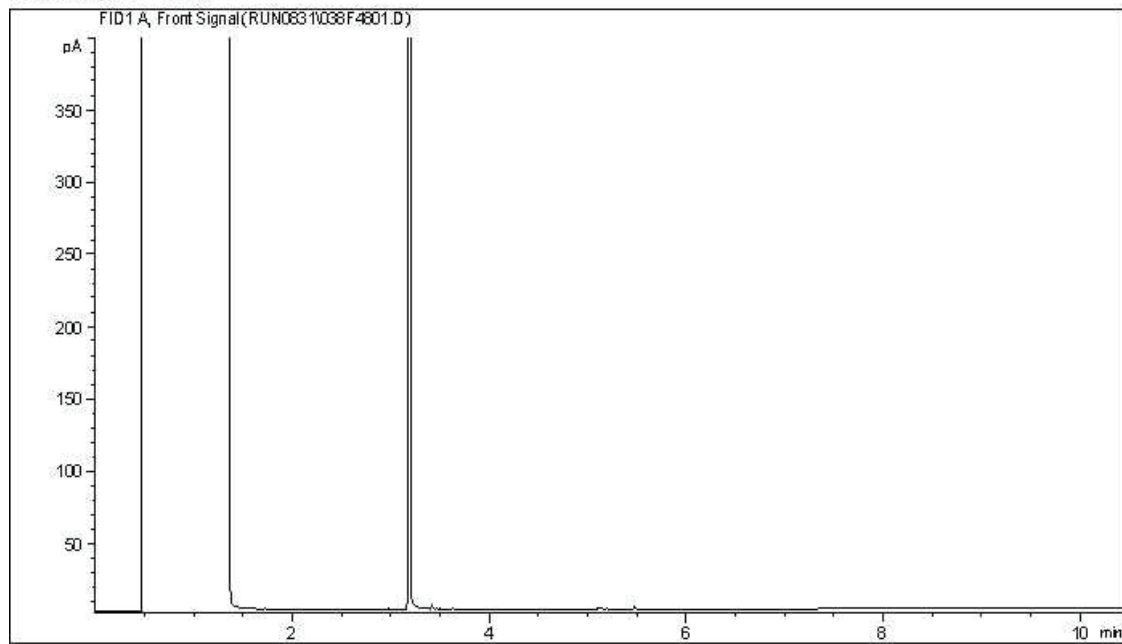
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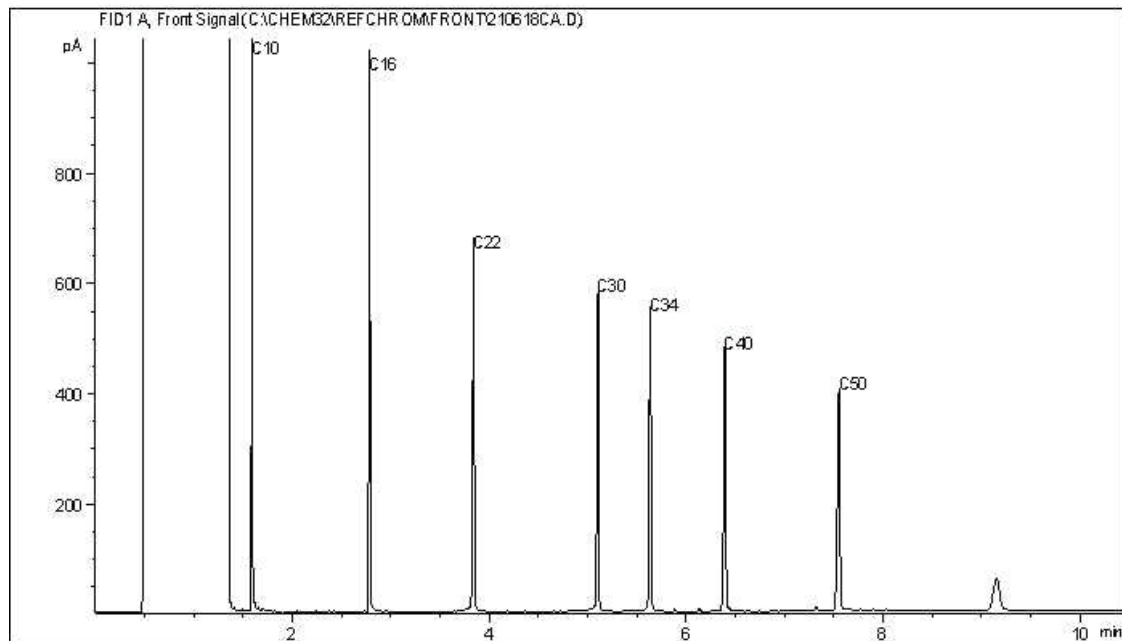
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



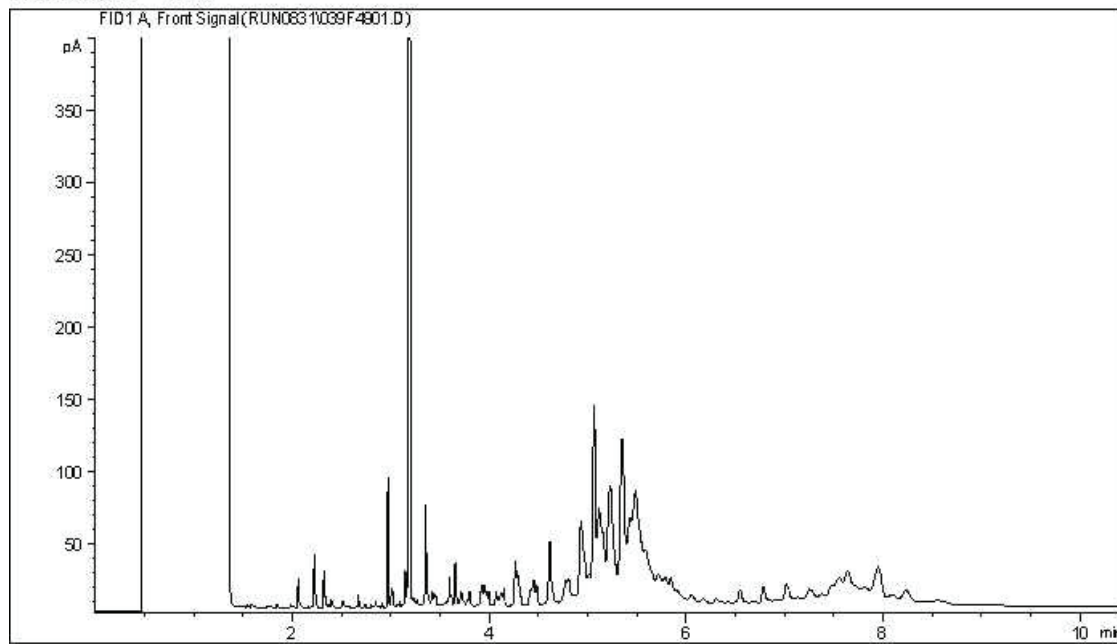
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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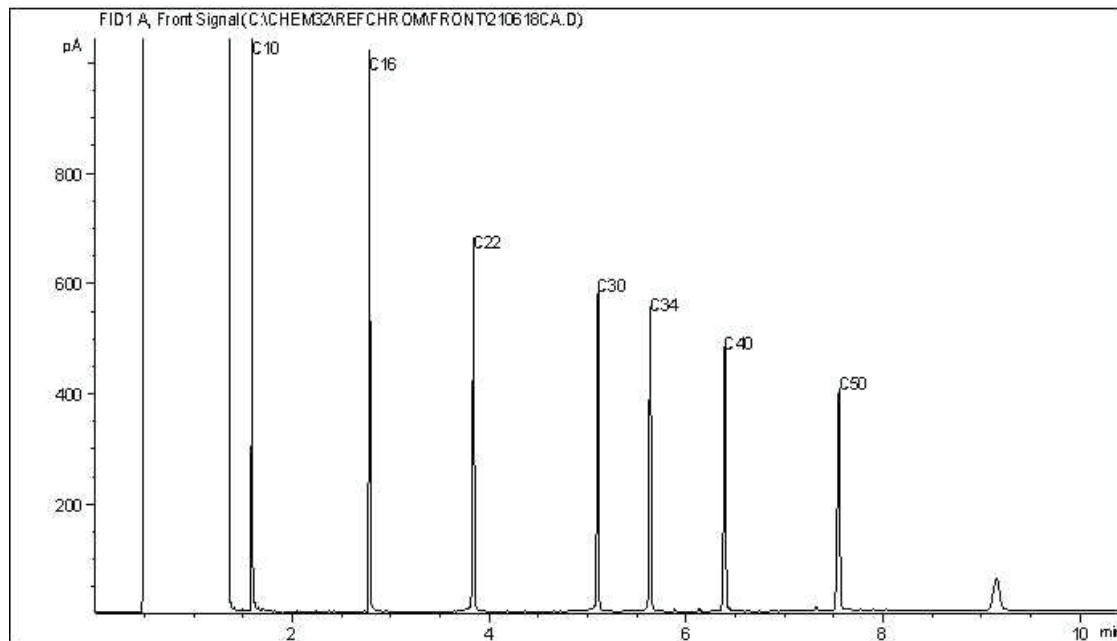
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

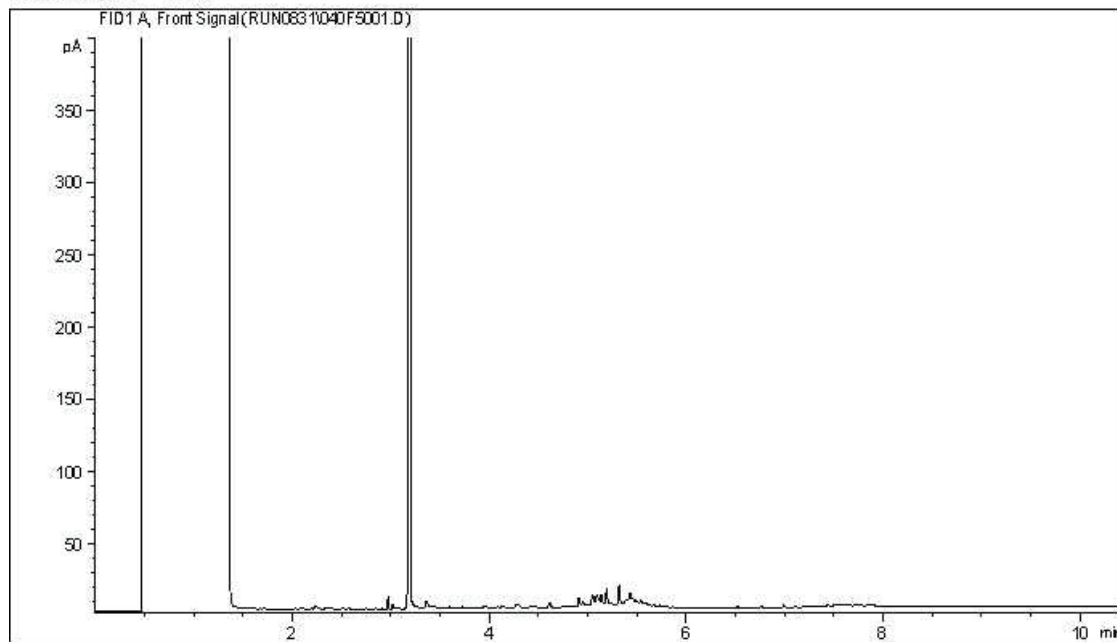
Gasoline:	C4 - C12	Diesel:	C8 - C22
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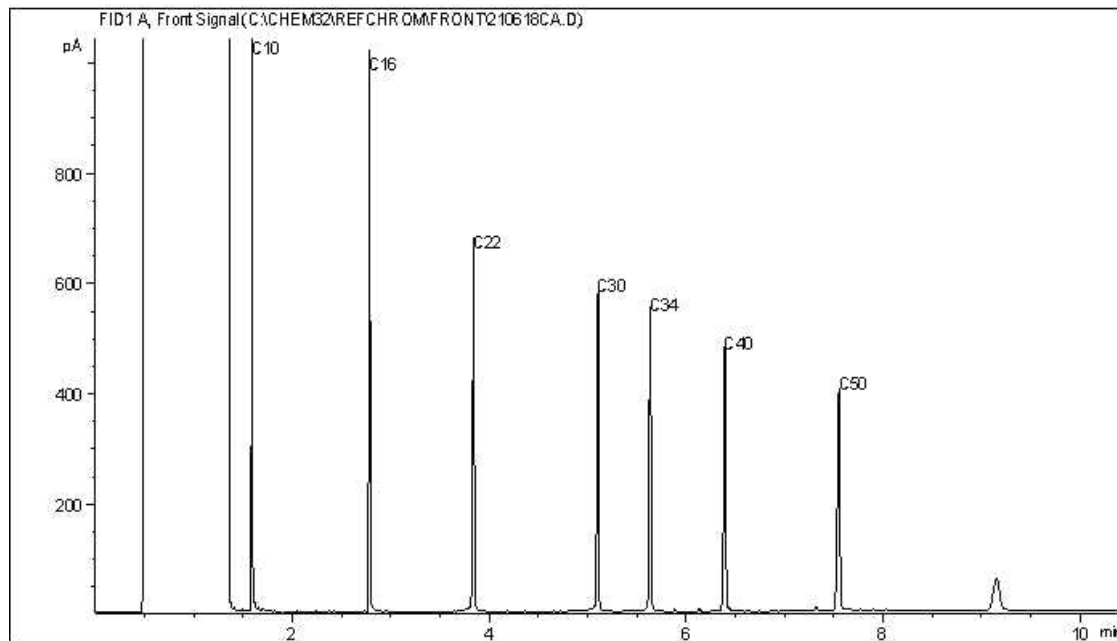


**CCME Hydrocarbons (F2-F4 in soil) Chromatogram**

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



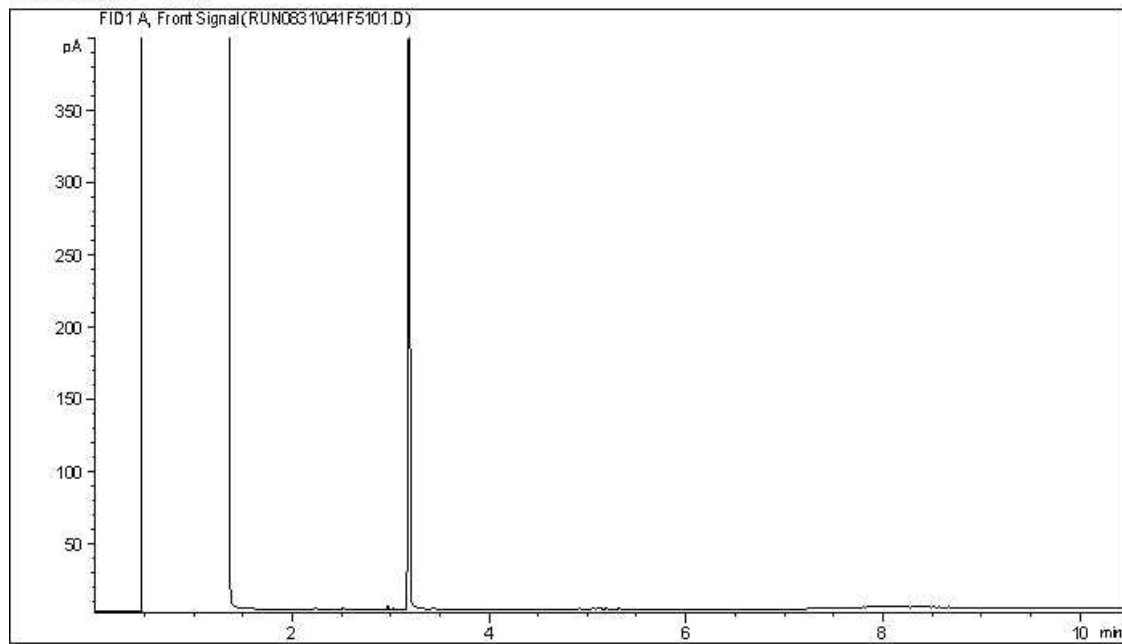
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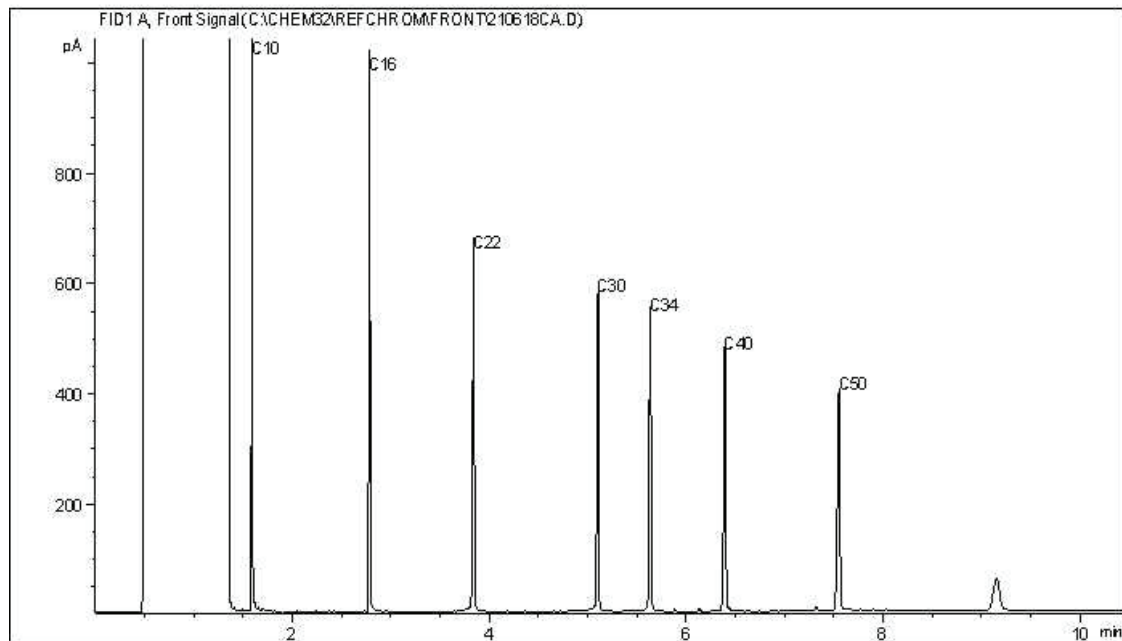
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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Carbon Range Distribution - Reference Chromatogram



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**GOLDER DATA QUALITY REVIEW CHECKLIST**

Site Location: Camp Farewell

Sampling Date: August 20, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C162662

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 acceptance criteria.
Method Blank Concentration	X			
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 alert limits.
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: September 22, 2021



Your P.O. #: 20368099-7000-1001  
 Your Project #: 20368099-6000-1001  
 Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-33-01, 644511-34-01, 644511-35-01, 644511-36-01, 644511-37-01

**Report Date: 2021/09/09**  
 Report #: R3069178  
 Version: 3 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C162768**

**Received: 2021/08/24, 09:45**

Sample Matrix: Soil  
 # Samples Received: 42

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Barium on ICP using Fusion Extraction (1)	3	2021/09/02	2021/09/05	AB SOP-00044 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1)	2	2021/08/30	2021/09/02	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1)	1	2021/09/03	2021/09/03	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	2	N/A	2021/08/31	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	36	N/A	2021/09/01	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	1	N/A	2021/09/02	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	19	N/A	2021/09/01		Auto Calc
F1-BTEX (1)	20	N/A	2021/09/02		Auto Calc
F1-BTEX (1)	2	N/A	2021/09/03		Auto Calc
F1-BTEX (1)	1	N/A	2021/09/04		Auto Calc
Hexavalent Chromium (1, 3)	3	2021/08/31	2021/08/31	AB SOP-00063	SM 23 3500-Cr B m
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 4)	1	2021/08/31	2021/08/31	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	26	2021/08/30	2021/09/01	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	15	2021/08/30	2021/09/02	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	1	2021/08/31	2021/08/31	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 6)	1	N/A	2021/09/01		Auto Calc
CCME Hydrocarbons (F4G in soil) (1, 5)	1	2021/08/30	2021/09/02	AB SOP-00036 AB SOP-00040	CCME PHC-CWS m
Elements by ICPMS - Soils (1)	3	2021/08/29	2021/08/30	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Moisture (1)	41	N/A	2021/08/31	AB SOP-00002	CCME PHC-CWS m
Moisture (1)	1	N/A	2021/09/01	AB SOP-00002	CCME PHC-CWS m
Soluble NO2 (N);Soluble NO2 (N) + NO3(N) (1)	3	2021/08/31	2021/08/31	AB SOP-00091	SM 23 4500 NO3m
Nitrate-N (soluble) (1)	3	2021/08/27	2021/08/31		Auto Calc
Soluble Ions (1)	3	2021/08/30	2021/08/31	AB SOP-00033 / AB SOP-00042	EPA 6010d R5 m
Soluble Paste (1)	3	2021/08/30	2021/08/31	AB SOP-00033	Carter 2nd ed 15.2 m
Soluble Boron Calculation (1)	3	N/A	2021/09/01		Auto Calc



Your P.O. #: 20368099-7000-1001  
 Your Project #: 20368099-6000-1001  
 Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-33-01, 644511-34-01, 644511-35-01, 644511-36-01, 644511-37-01

**Report Date: 2021/09/09**  
 Report #: R3069178  
 Version: 3 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C162768**

**Received: 2021/08/24, 09:45**

Sample Matrix: Soil  
 # Samples Received: 42

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Soluble Ions Calculation (1)	3	N/A	2021/08/30		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.

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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 Environmental

(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 Laboratories 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. #: 20368099-7000-1001  
Your Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-33-01, 644511-34-01, 644511-35-01, 644511-36-01, 644511-37-01

**Report Date: 2021/09/09**  
Report #: R3069178  
Version: 3 - Final

**CERTIFICATE OF ANALYSIS**

**BV LABS JOB #: C162768**

**Received: 2021/08/24, 09:45**

(5) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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.

(6) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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  
09 Sep 2021 14:09:16

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

=====  
BV Labs 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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VERITAS

BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (SOIL)**

BV Labs ID		AEP489	AEP509		AEP532		
Sampling Date		2021/08/21 10:25	2021/08/21 11:16		2021/08/21 16:11		
COC Number		644511-33-01	644511-34-01		644511-37-01		
	UNITS	TP21-123-04	DUP P	QC Batch	TP21-93-06	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>							
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	A336664	<10	10	A336885
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	A336664	<50	50	A336885
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A336664	<50	50	A336885
Reached Baseline at C50	mg/kg	Yes	Yes	A336664	Yes	N/A	A336885
<b>Physical Properties</b>							
Moisture	%	3.8	4.6	A336673	15	0.30	A337532
<b>Volatiles</b>							
Benzene	mg/kg	<0.0050	<0.0050	A340134	<0.0050	0.0050	A340134
Toluene	mg/kg	<0.050	<0.050	A340134	<0.050	0.050	A340134
Ethylbenzene	mg/kg	<0.010	<0.010	A340134	<0.010	0.010	A340134
m & p-Xylene	mg/kg	<0.040	<0.040	A340134	<0.040	0.040	A340134
o-Xylene	mg/kg	<0.020	<0.020	A340134	<0.020	0.020	A340134
Xylenes (Total)	mg/kg	<0.045	<0.045	A334698	<0.045	0.045	A334711
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A334698	<10	10	A334711
F1 (C6-C10)	mg/kg	<10	<10	A340134	<10	10	A340134
<b>Surrogate Recovery (%)</b>							
1,4-Difluorobenzene (sur.)	%	100	99	A340134	95	N/A	A340134
4-Bromofluorobenzene (sur.)	%	103	103	A340134	88	N/A	A340134
D10-o-Xylene (sur.)	%	113	113	A340134	79	N/A	A340134
D4-1,2-Dichloroethane (sur.)	%	114	113	A340134	83	N/A	A340134
O-TERPHENYL (sur.)	%	98	91	A336664	78	N/A	A336885
RDL = Reportable Detection Limit N/A = Not Applicable							



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BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEP482	AEP482		AEP483	AEP484	AEP485		
Sampling Date		2021/08/21 09:55	2021/08/21 09:55		2021/08/21 09:56	2021/08/21 09:57	2021/08/21 10:03		
COC Number		644511-33-01	644511-33-01		644511-33-01	644511-33-01	644511-33-01		
	UNITS	TP21-126-02	TP21-126-02 Lab-Dup	RDL	TP21-126-04	TP21-126-06	TP21-142-01	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	12	<10	10	14	<10	<10	10	A336664
F3 (C16-C34 Hydrocarbons)	mg/kg	240	250	50	220	<50	120	50	A336664
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	67	50	81	<50	<50	50	A336664
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	Yes	Yes	Yes	N/A	A336664

Physical Properties									
Moisture	%	40	40	0.30	9.2	16	25	0.30	A336673

Volatiles									
Xylenes (Total)	mg/kg	<0.095	N/A	0.095	<0.045	<0.045	<0.045	0.045	A334698
F1 (C6-C10) - BTEX	mg/kg	<21	N/A	21	<10	<10	<10	10	A334698

Field Preserved Volatiles									
Benzene	mg/kg	<0.0070 (1)	<0.0070	0.0070	<0.0050	<0.0050	<0.0050	0.0050	A336426
Toluene	mg/kg	<0.050 (1)	<0.050	0.050	<0.050	<0.050	<0.050	0.050	A336426
Ethylbenzene	mg/kg	<0.018 (1)	0.030	0.018	<0.010	<0.010	<0.010	0.010	A336426
m & p-Xylene	mg/kg	<0.085 (2)	<0.085	0.085	<0.040	<0.040	<0.040	0.040	A336426
o-Xylene	mg/kg	<0.043 (2)	<0.043	0.043	<0.020	<0.020	<0.020	0.020	A336426
F1 (C6-C10)	mg/kg	<21 (2)	<21	21	<10	<10	<10	10	A336426

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	101	102	N/A	101	102	101	N/A	A336426
4-Bromofluorobenzene (sur.)	%	99	100	N/A	100	100	100	N/A	A336426
D10-o-Xylene (sur.)	%	119	127	N/A	124	130	121	N/A	A336426
D4-1,2-Dichloroethane (sur.)	%	107	104	N/A	105	108	104	N/A	A336426
O-TERPHENYL (sur.)	%	97	96	N/A	99	104	101	N/A	A336664

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.





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BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEP486	AEP487	AEP488	AEP490		AEP491		
Sampling Date		2021/08/21 10:04	2021/08/21 10:05	2021/08/21 10:24	2021/08/21 10:26		2021/08/21 10:32		
COC Number		644511-33-01	644511-33-01	644511-33-01	644511-33-01		644511-33-01		
	UNITS	TP21-142-03	TP21-142-05	TP21-123-01	TP21-123-06	RDL	TP21-BH19-110-02	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	38	<10	10	<10	10	A336664
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	160	<50	50	280	50	A336664
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	50	87	50	A336664
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	N/A	Yes	N/A	A336664

Physical Properties									
Moisture	%	4.1	5.2	8.5	15	0.30	47	0.30	A336673

Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	0.045	<0.10	0.10	A334698
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	10	<23	23	A334698

Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	<0.0080 (1)	0.0080	A336426
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	0.050	<0.050 (1)	0.050	A336426
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	0.010	<0.010 (1)	0.010	A336426
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	0.040	<0.092 (2)	0.092	A336426
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.020	<0.046 (2)	0.046	A336426
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	10	<23 (2)	23	A336426

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	103	100	101	100	N/A	101	N/A	A336426
4-Bromofluorobenzene (sur.)	%	101	100	100	100	N/A	102	N/A	A336426
D10-o-Xylene (sur.)	%	125	132	125	119	N/A	128	N/A	A336426
D4-1,2-Dichloroethane (sur.)	%	109	106	107	106	N/A	108	N/A	A336426
O-TERPHENYL (sur.)	%	106	112	104	97	N/A	96	N/A	A336664

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.



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BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AEP501	AEP502	AEP503		AEP504		
Sampling Date		2021/08/21 10:33	2021/08/21 10:41	2021/08/21 10:41		2021/08/21 10:57		
COC Number		644511-34-01	644511-34-01	644511-34-01		644511-34-01		
	UNITS	TP21-BH19-110-04	TP21-BH19-110-05	DUP 0	RDL	TP21-124-02	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>								
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	10	72	10	A336664
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	50	2100	50	A336664
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	50	850	50	A336664
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	N/A	No	N/A	A336664
<b>Physical Properties</b>								
Moisture	%	3.1	4.1	4.5	0.30	44	0.30	A336673
<b>Volatiles</b>								
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	0.045	<0.11	0.11	A334698
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	10	<24	24	A334698
<b>Field Preserved Volatiles</b>								
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	0.023 (1)	0.012	A336426
Toluene	mg/kg	<0.050	<0.050	<0.050	0.050	0.13 (1)	0.12	A336426
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	0.010	0.031 (1)	0.024	A336426
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	0.040	<0.095 (1)	0.095	A336426
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	0.063 (1)	0.048	A336426
F1 (C6-C10)	mg/kg	<10	<10	<10	10	<24 (1)	24	A336426
<b>Surrogate Recovery (%)</b>								
1,4-Difluorobenzene (sur.)	%	100	101	101	N/A	101	N/A	A336426
4-Bromofluorobenzene (sur.)	%	102	100	101	N/A	100	N/A	A336426
D10-o-Xylene (sur.)	%	157 (2)	124	121	N/A	122	N/A	A336426
D4-1,2-Dichloroethane (sur.)	%	109	106	108	N/A	107	N/A	A336426
O-TERPHENYL (sur.)	%	98	98	100	N/A	97	N/A	A336664
RDL = Reportable Detection Limit N/A = Not Applicable (1) Detection limits raised based on sample weight used for analysis. (2) Surrogate recovery exceeds acceptance criteria (high recovery). As results are non-detect, there is no impact on data quality.								



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BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AEP505	AEP506		AEP507	AEP508		
Sampling Date		2021/08/21 10:58	2021/08/21 10:59		2021/08/21 11:15	2021/08/21 11:16		
COC Number		644511-34-01	644511-34-01		644511-34-01	644511-34-01		
	UNITS	TP21-124-04	TP21-124-06	QC Batch	TP21-125-02	TP21-125-04	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>								
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	A336664	57	<10	10	A336664
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	A336664	170	<50	50	A336664
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A336664	<50	<50	50	A336664
Reached Baseline at C50	mg/kg	Yes	Yes	A336664	Yes	Yes	N/A	A336664
<b>Physical Properties</b>								
Moisture	%	6.0	11	A336673	17	4.3	0.30	A336673
<b>Volatiles</b>								
Xylenes (Total)	mg/kg	<0.045	<0.045	A334698	<0.045	<0.045	0.045	A334711
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A334698	<10	<10	10	A334711
<b>Field Preserved Volatiles</b>								
Benzene	mg/kg	<0.0050	<0.0050	A336426	<0.0050	<0.0050	0.0050	A336426
Toluene	mg/kg	<0.050	<0.050	A336426	<0.050	<0.050	0.050	A336426
Ethylbenzene	mg/kg	<0.010	<0.010	A336426	<0.010	<0.010	0.010	A336426
m & p-Xylene	mg/kg	<0.040	<0.040	A336426	<0.040	<0.040	0.040	A336426
o-Xylene	mg/kg	<0.020	<0.020	A336426	<0.020	<0.020	0.020	A336426
F1 (C6-C10)	mg/kg	<10	<10	A336426	<10	<10	10	A336426
<b>Surrogate Recovery (%)</b>								
1,4-Difluorobenzene (sur.)	%	100	103	A336426	101	101	N/A	A336426
4-Bromofluorobenzene (sur.)	%	98	100	A336426	102	99	N/A	A336426
D10-o-Xylene (sur.)	%	137	124	A336426	129	131	N/A	A336426
D4-1,2-Dichloroethane (sur.)	%	105	108	A336426	110	108	N/A	A336426
O-TERPHENYL (sur.)	%	95	99	A336664	100	91	N/A	A336664
RDL = Reportable Detection Limit N/A = Not Applicable								



BUREAU  
VERITAS

BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AEP510		AEP511	AEP511		AEP512		
Sampling Date		2021/08/21 11:17		2021/08/21 14:02	2021/08/21 14:02		2021/08/21 14:15		
COC Number		644511-34-01		644511-35-01	644511-35-01		644511-35-01		
	UNITS	TP21-125-05	QC Batch	TP21-125-08	TP21-125-08 Lab-Dup	QC Batch	TP21-94-01	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	A336664	<10	N/A	A336003	<10	10	A336061
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	A336664	<50	N/A	A336003	<50	50	A336061
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	A336664	<50	N/A	A336003	<50	50	A336061
Reached Baseline at C50	mg/kg	Yes	A336664	Yes	N/A	A336003	Yes	N/A	A336061
<b>Physical Properties</b>									
Moisture	%	4.8	A336673	9.2	8.6	A336192	3.7	0.30	A336234
<b>Volatiles</b>									
Xylenes (Total)	mg/kg	<0.045	A334711	<0.045	N/A	A334711	<0.045	0.045	A334711
F1 (C6-C10) - BTEX	mg/kg	<10	A334711	<10	N/A	A334711	<10	10	A334711
<b>Field Preserved Volatiles</b>									
Benzene	mg/kg	<0.0050	A338974	<0.0050	N/A	A336426	<0.0050	0.0050	A336426
Toluene	mg/kg	<0.050	A338974	<0.050	N/A	A336426	<0.050	0.050	A336426
Ethylbenzene	mg/kg	<0.010	A338974	<0.010	N/A	A336426	<0.010	0.010	A336426
m & p-Xylene	mg/kg	<0.040	A338974	<0.040	N/A	A336426	<0.040	0.040	A336426
o-Xylene	mg/kg	<0.020	A338974	0.025	N/A	A336426	<0.020	0.020	A336426
F1 (C6-C10)	mg/kg	<10	A338974	<10	N/A	A336426	<10	10	A336426
<b>Surrogate Recovery (%)</b>									
1,4-Difluorobenzene (sur.)	%	98	A338974	100	N/A	A336426	100	N/A	A336426
4-Bromofluorobenzene (sur.)	%	101	A338974	99	N/A	A336426	100	N/A	A336426
D10-o-Xylene (sur.)	%	93	A338974	124	N/A	A336426	129	N/A	A336426
D4-1,2-Dichloroethane (sur.)	%	99	A338974	109	N/A	A336426	108	N/A	A336426
O-TERPHENYL (sur.)	%	92	A336664	96	N/A	A336003	97	N/A	A336061
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable									



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BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AEP513	AEP513	AEP514	AEP515	AEP516	AEP517		
Sampling Date		2021/08/21 14:16	2021/08/21 14:16	2021/08/21 14:17	2021/08/21 14:31	2021/08/21 14:32	2021/08/21 14:34		
COC Number		644511-35-01	644511-35-01	644511-35-01	644511-35-01	644511-35-01	644511-35-01		
	UNITS	TP21-94-03	TP21-94-03 Lab-Dup	TP21-94-05	TP21-95-01	TP21-95-03	TP21-95-06	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	N/A	<10	36	<10	43	10	A336061
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	N/A	75	150	<50	<50	50	A336061
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	N/A	<50	55	<50	<50	50	A336061
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	Yes	Yes	Yes	N/A	A336061

Physical Properties									
Moisture	%	31	N/A	6.2	9.8	5.0	5.4	0.30	A336234

Volatiles									
Xylenes (Total)	mg/kg	<0.045	N/A	<0.045	<0.045	<0.045	<0.045	0.045	A334711
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	<10	<10	<10	<10	10	A334711

Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A336429
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A336429
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A336429
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	A336429
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A336429
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	<10	<10	10	A336429

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	101	103	103	102	102	103	N/A	A336429
4-Bromofluorobenzene (sur.)	%	99	100	101	101	100	100	N/A	A336429
D10-o-Xylene (sur.)	%	132	134	117	116	111	117	N/A	A336429
D4-1,2-Dichloroethane (sur.)	%	104	105	103	101	105	104	N/A	A336429
O-TERPHENYL (sur.)	%	99	N/A	101	107	101	115	N/A	A336061

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



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BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
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Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AEP518	AEP519	AEP520	AEP520	AEP521	AEP522		
Sampling Date		2021/08/21 14:46	2021/08/21 14:32	2021/08/21 15:10	2021/08/21 15:10	2021/08/21 15:13	2021/08/21 15:15		
COC Number		644511-35-01	644511-35-01	644511-35-01	644511-35-01	644511-36-01	644511-36-01		
	UNITS	TP21-95-08	DUP Q	TP21-96-01	TP21-96-01 Lab-Dup	TP21-96-03	TP21-96-05	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	24	83	97	93	<10	10	A336061
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	86	190	190	230	<50	50	A336061
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	50	A336061
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A336061

Physical Properties									
Moisture	%	5.8	6.6	8.0	8.2	16	2.9	0.30	A336234

Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	N/A	<0.045	<0.045	0.045	A334711
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	N/A	<10	<10	10	A334711

Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	N/A	<0.0050	<0.0050	0.0050	A336429
Toluene	mg/kg	<0.050	<0.050	<0.050	N/A	<0.050	<0.050	0.050	A336429
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	N/A	<0.010	<0.010	0.010	A336429
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	N/A	<0.040	<0.040	0.040	A336429
o-Xylene	mg/kg	<0.020	<0.020	<0.020	N/A	<0.020	<0.020	0.020	A336429
F1 (C6-C10)	mg/kg	<10	<10	<10	N/A	<10	<10	10	A336429

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	102	102	103	N/A	102	101	N/A	A336429
4-Bromofluorobenzene (sur.)	%	99	100	100	N/A	100	100	N/A	A336429
D10-o-Xylene (sur.)	%	125	109	113	N/A	111	106	N/A	A336429
D4-1,2-Dichloroethane (sur.)	%	103	104	105	N/A	103	105	N/A	A336429
O-TERPHENYL (sur.)	%	101	103	99	97	100	104	N/A	A336061

RDL = Reportable Detection Limit  
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Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AEP523	AEP524	AEP525	AEP526	AEP527	AEP528		
Sampling Date		2021/08/21 15:25	2021/08/21 15:28	2021/08/21 15:30	2021/08/21 15:40	2021/08/21 15:45	2021/08/21 15:51		
COC Number		644511-36-01	644511-36-01	644511-36-01	644511-36-01	644511-36-01	644511-36-01		
	UNITS	TP21-91-02	TP21-91-04	TP21-91-06	TP21-92-02	TP21-92-04	TP21-92-06	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	110	59	17	<10	<10	<10	10	A336061
F3 (C16-C34 Hydrocarbons)	mg/kg	310	190	55	60	75	<50	50	A336061
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	50	A336061
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A336061

Physical Properties									
Moisture	%	6.0	7.1	17	21	10	7.5	0.30	A336234

Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	0.045	A334711
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	<10	<10	10	A334711

Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A336429
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A336429
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A336429
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	A336429
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A336429
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	<10	<10	10	A336429

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	103	103	102	102	104	103	N/A	A336429
4-Bromofluorobenzene (sur.)	%	100	101	101	99	101	99	N/A	A336429
D10-o-Xylene (sur.)	%	139	113	134	121	110	120	N/A	A336429
D4-1,2-Dichloroethane (sur.)	%	104	107	105	103	105	104	N/A	A336429
O-TERPHENYL (sur.)	%	111	99	113	109	114	105	N/A	A336061

RDL = Reportable Detection Limit  
N/A = Not Applicable



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BV Labs Job #: C162768  
Report Date: 2021/09/09

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Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AEP529	AEP530	AEP531		
Sampling Date		2021/08/21 15:51	2021/08/21 15:54	2021/08/21 15:55		
COC Number		644511-36-01	644511-36-01	644511-37-01		
	UNITS	DUP R	TP21-93-02	TP21-93-04	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>						
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	10	A336061
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	50	A336061
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	50	A336061
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	N/A	A336061
<b>Physical Properties</b>						
Moisture	%	7.4	4.6	7.2	0.30	A336234
<b>Volatiles</b>						
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	0.045	A334711
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	10	A334711
<b>Field Preserved Volatiles</b>						
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	A336429
Toluene	mg/kg	<0.050	<0.050	<0.050	0.050	A336429
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	0.010	A336429
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	0.040	A336429
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	A336429
F1 (C6-C10)	mg/kg	<10	<10	<10	10	A336429
<b>Surrogate Recovery (%)</b>						
1,4-Difluorobenzene (sur.)	%	102	103	102	N/A	A336429
4-Bromofluorobenzene (sur.)	%	99	100	100	N/A	A336429
D10-o-Xylene (sur.)	%	123	118	125	N/A	A336429
D4-1,2-Dichloroethane (sur.)	%	106	105	104	N/A	A336429
O-TERPHENYL (sur.)	%	121	116	108	N/A	A336061
RDL = Reportable Detection Limit N/A = Not Applicable						





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BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 REGULATED METALS - SOILS (SOIL)**

BV Labs ID		AEP523	AEP524		AEP525	AEP525		
Sampling Date		2021/08/21 15:25	2021/08/21 15:28		2021/08/21 15:30	2021/08/21 15:30		
COC Number		644511-36-01	644511-36-01		644511-36-01	644511-36-01		
	UNITS	TP21-91-02	TP21-91-04	RDL	TP21-91-06	TP21-91-06 Lab-Dup	RDL	QC Batch
<b>Calculated Parameters</b>								
Calculated Boron (B)	mg/kg	0.036	<0.023	0.023	0.074	N/A	0.029	A334408
<b>Elements</b>								
Hex. Chromium (Cr 6+)	mg/kg	<0.080	<0.080	0.080	<0.080	N/A	0.080	A337484
<b>Soluble Parameters</b>								
Soluble Boron (B)	mg/L	0.16	<0.10	0.10	0.26	0.16	0.10	A337369
Saturation %	%	23	23	N/A	29	30	N/A	A335353
Soluble Sulphate (SO4)	mg/L	620	270	5.0	74	74	5.0	A337369
<b>Elements</b>								
Total Antimony (Sb)	mg/kg	<0.50	<0.50	0.50	<0.50	N/A	0.50	A335389
Total Arsenic (As)	mg/kg	8.1	8.9	1.0	8.4	N/A	1.0	A335389
Total Barium (Ba)	mg/kg	2200	2100	1.0	170	N/A	1.0	A335389
Total Beryllium (Be)	mg/kg	<0.40	<0.40	0.40	<0.40	N/A	0.40	A335389
Total Cadmium (Cd)	mg/kg	0.15	0.14	0.050	0.10	N/A	0.050	A335389
Total Chromium (Cr)	mg/kg	39	27	1.0	8.4	N/A	1.0	A335389
Total Cobalt (Co)	mg/kg	5.1	5.0	0.50	5.5	N/A	0.50	A335389
Total Copper (Cu)	mg/kg	11	10	1.0	6.0	N/A	1.0	A335389
Total Lead (Pb)	mg/kg	16	16	0.50	5.2	N/A	0.50	A335389
Total Mercury (Hg)	mg/kg	0.089	0.087	0.050	<0.050	N/A	0.050	A335389
Total Molybdenum (Mo)	mg/kg	1.3	1.2	0.40	0.65	N/A	0.40	A335389
Total Nickel (Ni)	mg/kg	25	20	1.0	14	N/A	1.0	A335389
Total Selenium (Se)	mg/kg	<0.50	<0.50	0.50	<0.50	N/A	0.50	A335389
Total Silver (Ag)	mg/kg	<0.20	<0.20	0.20	<0.20	N/A	0.20	A335389
Total Thallium (Tl)	mg/kg	<0.10	<0.10	0.10	<0.10	N/A	0.10	A335389
Total Tin (Sn)	mg/kg	<1.0	<1.0	1.0	<1.0	N/A	1.0	A335389
Total Uranium (U)	mg/kg	0.58	0.55	0.20	0.49	N/A	0.20	A335389
Total Vanadium (V)	mg/kg	24	24	1.0	19	N/A	1.0	A335389
Total Zinc (Zn)	mg/kg	39	40	10	38	N/A	10	A335389
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable								



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Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		AEP523		AEP524		AEP525		
Sampling Date		2021/08/21 15:25		2021/08/21 15:28		2021/08/21 15:30		
COC Number		644511-36-01		644511-36-01		644511-36-01		
	UNITS	TP21-91-02	RDL	TP21-91-04	RDL	TP21-91-06	RDL	QC Batch
<b>Calculated Parameters</b>								
Soluble Nitrate (N)	mg/L	24	1.0	13	2.0	0.97	0.20	A334715
Calculated Sulphate (SO4)	mg/kg	140	1.1	62	1.1	21	1.5	A334603
Calculated Nitrate (N)	mg/kg	5.5	0.23	2.9	0.46	0.28	0.058	A334603
<b>Soluble Parameters</b>								
Soluble Nitrite (N)	mg/L	10	1.0	16	2.0	<0.20	0.20	A337225
Soluble Nitrate plus Nitrite (N)	mg/L	34	1.0	29	1.0	0.97	0.20	A337225
RDL = Reportable Detection Limit								



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Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### PETROLEUM HYDROCARBONS (CCME)

<b>BV Labs ID</b>		AEP504	AEP532		
<b>Sampling Date</b>		2021/08/21 10:57	2021/08/21 16:11		
<b>COC Number</b>		644511-34-01	644511-37-01		
	<b>UNITS</b>	<b>TP21-124-02</b>	<b>TP21-93-06</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Ext. Pet. Hydrocarbon</b>					
F3A (C16-C22)	mg/kg	N/A	<50	50	A335211
F3B (C22-C34)	mg/kg	N/A	<50	50	A335211
F2% (BIC)	mg/kg	N/A	NC	N/A	A334554
Reached Baseline at C50	mg/kg	N/A	Yes	N/A	A335211
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	4300	N/A	500	A340205
RDL = Reportable Detection Limit N/A = Not Applicable					



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BV Labs Job #: C162768

Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

Your P.O. #: 20368099-7000-1001

Sampler Initials: PT

### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

<b>BV Labs ID</b>		AEP523	AEP524	AEP525		
<b>Sampling Date</b>		2021/08/21 15:25	2021/08/21 15:28	2021/08/21 15:30		
<b>COC Number</b>		644511-36-01	644511-36-01	644511-36-01		
	<b>UNITS</b>	<b>TP21-91-02</b>	<b>TP21-91-04</b>	<b>TP21-91-06</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Elements</b>						
Total Fusion Barium (Ba)	mg/kg	2400	3300	750	50	A340316
RDL = Reportable Detection Limit						



### GENERAL COMMENTS

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

Package 1	4.7°C
Package 2	3.3°C
Package 3	2.0°C
Package 4	1.3°C
Package 5	3.0°C

Sample AEP489 [TP21-123-04] : Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.

Sample AEP509 [DUP P] : Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.

Sample AEP532 [TP21-93-06] : Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.

**Results relate only to the items tested.**



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BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A335211	GG3	Matrix Spike	F3A (C16-C22)	2021/08/30		89	%	60 - 140
			F3B (C22-C34)	2021/08/30		88	%	60 - 140
A335211	GG3	Spiked Blank	F3A (C16-C22)	2021/08/30		95	%	60 - 140
			F3B (C22-C34)	2021/08/30		93	%	60 - 140
A335211	GG3	Method Blank	F3A (C16-C22)	2021/08/30	<50		mg/kg	
			F3B (C22-C34)	2021/08/30	<50		mg/kg	
A335211	GG3	RPD	F3A (C16-C22)	2021/08/30	NC		%	40
			F3B (C22-C34)	2021/08/30	NC		%	40
A335353	EH2	QC Standard	Saturation %	2021/08/31		101	%	75 - 125
A335353	EH2	RPD [AEP525-03]	Saturation %	2021/08/31	1.6		%	12
A335389	LQ1	Matrix Spike	Total Antimony (Sb)	2021/08/30		111	%	75 - 125
			Total Arsenic (As)	2021/08/30		109	%	75 - 125
			Total Barium (Ba)	2021/08/30		NC	%	75 - 125
			Total Beryllium (Be)	2021/08/30		109	%	75 - 125
			Total Cadmium (Cd)	2021/08/30		102	%	75 - 125
			Total Chromium (Cr)	2021/08/30		115	%	75 - 125
			Total Cobalt (Co)	2021/08/30		103	%	75 - 125
			Total Copper (Cu)	2021/08/30		112	%	75 - 125
			Total Lead (Pb)	2021/08/30		111	%	75 - 125
			Total Mercury (Hg)	2021/08/30		115	%	75 - 125
			Total Molybdenum (Mo)	2021/08/30		113	%	75 - 125
			Total Nickel (Ni)	2021/08/30		113	%	75 - 125
			Total Selenium (Se)	2021/08/30		118	%	75 - 125
			Total Silver (Ag)	2021/08/30		114	%	75 - 125
			Total Thallium (Tl)	2021/08/30		104	%	75 - 125
			Total Tin (Sn)	2021/08/30		115	%	75 - 125
			Total Uranium (U)	2021/08/30		108	%	75 - 125
			Total Vanadium (V)	2021/08/30		124	%	75 - 125
			Total Zinc (Zn)	2021/08/30		NC	%	75 - 125
A335389	LQ1	QC Standard	Total Antimony (Sb)	2021/08/30		125	%	15 - 182
			Total Arsenic (As)	2021/08/30		105	%	53 - 147
			Total Barium (Ba)	2021/08/30		102	%	80 - 119
			Total Cadmium (Cd)	2021/08/30		106	%	72 - 128
			Total Chromium (Cr)	2021/08/30		112	%	59 - 141
			Total Cobalt (Co)	2021/08/30		105	%	58 - 142
			Total Copper (Cu)	2021/08/30		109	%	83 - 117
			Total Lead (Pb)	2021/08/30		116	%	79 - 121
			Total Molybdenum (Mo)	2021/08/30		118	%	67 - 133
			Total Nickel (Ni)	2021/08/30		114	%	79 - 121
			Total Silver (Ag)	2021/08/30		94	%	47 - 153
			Total Tin (Sn)	2021/08/30		109	%	67 - 133
			Total Uranium (U)	2021/08/30		103	%	77 - 123
			Total Vanadium (V)	2021/08/30		114	%	79 - 121
			Total Zinc (Zn)	2021/08/30		106	%	79 - 121
A335389	LQ1	Spiked Blank	Total Antimony (Sb)	2021/08/30		114	%	80 - 120
			Total Arsenic (As)	2021/08/30		105	%	80 - 120
			Total Barium (Ba)	2021/08/30		109	%	80 - 120
			Total Beryllium (Be)	2021/08/30		106	%	80 - 120
			Total Cadmium (Cd)	2021/08/30		108	%	80 - 120
			Total Chromium (Cr)	2021/08/30		110	%	80 - 120
			Total Cobalt (Co)	2021/08/30		110	%	80 - 120



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BV Labs Job #: C162768  
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GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
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Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Copper (Cu)	2021/08/30		112	%	80 - 120
			Total Lead (Pb)	2021/08/30		109	%	80 - 120
			Total Mercury (Hg)	2021/08/30		114	%	80 - 120
			Total Molybdenum (Mo)	2021/08/30		115	%	80 - 120
			Total Nickel (Ni)	2021/08/30		111	%	80 - 120
			Total Selenium (Se)	2021/08/30		105	%	80 - 120
			Total Silver (Ag)	2021/08/30		113	%	80 - 120
			Total Thallium (Tl)	2021/08/30		109	%	80 - 120
			Total Tin (Sn)	2021/08/30		108	%	80 - 120
			Total Uranium (U)	2021/08/30		115	%	80 - 120
			Total Vanadium (V)	2021/08/30		109	%	80 - 120
			Total Zinc (Zn)	2021/08/30		105	%	80 - 120
A335389	LQ1	Method Blank	Total Antimony (Sb)	2021/08/30	<0.50		mg/kg	
			Total Arsenic (As)	2021/08/30	<1.0		mg/kg	
			Total Barium (Ba)	2021/08/30	<1.0		mg/kg	
			Total Beryllium (Be)	2021/08/30	<0.40		mg/kg	
			Total Cadmium (Cd)	2021/08/30	<0.050		mg/kg	
			Total Chromium (Cr)	2021/08/30	<1.0		mg/kg	
			Total Cobalt (Co)	2021/08/30	<0.50		mg/kg	
			Total Copper (Cu)	2021/08/30	<1.0		mg/kg	
			Total Lead (Pb)	2021/08/30	<0.50		mg/kg	
			Total Mercury (Hg)	2021/08/30	<0.050		mg/kg	
			Total Molybdenum (Mo)	2021/08/30	<0.40		mg/kg	
			Total Nickel (Ni)	2021/08/30	<1.0		mg/kg	
			Total Selenium (Se)	2021/08/30	<0.50		mg/kg	
			Total Silver (Ag)	2021/08/30	<0.20		mg/kg	
			Total Thallium (Tl)	2021/08/30	<0.10		mg/kg	
			Total Tin (Sn)	2021/08/30	<1.0		mg/kg	
			Total Uranium (U)	2021/08/30	<0.20		mg/kg	
			Total Vanadium (V)	2021/08/30	<1.0		mg/kg	
			Total Zinc (Zn)	2021/08/30	<10		mg/kg	
A335389	LQ1	RPD	Total Antimony (Sb)	2021/08/30	8.6		%	30
			Total Arsenic (As)	2021/08/30	0.040		%	30
			Total Barium (Ba)	2021/08/30	6.5		%	35
			Total Beryllium (Be)	2021/08/30	2.4		%	30
			Total Cadmium (Cd)	2021/08/30	0.87		%	30
			Total Chromium (Cr)	2021/08/30	2.8		%	30
			Total Cobalt (Co)	2021/08/30	5.3		%	30
			Total Copper (Cu)	2021/08/30	3.3		%	30
			Total Lead (Pb)	2021/08/30	3.8		%	35
			Total Mercury (Hg)	2021/08/30	9.6		%	35
			Total Molybdenum (Mo)	2021/08/30	0.42		%	35
			Total Nickel (Ni)	2021/08/30	1.0		%	30
			Total Selenium (Se)	2021/08/30	NC		%	30
			Total Silver (Ag)	2021/08/30	NC		%	35
			Total Thallium (Tl)	2021/08/30	7.3		%	30
			Total Tin (Sn)	2021/08/30	NC		%	35
			Total Uranium (U)	2021/08/30	0.63		%	30
			Total Vanadium (V)	2021/08/30	4.4		%	30
			Total Zinc (Zn)	2021/08/30	0.14		%	30
A336003	ECO	Matrix Spike	O-TERPHENYL (sur.)	2021/09/01		102	%	60 - 140



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BV Labs Job #: C162768  
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GOLDER ASSOCIATES LTD.  
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Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A336003	ECO	Spiked Blank	F2 (C10-C16 Hydrocarbons)	2021/09/01		104	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/01		98	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/01		113	%	60 - 140
			O-TERPHENYL (sur.)	2021/08/31		95	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		92	%	60 - 140
A336003	ECO	Method Blank	F3 (C16-C34 Hydrocarbons)	2021/08/31		89	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		97	%	60 - 140
			O-TERPHENYL (sur.)	2021/08/31		112	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/31	<50		mg/kg	
A336003	ECO	RPD	F4 (C34-C50 Hydrocarbons)	2021/08/31	<50		mg/kg	
			F2 (C10-C16 Hydrocarbons)	2021/09/01	18	%	40	
			F3 (C16-C34 Hydrocarbons)	2021/09/01	26	%	40	
A336061	MHF	Matrix Spike [AEP520-01]	F4 (C34-C50 Hydrocarbons)	2021/09/01	NC		%	40
			O-TERPHENYL (sur.)	2021/09/01		109	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/01		104	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/01		94	%	60 - 140
A336061	MHF	Spiked Blank	F4 (C34-C50 Hydrocarbons)	2021/09/01		93	%	60 - 140
			O-TERPHENYL (sur.)	2021/09/01		105	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/01		103	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/01		96	%	60 - 140
A336061	MHF	Method Blank	F4 (C34-C50 Hydrocarbons)	2021/09/01		93	%	60 - 140
			O-TERPHENYL (sur.)	2021/09/01		104	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/01	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/01	<50		mg/kg	
A336061	MHF	RPD [AEP520-01]	F4 (C34-C50 Hydrocarbons)	2021/09/01	<50		mg/kg	
			F2 (C10-C16 Hydrocarbons)	2021/09/01	15	%	40	
			F3 (C16-C34 Hydrocarbons)	2021/09/01	4.6	%	40	
A336192	SVI	Method Blank	F4 (C34-C50 Hydrocarbons)	2021/09/01	NC		%	40
			Moisture	2021/08/31	<0.30	%		
			Moisture	2021/08/31	6.7	%	20	
A336234	WLE	Method Blank	Moisture	2021/08/31	<0.30	%		
A336234	WLE	RPD [AEP520-01]	Moisture	2021/08/31	2.5	%	20	
A336426	DO1	Matrix Spike [AEP482-02]	1,4-Difluorobenzene (sur.)	2021/08/31		92	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		122	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		102	%	50 - 140
			Benzene	2021/08/31		101	%	50 - 140
			Toluene	2021/08/31		95	%	50 - 140
			Ethylbenzene	2021/08/31		103	%	50 - 140
			m & p-Xylene	2021/08/31		96	%	50 - 140
			o-Xylene	2021/08/31		100	%	50 - 140
			F1 (C6-C10)	2021/08/31		90	%	60 - 140
			1,4-Difluorobenzene (sur.)	2021/08/31		88	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		87	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		102	%	50 - 140
D4-1,2-Dichloroethane (sur.)	2021/08/31		98	%	50 - 140			
A336426	DO1	Spiked Blank	Benzene	2021/08/31		92	%	60 - 130
			Toluene	2021/08/31		96	%	60 - 130
			Ethylbenzene	2021/08/31		97	%	60 - 130
			m & p-Xylene	2021/08/31		94	%	60 - 130





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BV Labs Job #: C162768  
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GOLDER ASSOCIATES LTD.  
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Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A336426	DO1	Method Blank	o-Xylene	2021/08/31		85	%	60 - 130
			F1 (C6-C10)	2021/08/31		97	%	60 - 140
			1,4-Difluorobenzene (sur.)	2021/08/31		101	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		100	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		111	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		106	%	50 - 140
			Benzene	2021/08/31	<0.0050		mg/kg	
			Toluene	2021/08/31	<0.050		mg/kg	
			Ethylbenzene	2021/08/31	<0.010		mg/kg	
			m & p-Xylene	2021/08/31	<0.040		mg/kg	
A336426	DO1	RPD [AEP482-02]	o-Xylene	2021/08/31	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/31	<10		mg/kg	
			Benzene	2021/08/31	NC		%	50
			Toluene	2021/08/31	NC		%	50
			Ethylbenzene	2021/08/31	NC		%	50
			m & p-Xylene	2021/08/31	NC		%	50
A336429	DO1	Matrix Spike [AEP513-02]	o-Xylene	2021/08/31	NC		%	30
			F1 (C6-C10)	2021/08/31	NC		%	30
			1,4-Difluorobenzene (sur.)	2021/09/01		95	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/01		100	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/01		134	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/01		99	%	50 - 140
			Benzene	2021/09/01		98	%	50 - 140
			Toluene	2021/09/01		93	%	50 - 140
			Ethylbenzene	2021/09/01		101	%	50 - 140
			m & p-Xylene	2021/09/01		94	%	50 - 140
A336429	DO1	Spiked Blank	o-Xylene	2021/09/01		97	%	50 - 140
			F1 (C6-C10)	2021/09/01		92	%	60 - 140
			1,4-Difluorobenzene (sur.)	2021/09/01		90	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/01		90	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/01		98	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/01		98	%	50 - 140
			Benzene	2021/09/01		88	%	60 - 130
			Toluene	2021/09/01		91	%	60 - 130
			Ethylbenzene	2021/09/01		92	%	60 - 130
			m & p-Xylene	2021/09/01		90	%	60 - 130
A336429	DO1	Method Blank	o-Xylene	2021/09/01		81	%	60 - 130
			F1 (C6-C10)	2021/09/01		102	%	60 - 140
			1,4-Difluorobenzene (sur.)	2021/09/01		101	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/01		101	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/01		112	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/01		103	%	50 - 140
			Benzene	2021/09/01	<0.0050		mg/kg	
			Toluene	2021/09/01	<0.050		mg/kg	
			Ethylbenzene	2021/09/01	<0.012 (1)		mg/kg	
			m & p-Xylene	2021/09/01	<0.040		mg/kg	
A336429	DO1	RPD [AEP513-02]	o-Xylene	2021/09/01	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/01	<10		mg/kg	
			Benzene	2021/09/01	NC		%	50
			Toluene	2021/09/01	NC		%	50
			Ethylbenzene	2021/09/01	NC		%	50



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BV Labs Job #: C162768  
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GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
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Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A336664	GG3	Matrix Spike [AEP482-01]	m & p-Xylene	2021/09/01	NC		%	50
			o-Xylene	2021/09/01	NC		%	50
			F1 (C6-C10)	2021/09/01	NC		%	30
			O-TERPHENYL (sur.)	2021/09/01		96	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/01		93	%	60 - 140
A336664	GG3	Spiked Blank	F3 (C16-C34 Hydrocarbons)	2021/09/01		98	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/01		100	%	60 - 140
			O-TERPHENYL (sur.)	2021/09/01		95	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/01		95	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/01		100	%	60 - 140
A336664	GG3	Method Blank	F4 (C34-C50 Hydrocarbons)	2021/09/01		101	%	60 - 140
			O-TERPHENYL (sur.)	2021/09/01		96	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/01	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/01	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/01	<50		mg/kg	
A336664	GG3	RPD [AEP482-01]	F2 (C10-C16 Hydrocarbons)	2021/09/01	16		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/01	4.0		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/01	29		%	40
A336673	KLK	Method Blank	Moisture	2021/08/31	<0.30		%	
A336673	KLK	RPD [AEP482-01]	Moisture	2021/08/31	1.0		%	20
A336885	LLO	Matrix Spike	O-TERPHENYL (sur.)	2021/08/31		108	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		98	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		102	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		95	%	60 - 140
			O-TERPHENYL (sur.)	2021/08/31		91	%	60 - 140
A336885	LLO	Spiked Blank	F2 (C10-C16 Hydrocarbons)	2021/08/31		88	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		89	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		91	%	60 - 140
			O-TERPHENYL (sur.)	2021/08/31		95	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31	<10		mg/kg	
A336885	LLO	RPD	F3 (C16-C34 Hydrocarbons)	2021/08/31	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/31	<50		mg/kg	
			F2 (C10-C16 Hydrocarbons)	2021/08/31	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/31	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/31	NC		%	40
A337225	JFH	Matrix Spike	Soluble Nitrite (N)	2021/08/31		86	%	75 - 125
			Soluble Nitrate plus Nitrite (N)	2021/08/31		51 (2)	%	75 - 125
A337225	JFH	QC Standard	Soluble Nitrate plus Nitrite (N)	2021/08/31		90	%	75 - 125
A337225	JFH	Spiked Blank	Soluble Nitrite (N)	2021/08/31		93	%	80 - 120
			Soluble Nitrate plus Nitrite (N)	2021/08/31		93	%	80 - 120
A337225	JFH	Method Blank	Soluble Nitrite (N)	2021/08/31	<0.20		mg/L	
			Soluble Nitrate plus Nitrite (N)	2021/08/31	<0.20		mg/L	
A337225	JFH	RPD	Soluble Nitrite (N)	2021/08/31	NC		%	30
A337369	MPU	Matrix Spike [AEP525-03]	Soluble Boron (B)	2021/08/31		107	%	75 - 125
A337369	MPU	QC Standard	Soluble Sulphate (SO4)	2021/08/31		103	%	75 - 125
A337369	MPU	Spiked Blank	Soluble Boron (B)	2021/08/31		99	%	80 - 120
A337369	MPU	Method Blank	Soluble Boron (B)	2021/08/31	<0.10		mg/L	
			Soluble Sulphate (SO4)	2021/08/31	<5.0		mg/L	
A337369	MPU	RPD [AEP525-03]	Soluble Boron (B)	2021/08/31	NC		%	30
			Soluble Sulphate (SO4)	2021/08/31	0.52		%	30
A337484	KWE	Matrix Spike	Hex. Chromium (Cr 6+)	2021/08/31		96	%	75 - 125



BUREAU  
VERITAS

BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
	A337484	KWE	Spiked Blank	Hex. Chromium (Cr 6+)	2021/08/31		111	%	80 - 120
	A337484	KWE	Method Blank	Hex. Chromium (Cr 6+)	2021/08/31	<0.080		mg/kg	
	A337484	KWE	RPD	Hex. Chromium (Cr 6+)	2021/08/31	NC		%	35
	A337532	ARV	Method Blank	Moisture	2021/09/01	<0.30		%	
	A337532	ARV	RPD	Moisture	2021/09/01	7.4		%	20
	A338974	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/01		106	%	50 - 140
				4-Bromofluorobenzene (sur.)	2021/09/01		87	%	50 - 140
				D10-o-Xylene (sur.)	2021/09/01		86	%	50 - 140
				D4-1,2-Dichloroethane (sur.)	2021/09/01		96	%	50 - 140
				Benzene	2021/09/01		99	%	50 - 140
				Toluene	2021/09/01		104	%	50 - 140
				Ethylbenzene	2021/09/01		106	%	50 - 140
				m & p-Xylene	2021/09/01		109	%	50 - 140
				o-Xylene	2021/09/01		108	%	50 - 140
				F1 (C6-C10)	2021/09/01		83	%	60 - 140
	A338974	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/01		101	%	50 - 140
				4-Bromofluorobenzene (sur.)	2021/09/01		83	%	50 - 140
				D10-o-Xylene (sur.)	2021/09/01		88	%	50 - 140
				D4-1,2-Dichloroethane (sur.)	2021/09/01		102	%	50 - 140
				Benzene	2021/09/01		82	%	60 - 130
				Toluene	2021/09/01		89	%	60 - 130
				Ethylbenzene	2021/09/01		89	%	60 - 130
				m & p-Xylene	2021/09/01		91	%	60 - 130
				o-Xylene	2021/09/01		86	%	60 - 130
				F1 (C6-C10)	2021/09/01		90	%	60 - 140
	A338974	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/01		103	%	50 - 140
				4-Bromofluorobenzene (sur.)	2021/09/01		83	%	50 - 140
				D10-o-Xylene (sur.)	2021/09/01		78	%	50 - 140
				D4-1,2-Dichloroethane (sur.)	2021/09/01		96	%	50 - 140
				Benzene	2021/09/01	<0.0050		mg/kg	
				Toluene	2021/09/01	<0.050		mg/kg	
				Ethylbenzene	2021/09/01	<0.010		mg/kg	
				m & p-Xylene	2021/09/01	<0.040		mg/kg	
				o-Xylene	2021/09/01	<0.020		mg/kg	
				F1 (C6-C10)	2021/09/01	<10		mg/kg	
	A338974	DO1	RPD	Benzene	2021/09/01	NC		%	50
				Toluene	2021/09/01	NC		%	50
				Ethylbenzene	2021/09/01	NC		%	50
				m & p-Xylene	2021/09/01	NC		%	50
				o-Xylene	2021/09/01	NC		%	50
				F1 (C6-C10)	2021/09/01	NC		%	30
	A340134	JNG	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/02		93	%	50 - 140
				4-Bromofluorobenzene (sur.)	2021/09/02		101	%	50 - 140
				D10-o-Xylene (sur.)	2021/09/02		118	%	50 - 140
				D4-1,2-Dichloroethane (sur.)	2021/09/02		111	%	50 - 140
				Benzene	2021/09/02		95	%	50 - 140
				Toluene	2021/09/02		92	%	50 - 140
				Ethylbenzene	2021/09/02		103	%	50 - 140
				m & p-Xylene	2021/09/02		94	%	50 - 140
				o-Xylene	2021/09/02		97	%	50 - 140
				F1 (C6-C10)	2021/09/02		84	%	60 - 140



**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A340134	JNG	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/02		87	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/02		91	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/02		100	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/02		106	%	50 - 140
			Benzene	2021/09/02		86	%	60 - 130
			Toluene	2021/09/02		91	%	60 - 130
			Ethylbenzene	2021/09/02		93	%	60 - 130
			m & p-Xylene	2021/09/02		90	%	60 - 130
			o-Xylene	2021/09/02		80	%	60 - 130
			F1 (C6-C10)	2021/09/02		107	%	60 - 140
			A340134	JNG	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/02	
4-Bromofluorobenzene (sur.)	2021/09/02					103	%	50 - 140
D10-o-Xylene (sur.)	2021/09/02					112	%	50 - 140
D4-1,2-Dichloroethane (sur.)	2021/09/02					113	%	50 - 140
Benzene	2021/09/02	<0.0050					mg/kg	
Toluene	2021/09/02	<0.050					mg/kg	
Ethylbenzene	2021/09/02	<0.010					mg/kg	
m & p-Xylene	2021/09/02	<0.040					mg/kg	
o-Xylene	2021/09/02	<0.020					mg/kg	
F1 (C6-C10)	2021/09/02	<10					mg/kg	
A340134	JNG	RPD				Benzene	2021/09/02	NC
			Toluene	2021/09/02	NC		%	50
			Ethylbenzene	2021/09/02	NC		%	50
			m & p-Xylene	2021/09/02	NC		%	50
			o-Xylene	2021/09/02	NC		%	50
			F1 (C6-C10)	2021/09/02	NC		%	40
A340205	JB9	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/02		100	%	60 - 140
A340205	JB9	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/02	<500		mg/kg	
A340316	JAB	QC Standard	Total Fusion Barium (Ba)	2021/09/05		124	%	75 - 125
A340316	JAB	Spiked Blank	Total Fusion Barium (Ba)	2021/09/05		117	%	75 - 125
A340316	JAB	Method Blank	Total Fusion Barium (Ba)	2021/09/05	<50		mg/kg	
A340316	JAB	RPD	Total Fusion Barium (Ba)	2021/09/05	6.5		%	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) Detection limit raised due to interferent.

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



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VERITAS

BV Labs Job #: C162768  
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### 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

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

Jingyuan Song, QP, Organics – Senior Analyst

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

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BV Labs 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.





# ADDITIONAL COOLER TEMPERATURE RECORD

## CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #		COOLER OBSERVATIONS:												MAXXAM JOB#:																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	
1	05	144511-33-01																												
2	05	644511-34-01																												
3	05	644511-35-01																												
4	05	644511-36-01																												
5	05	644511-37-01																												
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RECEIVED BY (SIGN & PRINT): Jose Mercam DATE (YYYY/MM/DD): 22/08/24 TIME (HH:MM): 09:45 Am





# CHAIN OF CUSTODY RECORD

1078

Bureau Veritas Laboratories  
400 138th Ave. Calgary, Alberta Canada T2E 6P8 Tel: (403) 291-3077 Toll-free 800-563-6266 Fax: (403) 291-9469 www.bvlabs.com

<b>INVOICE TO:</b> #254 GOLDER ASSOCIATES LTD. ACCOUNTS PAYABLE 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 (905) 567-6100 Ext: 1167 Email: canadaaaccounts@payableinvoic@golder.com	<b>REPORT TO:</b> #6340 GOLDER ASSOCIATES LTD. Aurelie Belavance 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 (403) 299-5600 Email: abelavance@golder.com	<b>PROJECT INFORMATION:</b> Quotation # C00480 P.O. # 20368099-7000-1001 Project # 20368099-6000-1001 Project Name: Site #: Sampled By:	<b>Laboratory Use Only:</b> Bottle Order #: 644511 Project Manager: Carmen McKay CMC #: CMC644511-33-01
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Regulatory Criteria:		Special Instructions		ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										Turnaround Time (TAT) Required			
<input type="checkbox"/> ATI	<input type="checkbox"/> C/ME	<input checked="" type="checkbox"/> C/ME	<input type="checkbox"/> Other	Please provide advance notice for rush projects										<input checked="" type="checkbox"/>	<input type="checkbox"/>		
SAMPLING (MUST BE KEPT COOL < 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BVLABS				Matrix	Date Sampled		Time Sampled		Time		Date: (YY/MM/DD)		Time		Date: (YY/MM/DD)		
Sample Barcode Label	Sample Location/Identification	Sampled	Time Sampled	Matrix	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	Regulated Metals - Soils	
N/A	TP21-126-02	21/08/21	09:55	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	TP21-126-04		09:56		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	TP21-126-06		09:57		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	TP21-142-01		10:03		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	TP21-142-03		10:04		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	TP21-142-05		10:05		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	TP21-123-01		10:24		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	TP21-123-04		10:25		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	TP21-123-06		10:26		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	TP21-BH19-110-02		10:32		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
RECEIVED BY: (Signature/Print)				Date: (YY/MM/DD)		Time		Date: (YY/MM/DD)		Time		Date: (YY/MM/DD)		Time		Date: (YY/MM/DD)	
PETER TAN				21/08/21		18:00		NATAHA MUKUHA		20/08/25		16:20					

LABS OTHERWISE AGREED TO IN WRITING. WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BVLABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

ALL SAMPLES ARE HELD FOR 90 DAYS AFTER SAMPLE RECEIPT. FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER.

White: BY Labs      Yellow: Client

Bureau Veritas Canada (2019) Inc.



CHAIN OF CUSTODY RECORD

Bureau Veritas Laboratories  
4000 198th N.E. Calgary, Alberta Canada T2E 6P8 Tel: (403) 291-3077 Toll-free 800-563-6266 Fax: (403) 391-9468 www.bvlabs.com

<b>INVOICE TO:</b> #254 GOLDER ASSOCIATES LTD. ACCOUNTS PAYABLE 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606 Email: canadaaccounts@payableinvoices@golder.com		<b>REPORT TO:</b> #6340 GOLDER ASSOCIATES LTD. Aurelie Belavance 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 Tel: (403) 299-5600 Fax: Email: abelavance@golder.com	
<b>PROJECT INFORMATION:</b> Quotation #: C00480 P.O #: 20368099-7000-1001 Project: 20368099-6000-1001 Project Name: Site #: Sampled By:		<b>Laboratory Use Only:</b> BV Labs Job #: C162768 Bottle Order #: 644511 Project Manager: Carmen McKay COC #: CPE44511-34-01	

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)						Time Sensitive	Laboratory Use Only			
					Metals Field Filtered? (Y/N)	Regulated Metals - Soils	Regulated Metals (F2/F2+F3B) in Soil	Regulated Metals (CME/AT1)	PAH in Water by GC/MS	Limited Sample		Temperature (°C) on Receipt	Custody Seal Intact on Cooler?		
N/A	TP21-BH19-110-04	21/08/21	1033	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	TP21-BH19-110-05		1041		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	DUP 0		1041		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	TP21-124-02		1057		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	TP21-124-04		1058		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	TP21-124-06		1059		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	TP21-125-02		1115		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	TP21-125-04		1116		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	DUP P		1116		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	TP21-125-05		1117		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

RECEIVED BY: (Signature/Print) **MUKUCHHA** Date: YY/MM/DD **20/08/25** Time: **15:20**  
 RELINQUISHED BY: (Signature/Print) **PETER TAN** Date: YY/MM/DD **21/08/21** Time: **18:00**  
 RECEIVED BY: (Signature/Print) **MUKUCHHA** Date: YY/MM/DD **20/08/25** Time: **15:20**  
 RELINQUISHED BY: (Signature/Print) **PETER TAN** Date: YY/MM/DD **21/08/21** Time: **18:00**

Turnaround Time (TAT) Required: \_\_\_\_\_  
 Please provide advance notice for rush projects  
**Regular (Standard) TAT:** (will be applied if Rush TAT is not specified):  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details  
**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_  
 # of Bottles: \_\_\_\_\_  
 Comments: **Received in Yellowknife**  
**By: J. MCCOY @ 09:45**  
**AUG 24 2021**  
**Src ACTR**  
**Temp: / /**

# Jars used and not submitted: \_\_\_\_\_  
 Temperature (°C) on Receipt: **ACTR**  
 Custody Seal Intact on Cooler?  Yes  No  
 White: BV Labs Yellow: Client  
**ice: yes**

CHAIN OF CUSTODY RECORD

Bureau Veritas Laboratories  
4000 1981 N.E. Calgary, Alberta Canada T2E 6P8 Tel: (403) 291-3077 Toll-free 800-563-6266 Fax: (403) 291-9468 www.bv-labs.com

<b>INVOICE TO:</b> #254 GOLDER ASSOCIATES LTD. ACCOUNTS PAYABLE 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606 Email: canadaaccounts@payableinvoices@golder.com		<b>REPORT TO:</b> #6340 GOLDER ASSOCIATES LTD. Aurelie Belavance 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 Tel: (403) 299-5600 Fax: abelavance@golder.com	
<b>PROJECT INFORMATION:</b> C00480 20368099-7000-1001 20368099-6000-1001 Project Name: Site #: Sampled By:		<b>Laboratory Use Only:</b> BV Labs Job #: Bottle Order #: COC #: Project Manager: Carmen McKay	

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)							Date: (YY/MM/DD)	Time	Temperature (°C) on Receipt	Custody Seal intact on Cooler?
					Metals Field Filtered? (Y/N)	Regulated Metals - Soils	BTEX and F1-F4 in Soil (Vals)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water				
N/A	TP21-125-08	21/08/21	14:02	SOIL	Y	Y	Y	Y	Y	Y	Y	2021/08/25	16:30	ACTR	Yes
	TP21-94-01		1415		Y	Y	Y	Y	Y	Y	Y				
	TP21-94-03		1416		Y	Y	Y	Y	Y	Y	Y				
	TP21-94-05		1417		Y	Y	Y	Y	Y	Y	Y				
	TP21-95-01		1431		Y	Y	Y	Y	Y	Y	Y				
	TP21-95-03		1432		Y	Y	Y	Y	Y	Y	Y				
	TP21-95-06		1434		Y	Y	Y	Y	Y	Y	Y				
	TP21-95-08		1446		Y	Y	Y	Y	Y	Y	Y				
	DUP Q		1432		Y	Y	Y	Y	Y	Y	Y				
	TP21-96-01		15:10		Y	Y	Y	Y	Y	Y	Y				
RECEIVED BY: (Signature/Print) PETER TAN		Date: (YY/MM/DD) 21/08/21		RECEIVED BY: (Signature/Print) NATALIA HA		Date: (YY/MM/DD) 2021/08/25		Time 16:30		Temperature (°C) on Receipt ACTR		Custody Seal intact on Cooler? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			

REGULATORY CRITERIA:  
 ATI  
 CCME  
 Other

SPECIAL INSTRUCTIONS:

REGULAR (STANDARD) TAT: (Will be applied if Rush TAT is not specified):  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details

JOB SPECIFIC RUSH TAT (if applies to entire submission)  
 Date Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_  
 # of Bottles: \_\_\_\_\_  
 Comments: \_\_\_\_\_

Turnaround Time (TAT) Required: \_\_\_\_\_

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT [www.bvlabs.com/terms-and-conditions](http://www.bvlabs.com/terms-and-conditions).

IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

ALL SAMPLES ARE HELD FOR 90 DAYS AFTER SAMPLE RECEIPT. FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER.

White: BV Labs  
 Yellow: Client



CHAIN OF CUSTODY RECORD

Bureau Veritas Laboratories  
400 134th Ave. Calgary, Alberta Canada T2E 6P8 Tel: (403) 291-3077 Toll-free 800-563-6266 Fax: (403) 291-9468 www.bvlabs.com

<b>INVOICE TO:</b> #254 GOLDER ASSOCIATES LTD. ACCOUNTS PAYABLE 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606 canadaaccounts@payableinvoic@golder.com		<b>REPORT TO:</b> #6340 GOLDER ASSOCIATES LTD. Aurelie Belavance 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 Tel: (403) 299-5600 Fax: abelavance@golder.com		<b>PROJECT INFORMATION:</b> Quotation # C00480 P.O. # 20368099-7000-1001 Project: 20368099-6000-1001 Project Name: Site #: Sampled By:		<b>Laboratory Use Only:</b> BV Labs Job #: C162768 COC #: Project Manager: Carmen McKay	
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Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered? (Y/N)		Regulated Metals - Soils		Regulated Metals - F1-F4 in Soil		Regulated Metals - F2/F3+F3B in soil		Regulated Metals (CME/AT1)		PAH in Water by GC/MS		Limited Sample	
					ATI	CCME	Other	ATI	Regulated Metals - Soils	ATI	Regulated Metals - F1-F4 in Soil	ATI	Regulated Metals - F2/F3+F3B in soil	ATI	Regulated Metals (CME/AT1)	ATI	PAH in Water by GC/MS	ATI
TP21-96-03	21/08/21	1513	1513	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TP21-96-05	21/08/21	1515	1515	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TP21-91-02	21/08/21	1525	1525	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TP21-91-04	21/08/21	1528	1528	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TP21-91-06	21/08/21	1530	1530	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TP21-92-02	21/08/21	1540	1540	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TP21-92-04	21/08/21	1545	1545	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TP21-92-06	21/08/21	1551	1551	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dup R	21/08/21	1554	1554	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
TP21-93-02	21/08/21	1654	1654	Soil	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Special Instructions: **REGULATED METALS MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS**

Regulatory Criteria:  ATI  CCME  Other

Turnaround Time (TAT) Required:  Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details.  Rush TAT (if applies to entire submission)

Date Required: \_\_\_\_\_ Rush Confirmation Number: \_\_\_\_\_

Job Specific Rush TAT (if applies to entire submission): \_\_\_\_\_

Comments: **Received in Yellowknife By: J. McKay AUG 24 2021**

Temp: \_\_\_\_\_

RECEIVED BY: (Signature/Print) **PETER TAN** Date: **21/08/21** Time: **18:00**

RECEIVED BY: (Signature/Print) **MUNICHIA NATALIA** Date: **20/08/2025** Time: **16:30**

Temperature (°C) on Receipt: **ACTR** Custody Seal Intact on Cooler?  Yes  No

While BV Labs Yellow Client **ice: yes**

\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT [www.bvlabs.com](#)

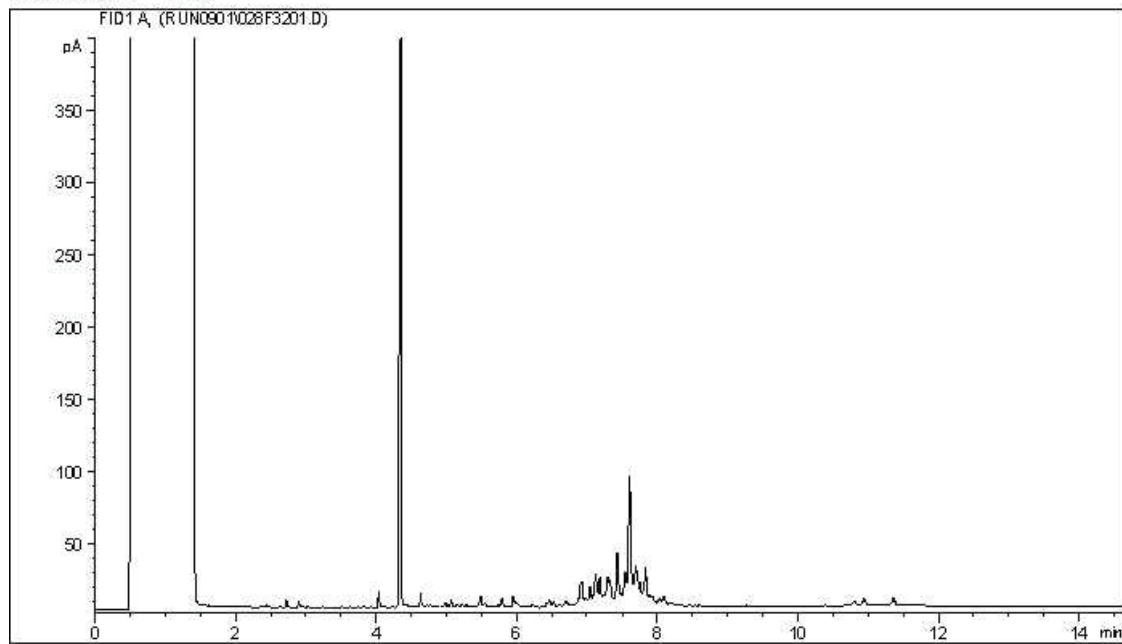
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\*\*\* ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT. FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER.

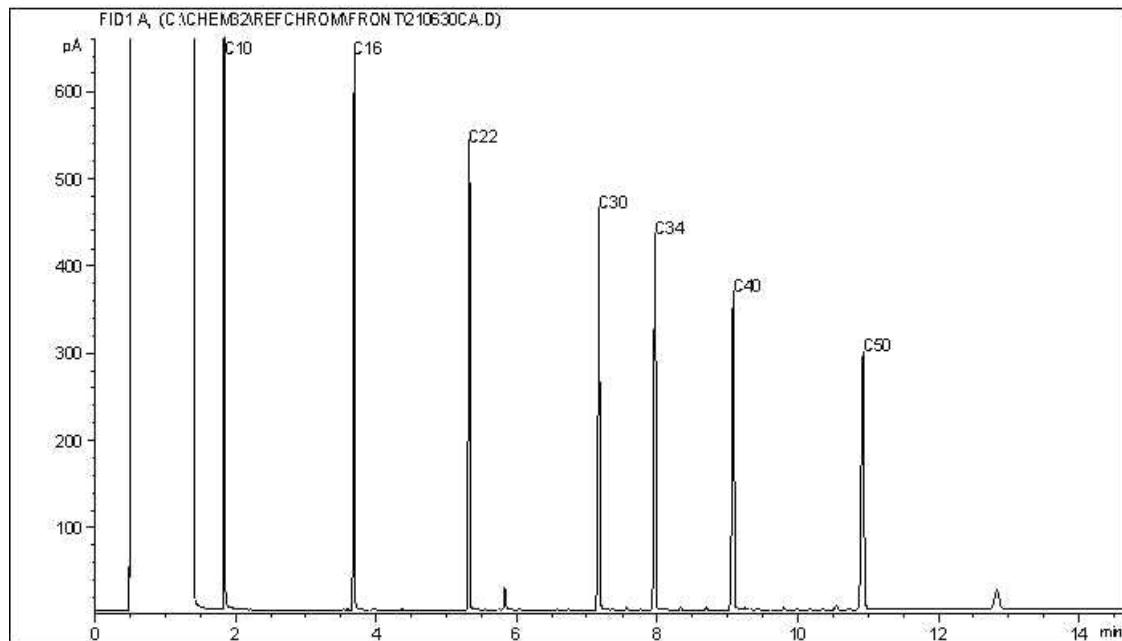


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



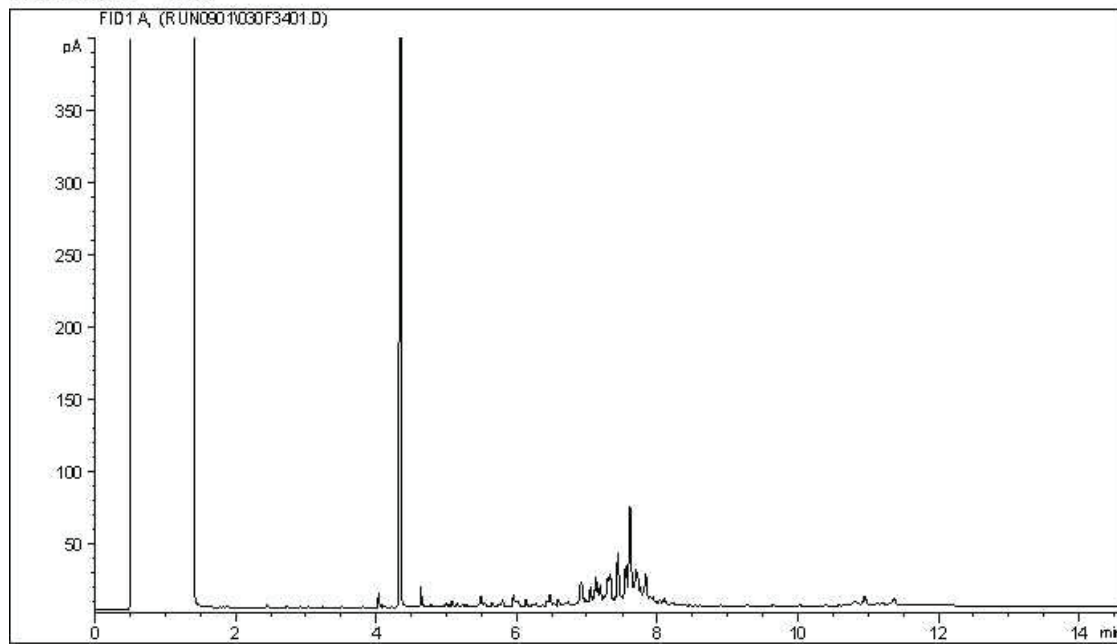
TYPICAL PRODUCT CARBON NUMBER RANGES

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

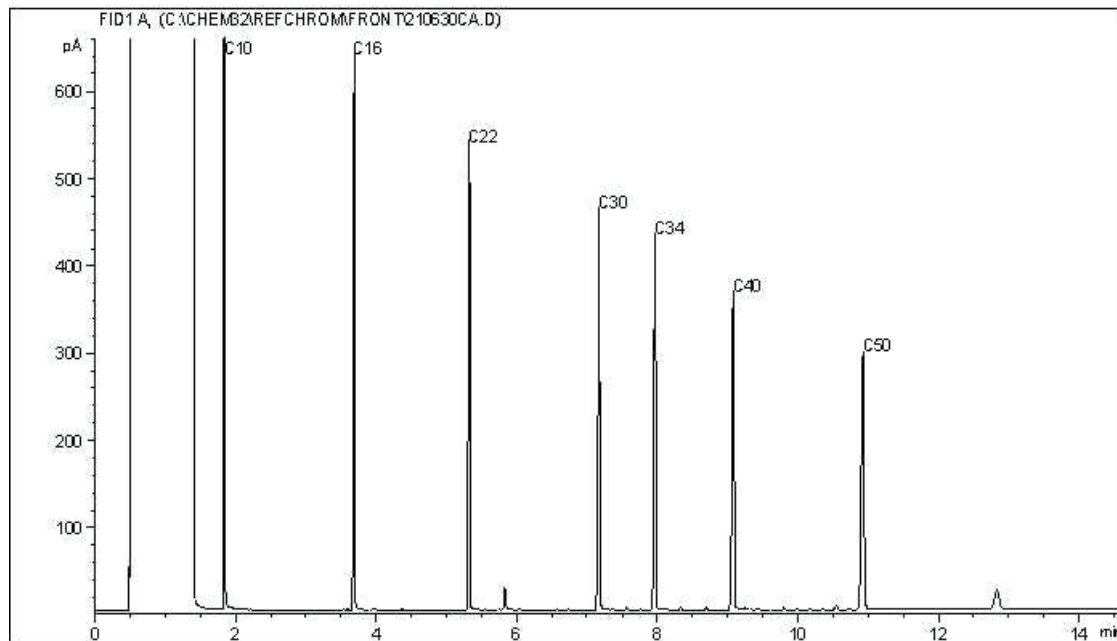
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

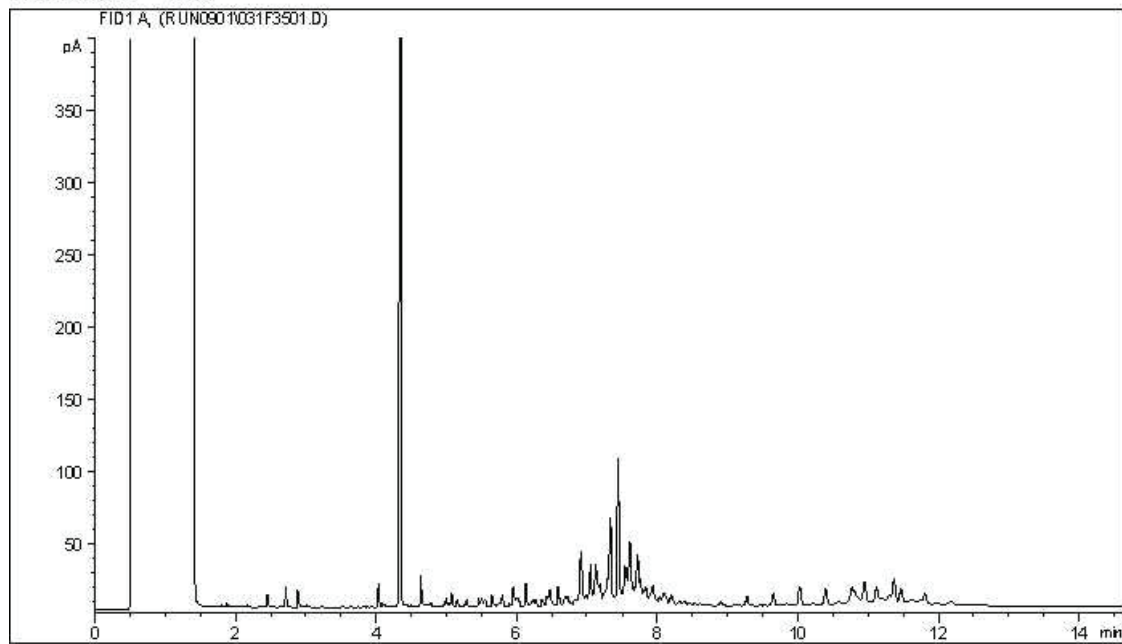
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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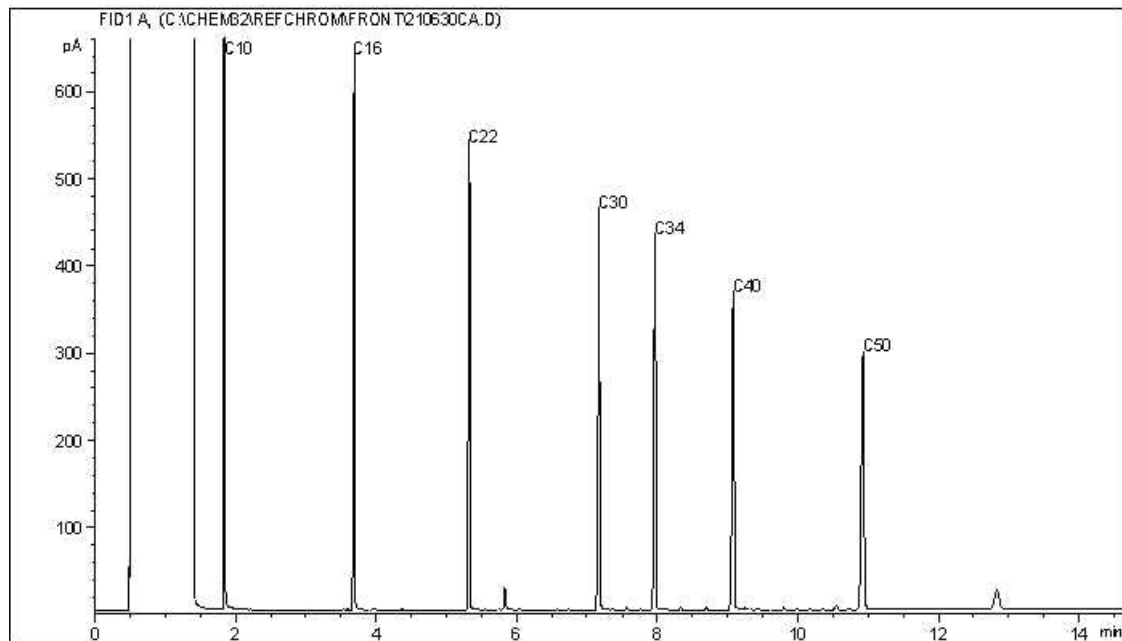


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



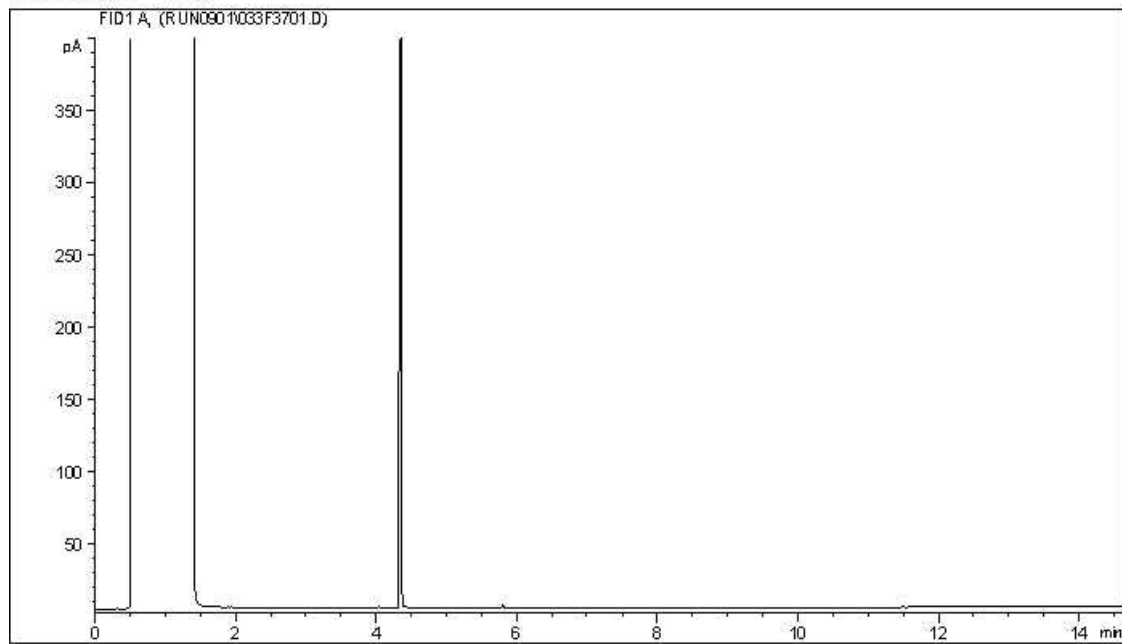
TYPICAL PRODUCT CARBON NUMBER RANGES

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

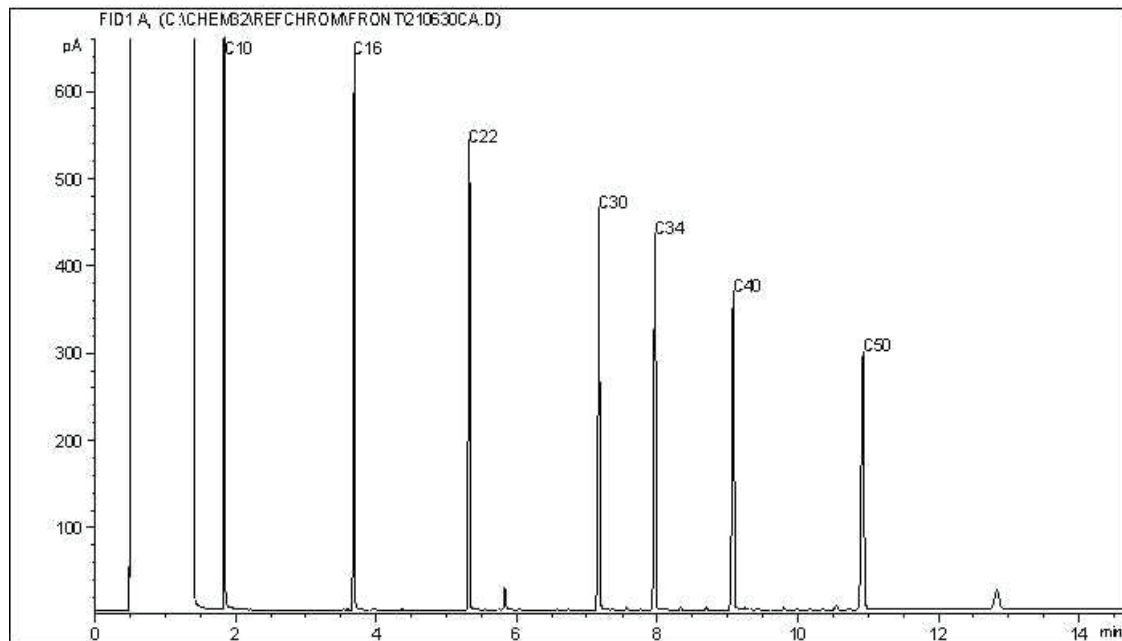
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

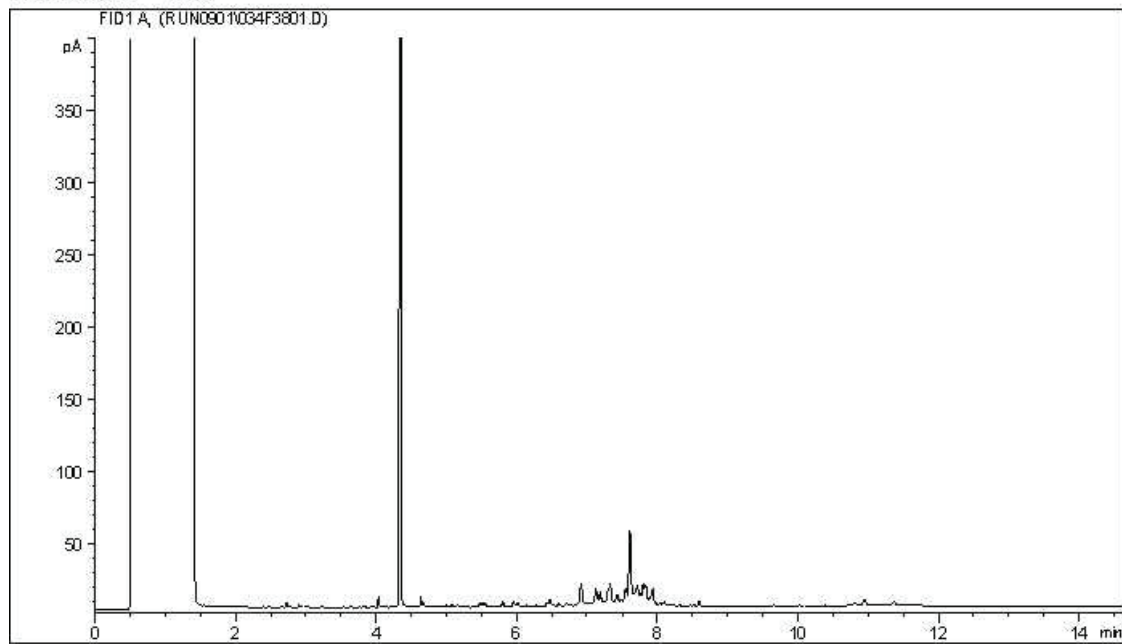
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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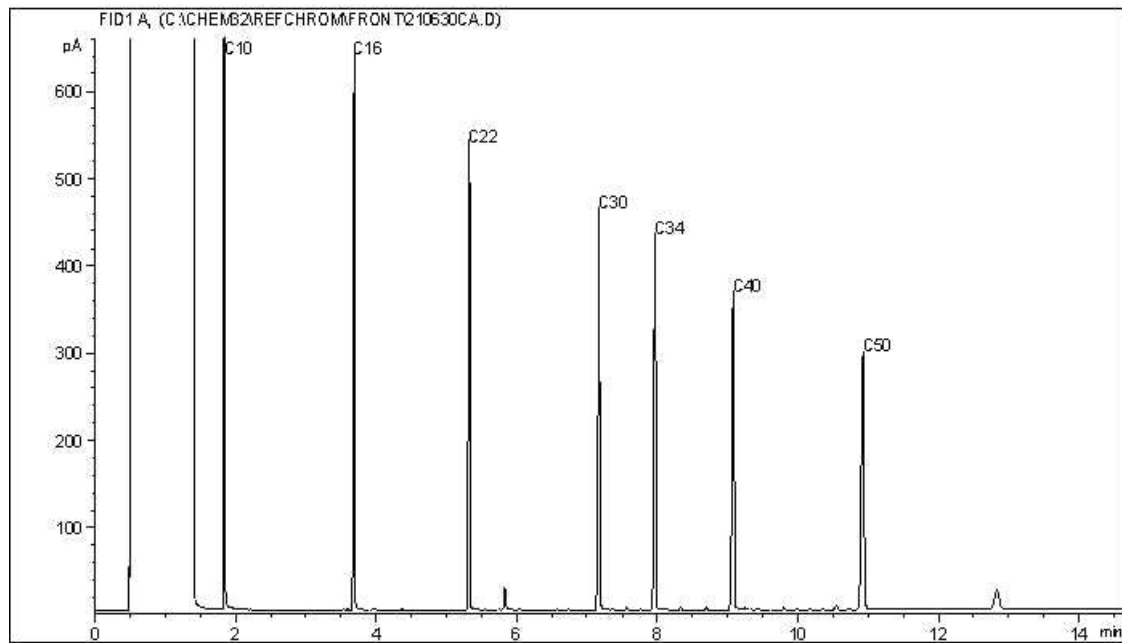


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



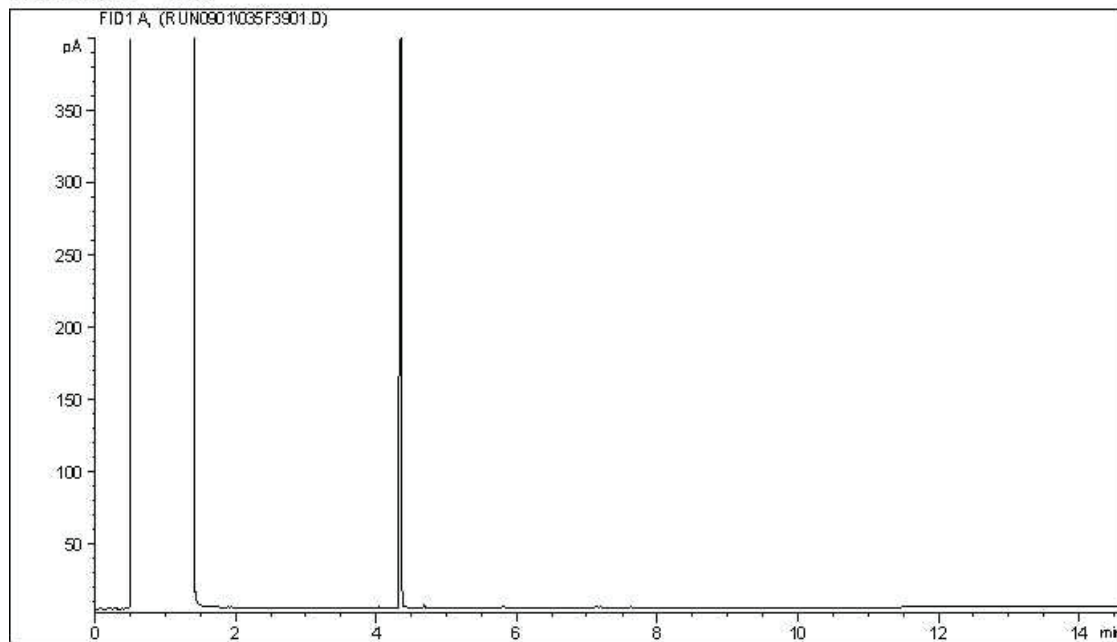
TYPICAL PRODUCT CARBON NUMBER RANGES

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

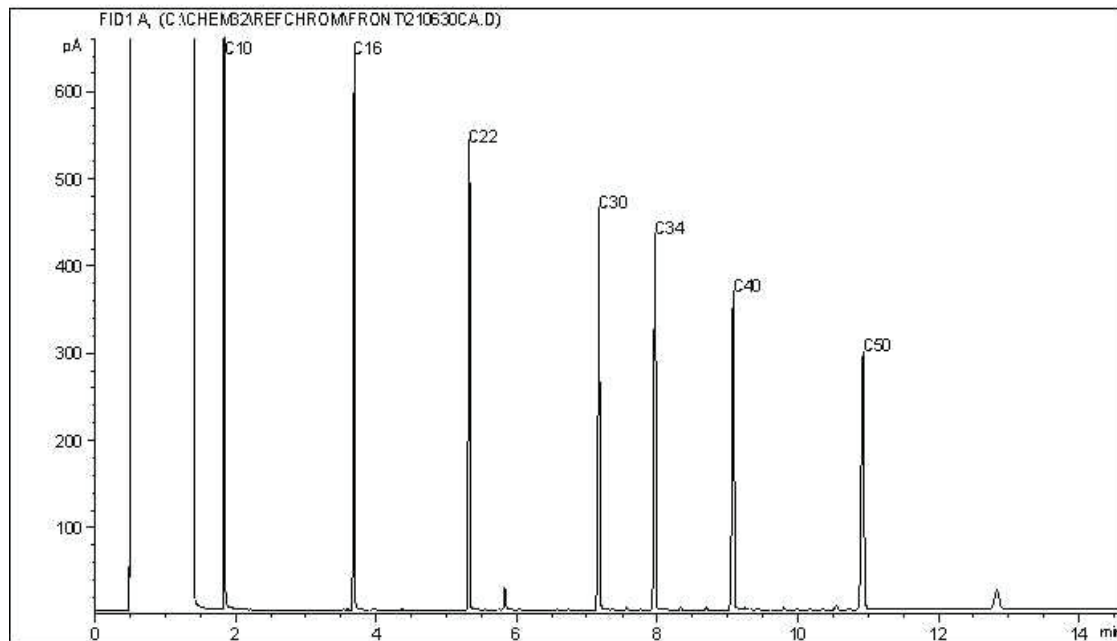
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



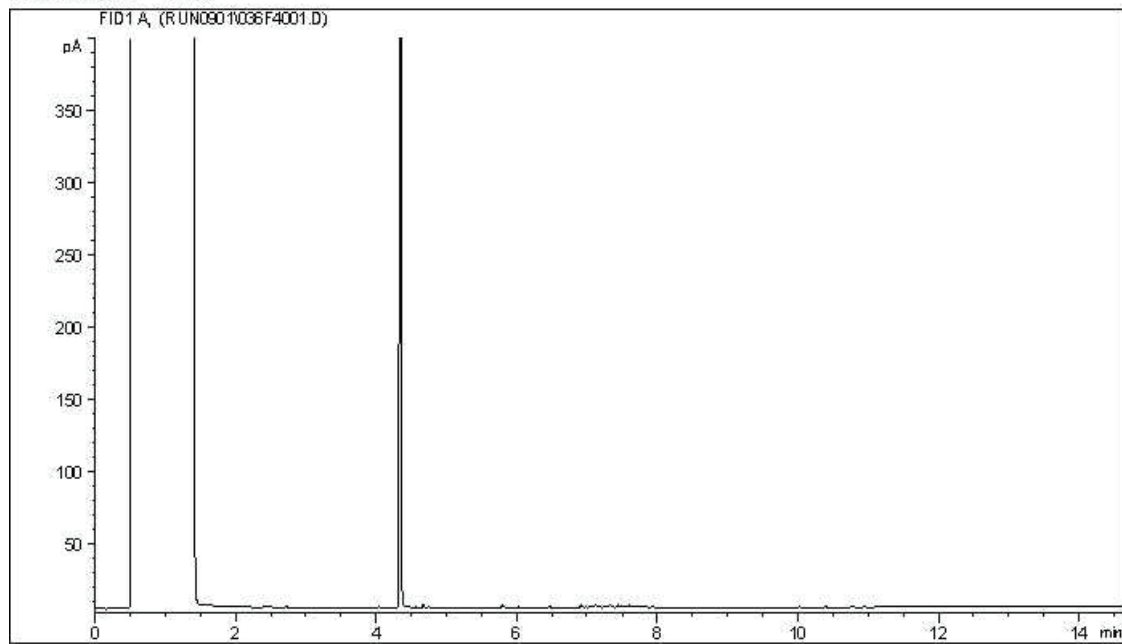
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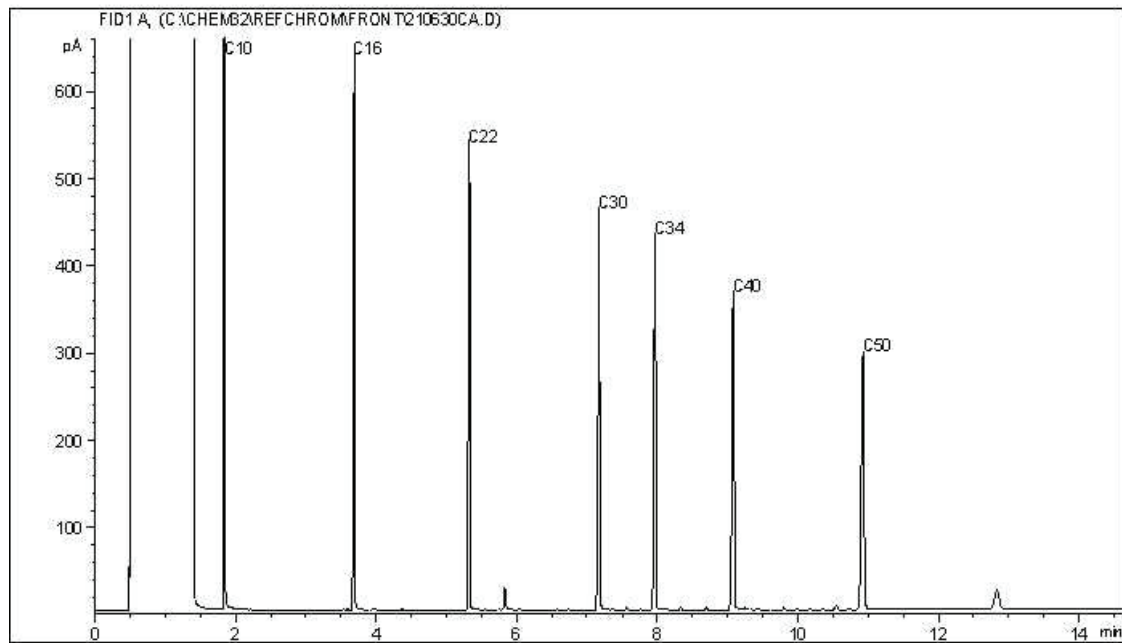
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



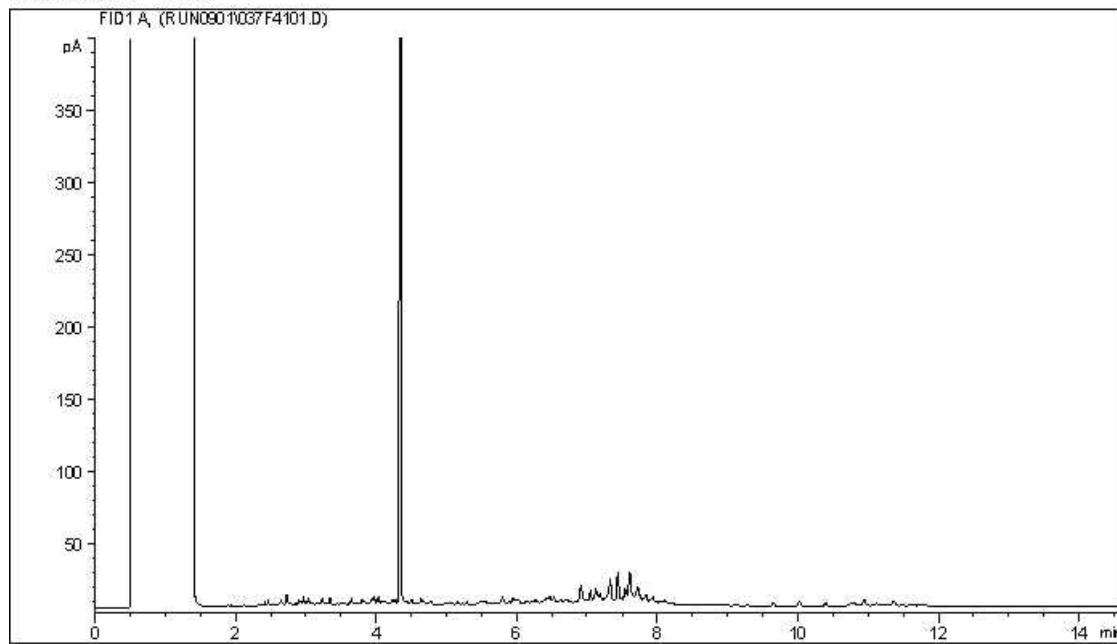
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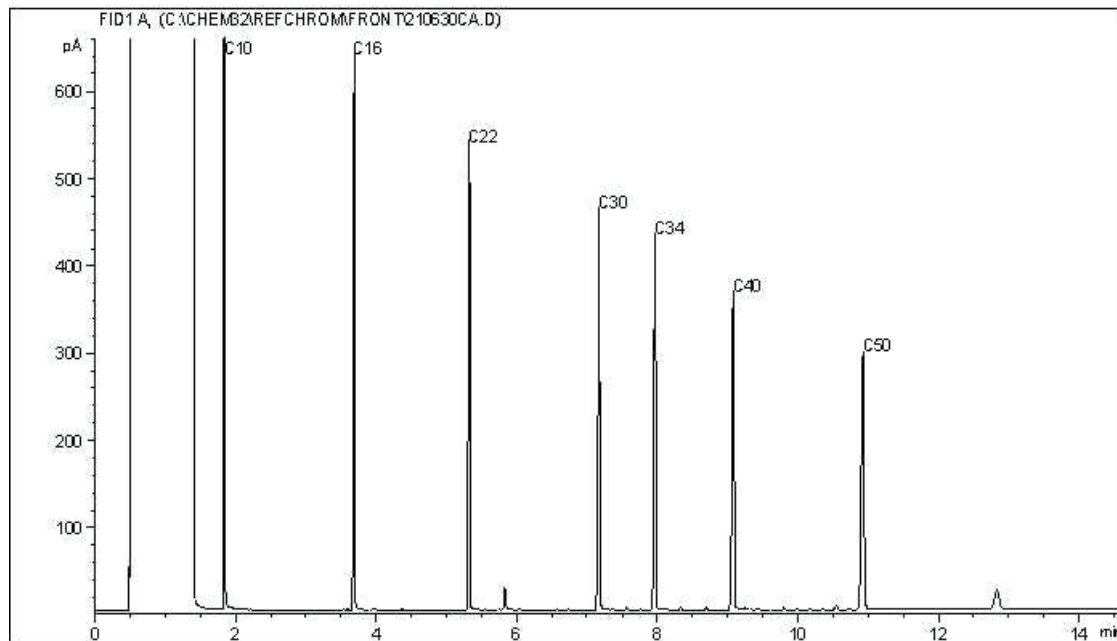
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



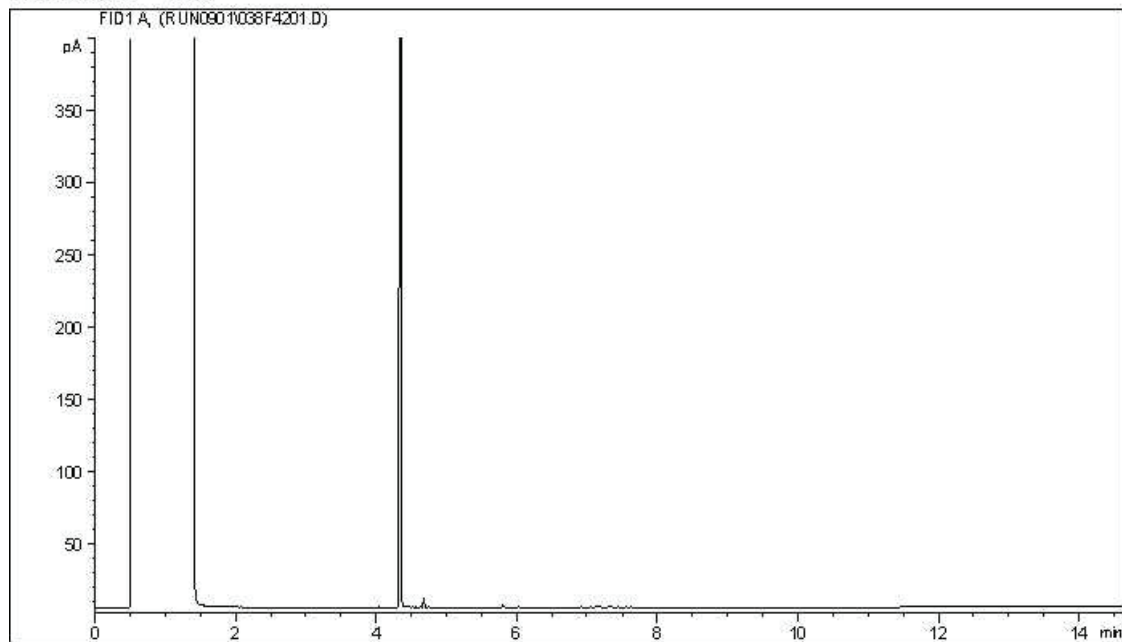
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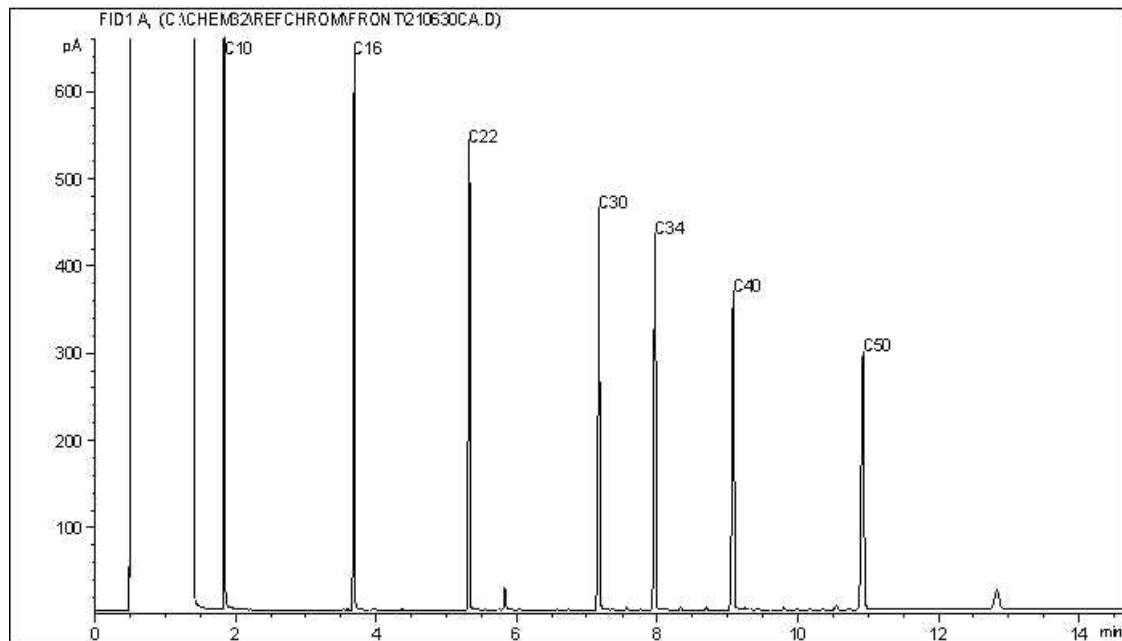
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



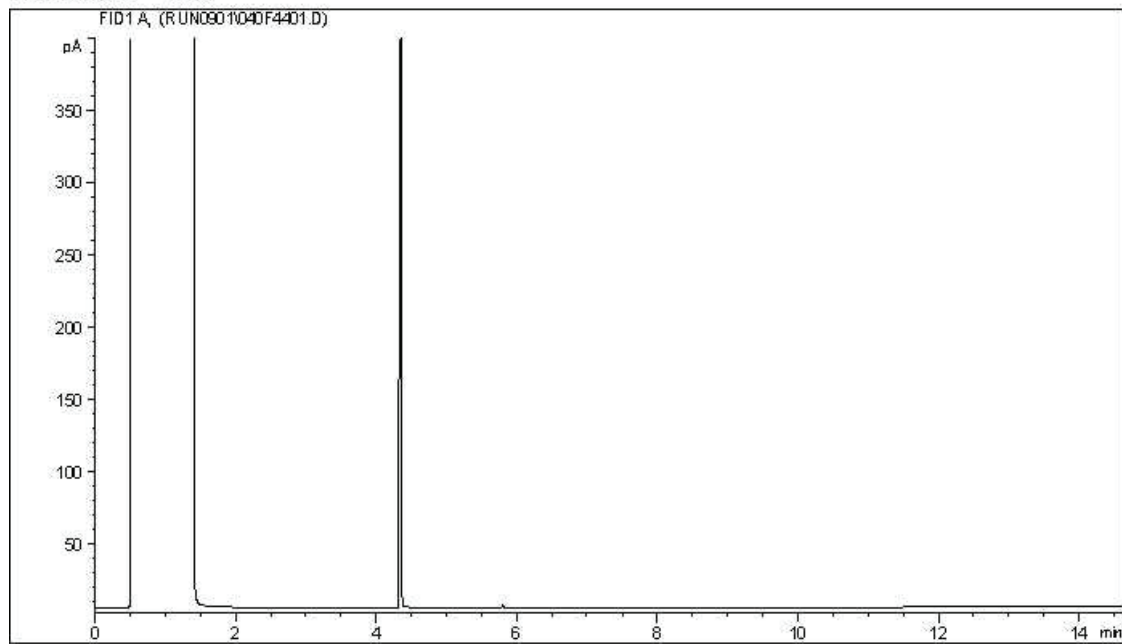
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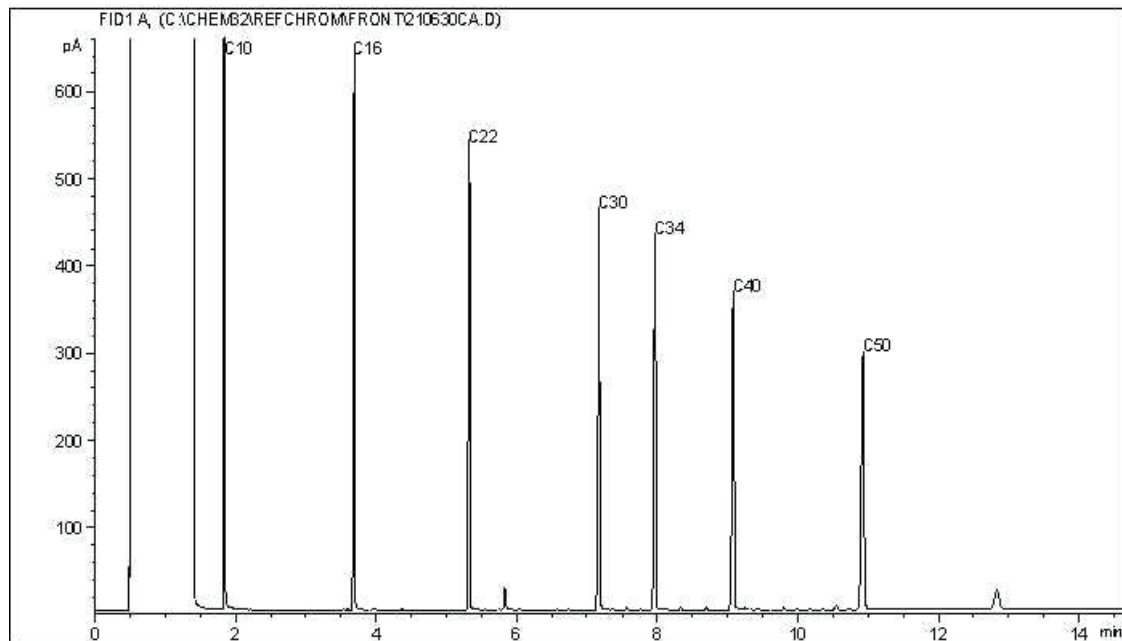
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



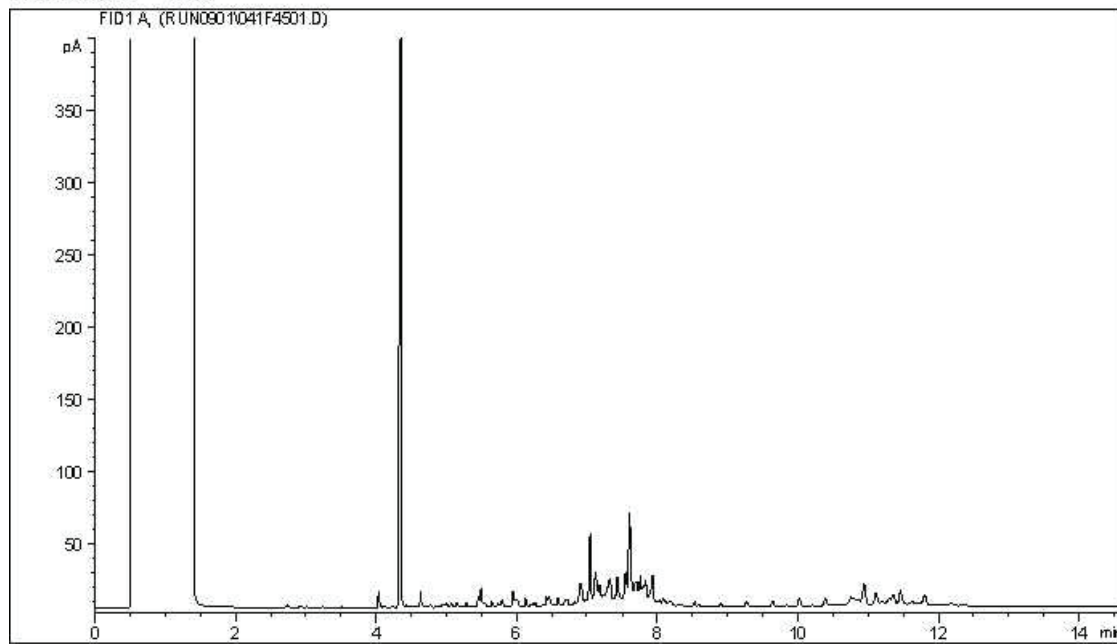
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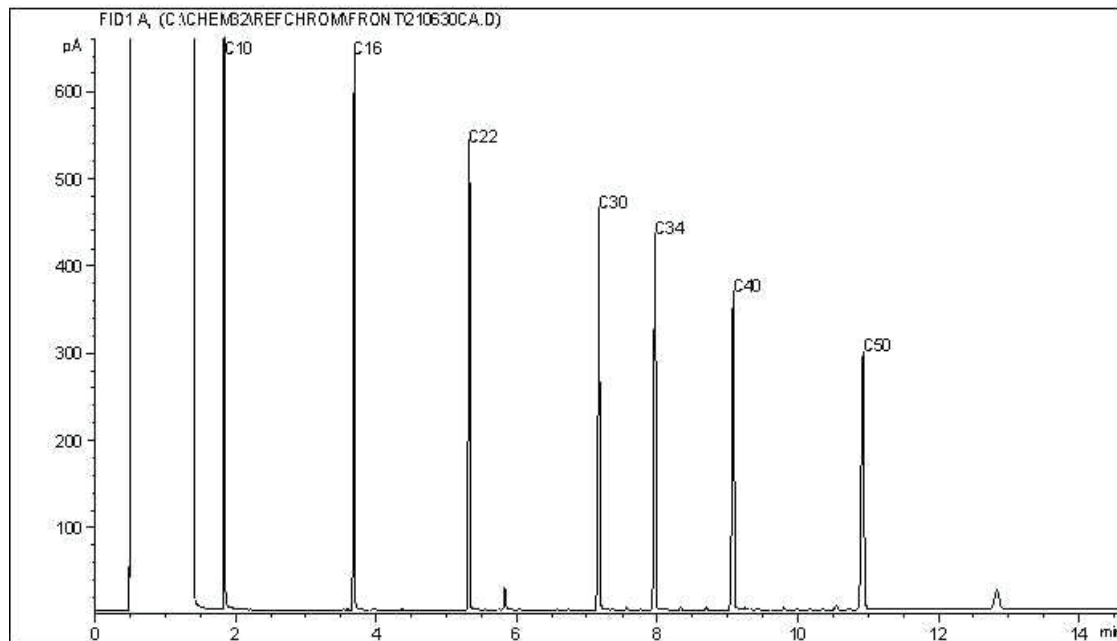
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



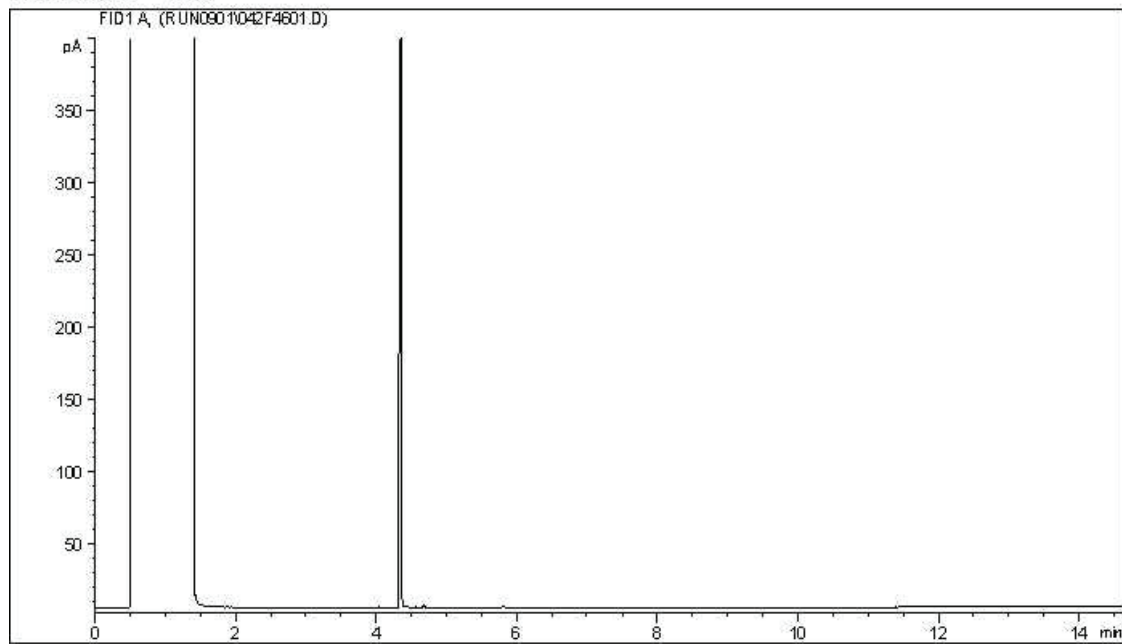
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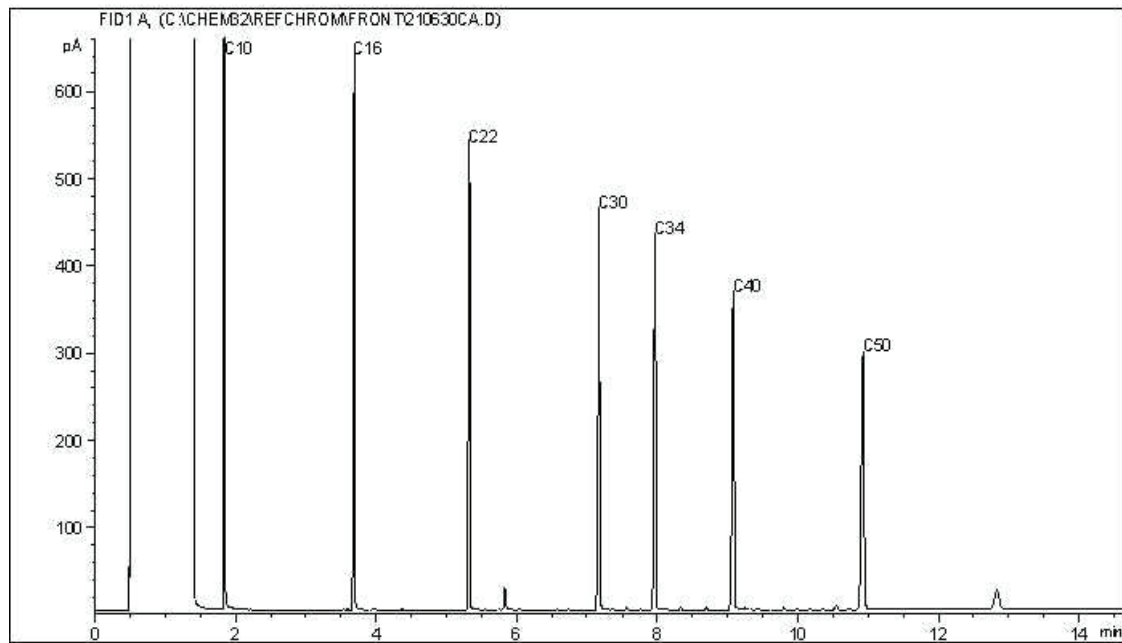
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

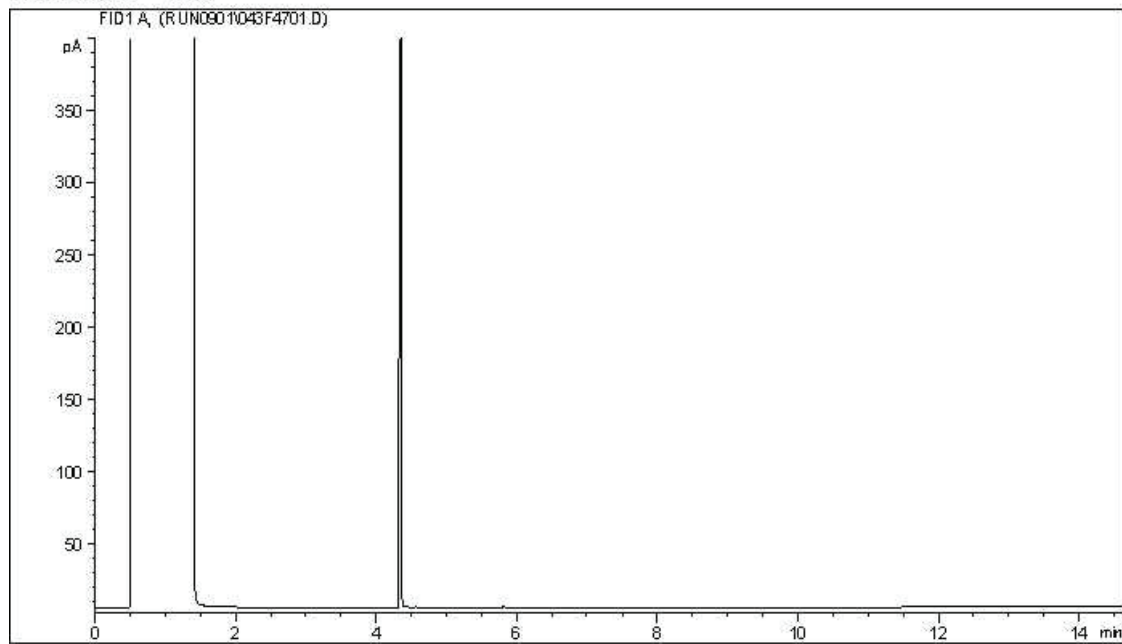
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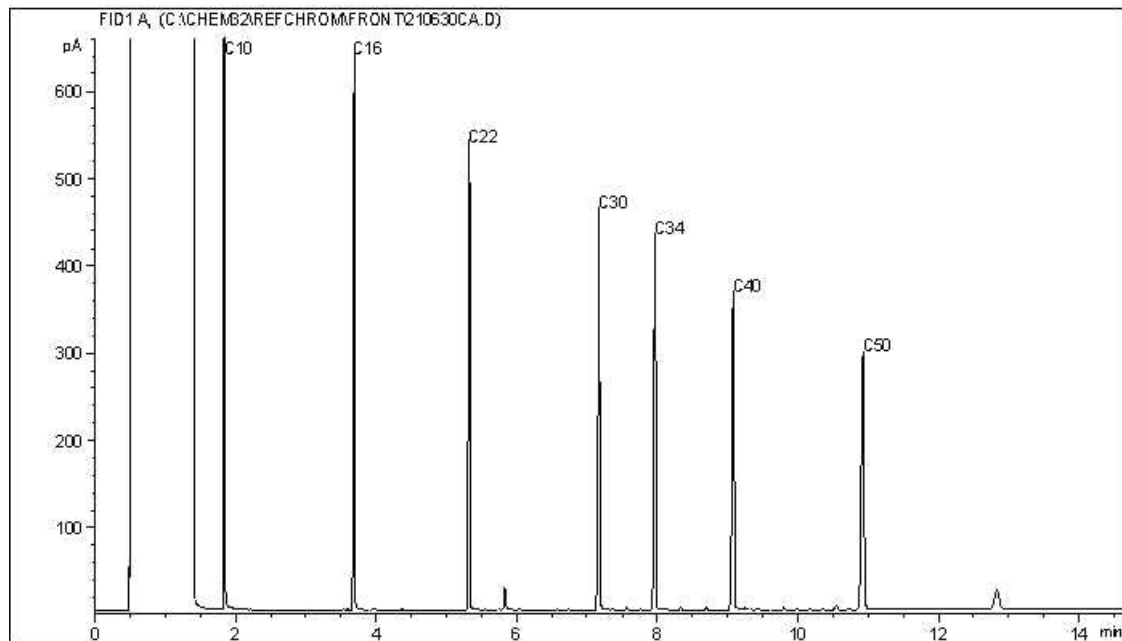


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



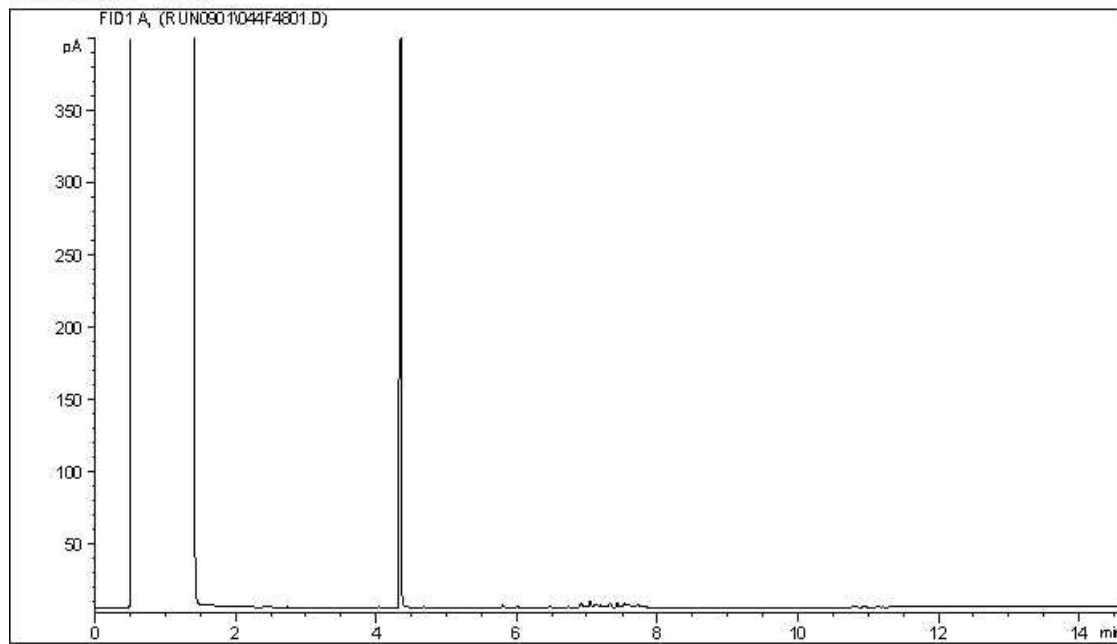
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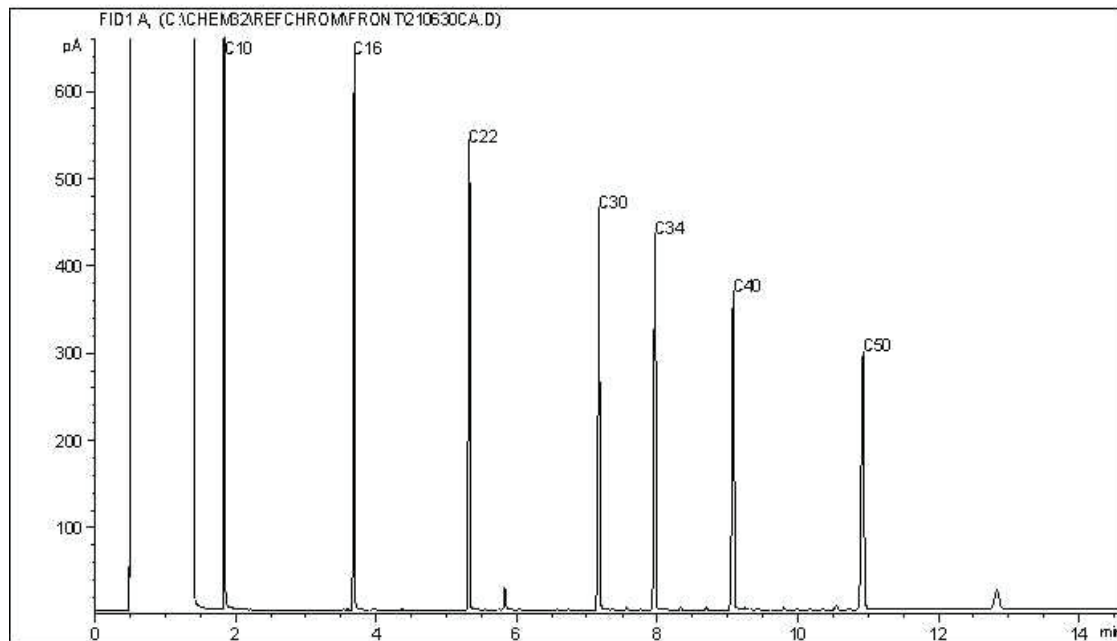
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



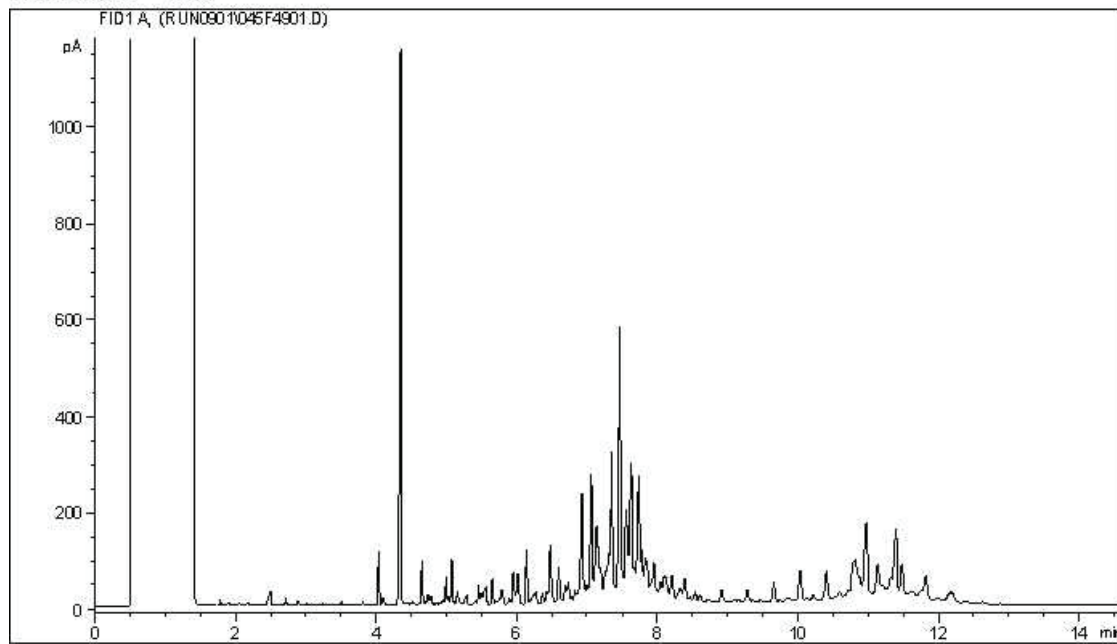
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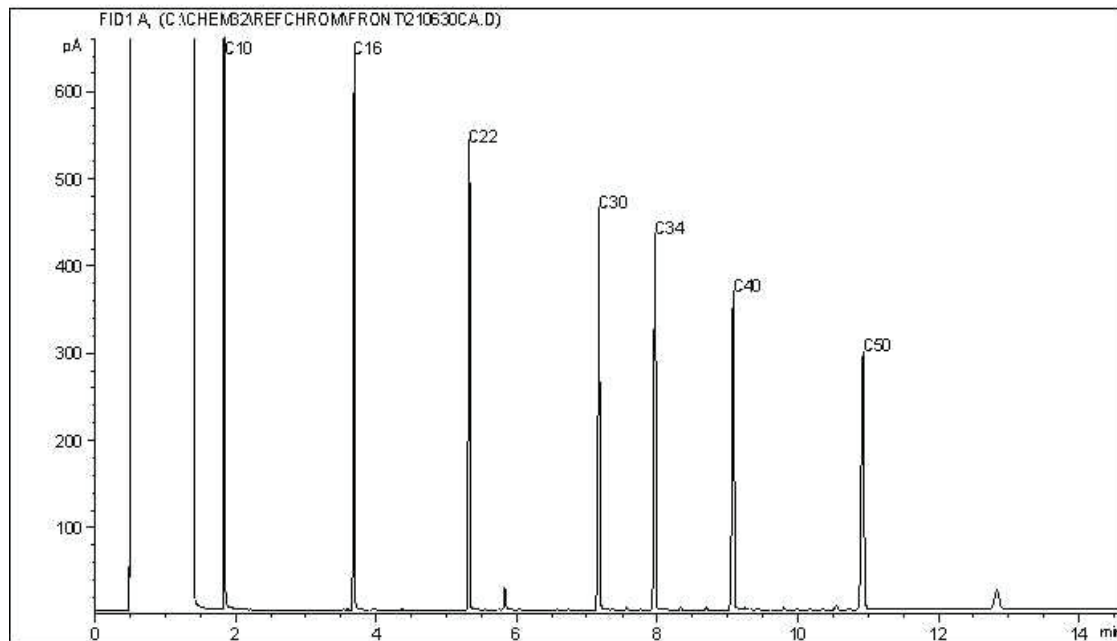
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



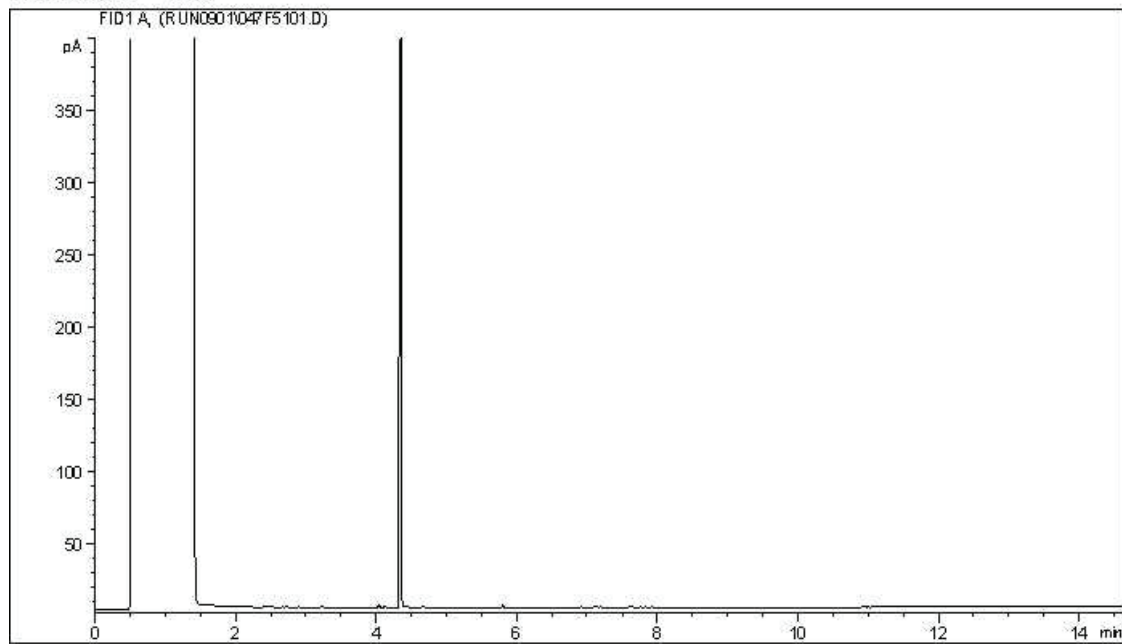
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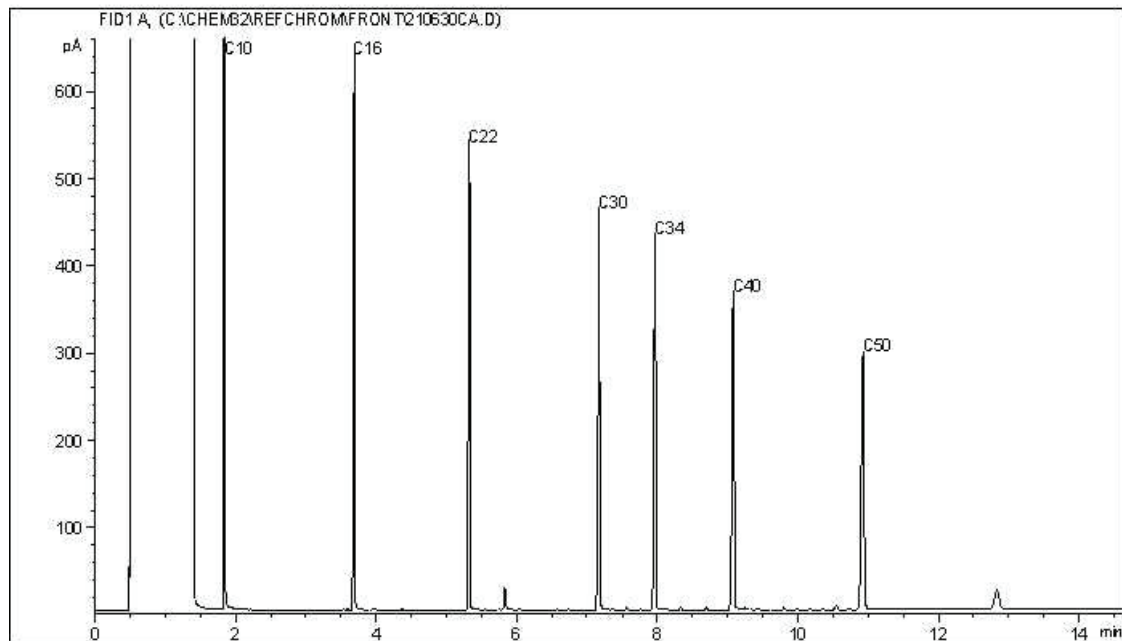
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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Carbon Range Distribution - Reference Chromatogram



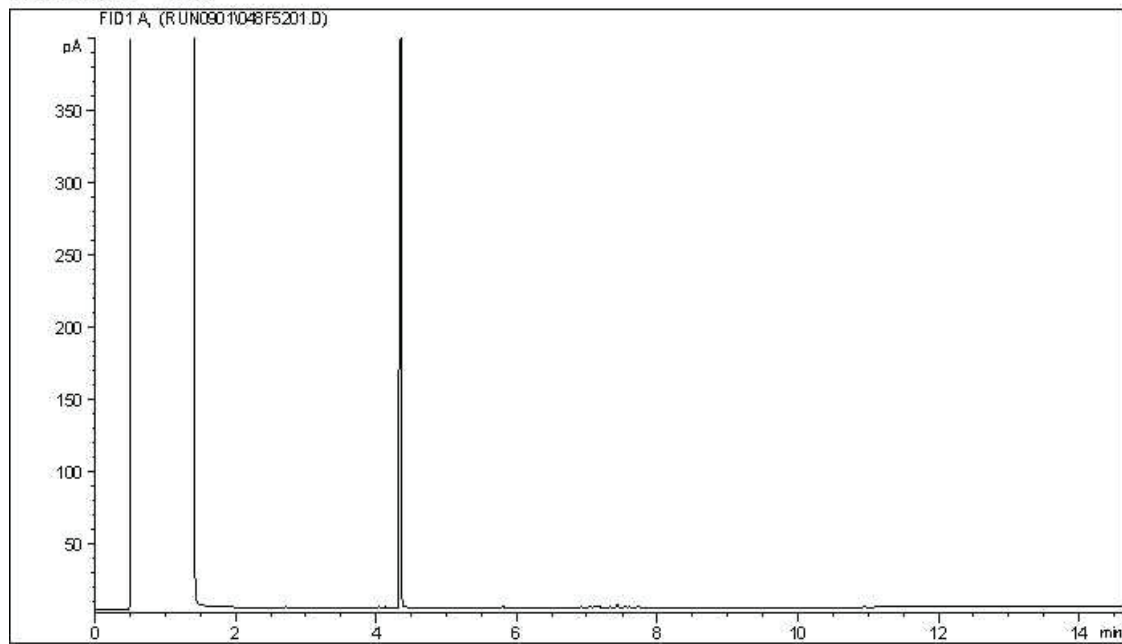
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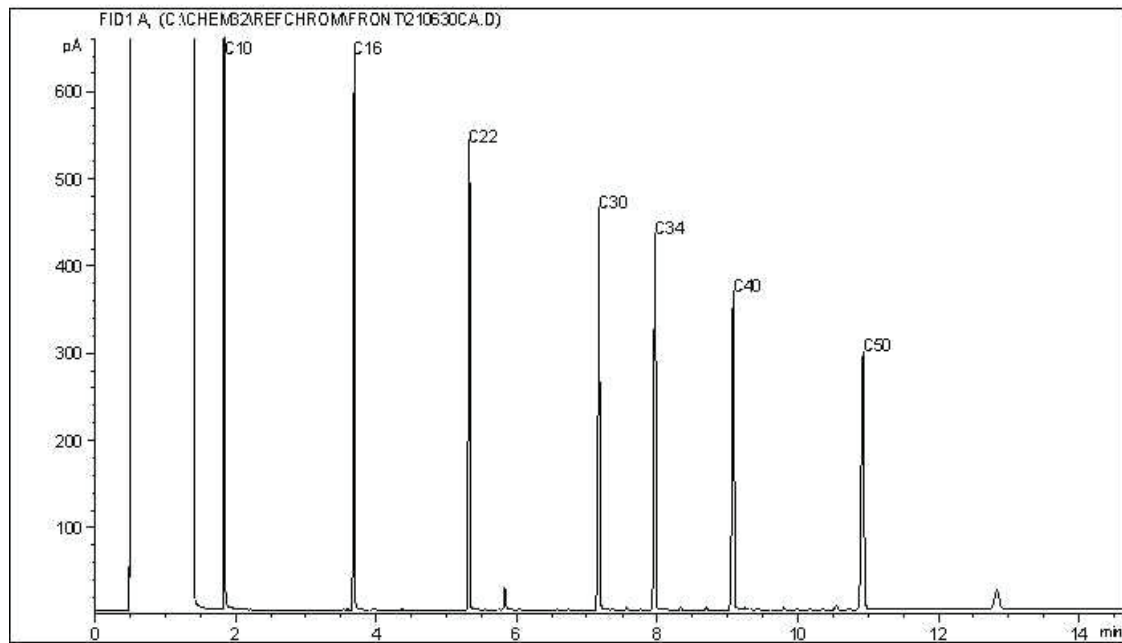
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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Carbon Range Distribution - Reference Chromatogram



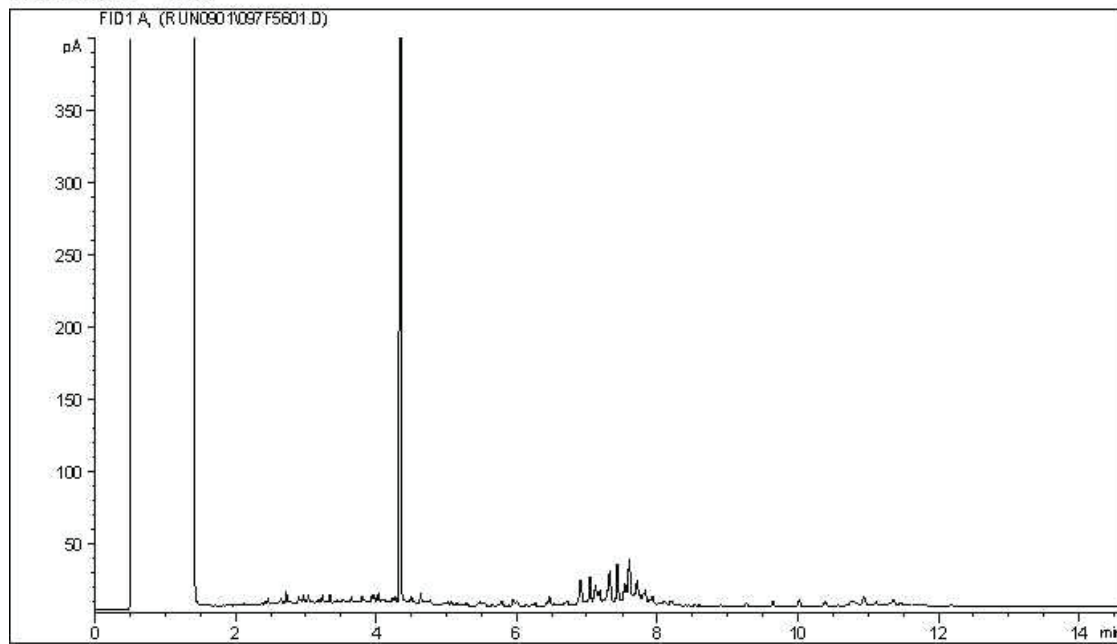
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

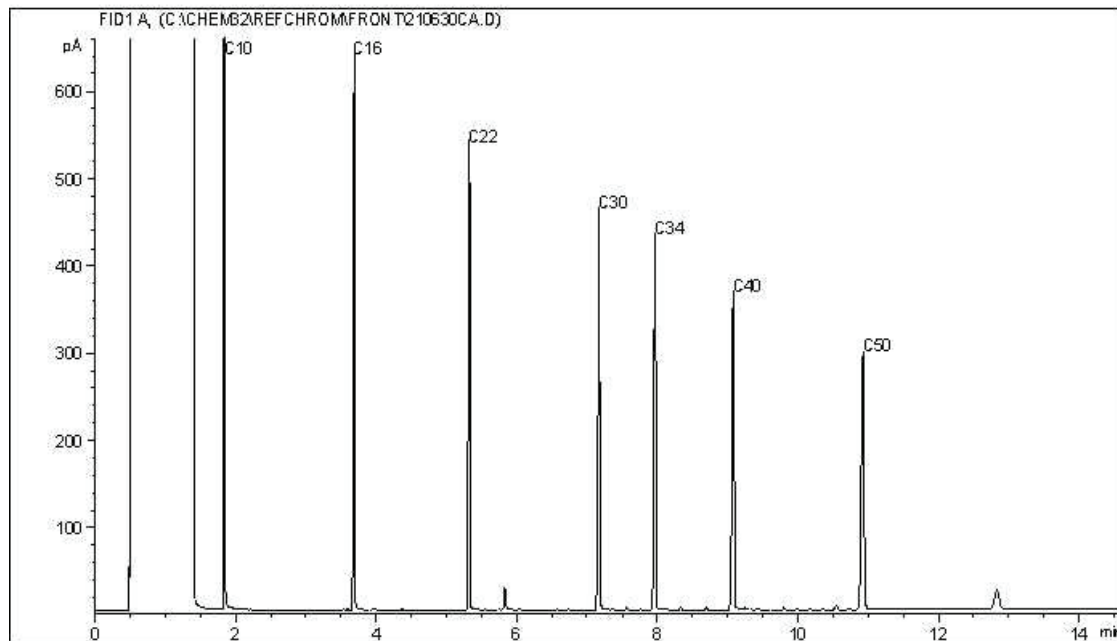
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



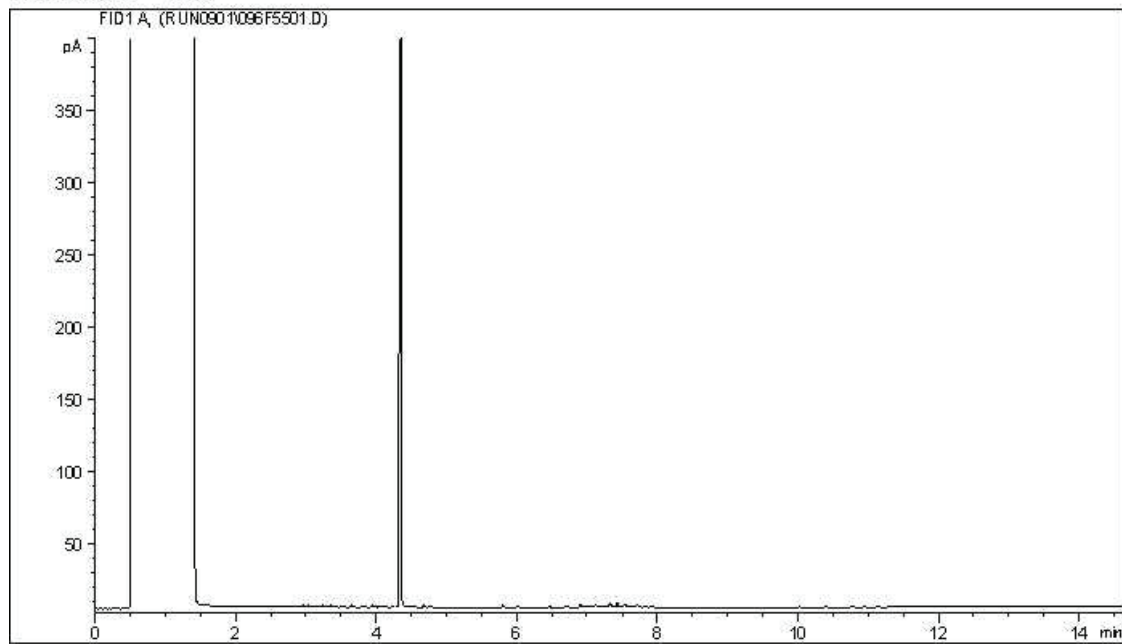
TYPICAL PRODUCT CARBON NUMBER RANGES

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

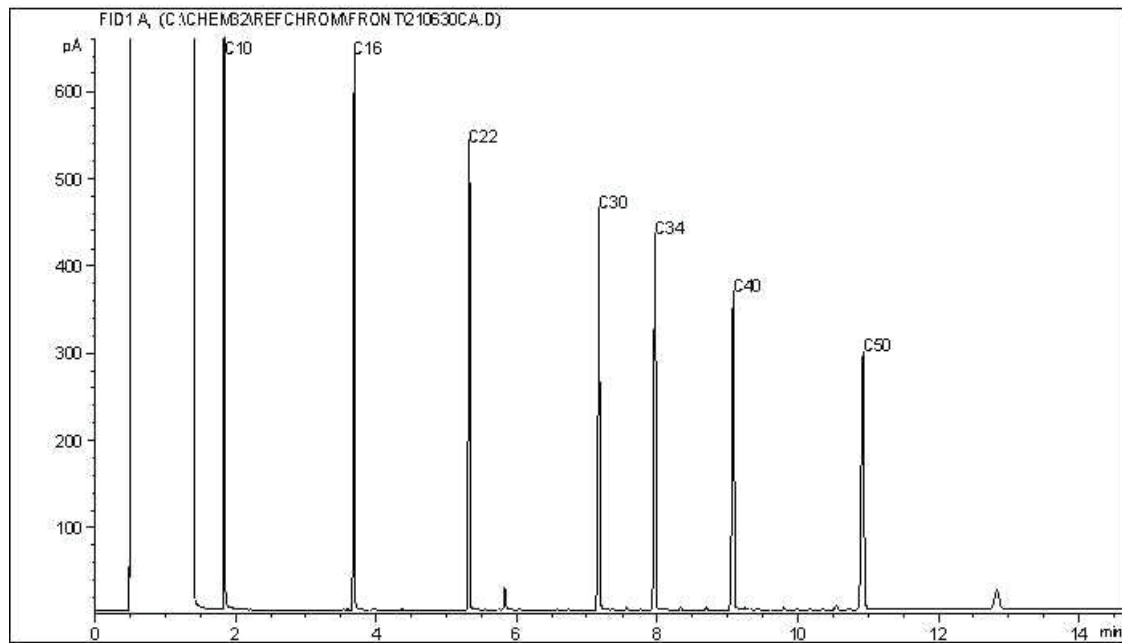
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



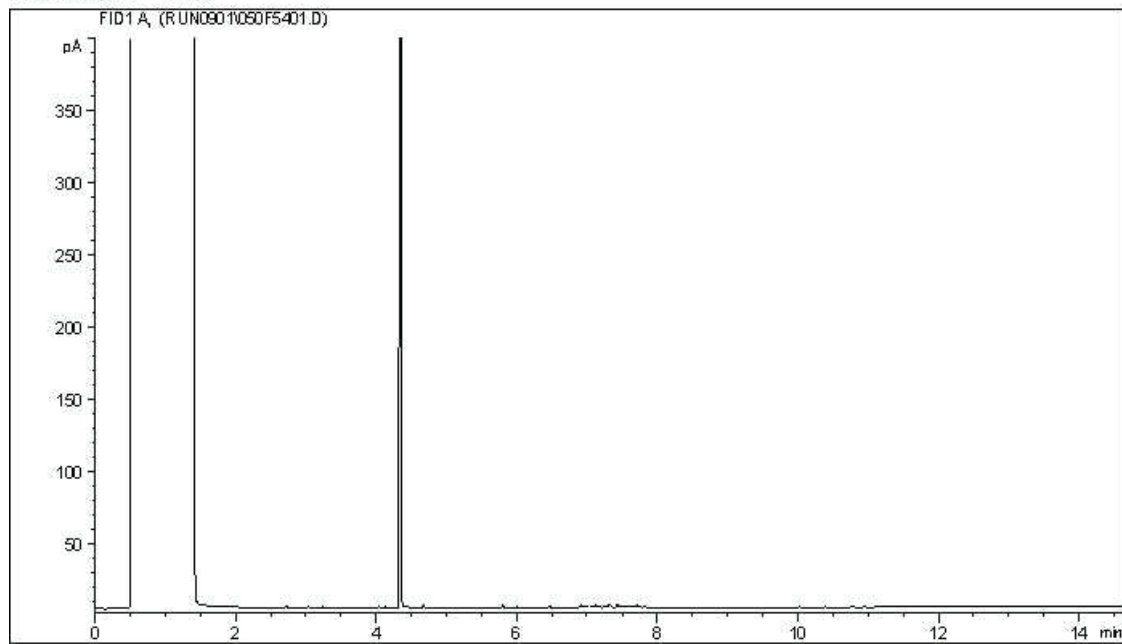
TYPICAL PRODUCT CARBON NUMBER RANGES

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

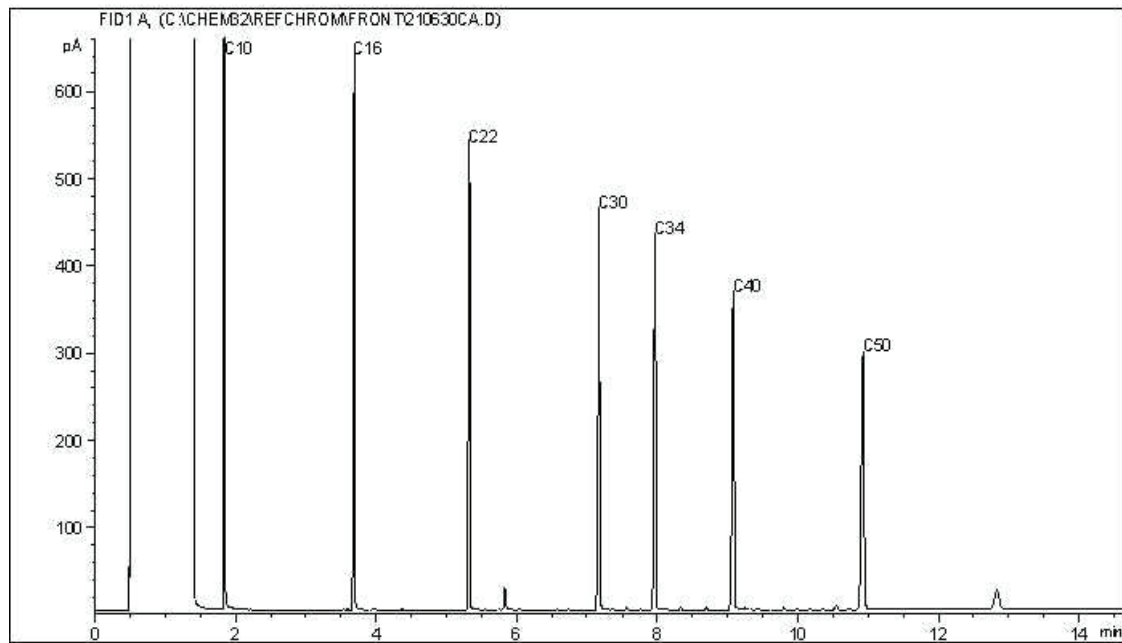
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

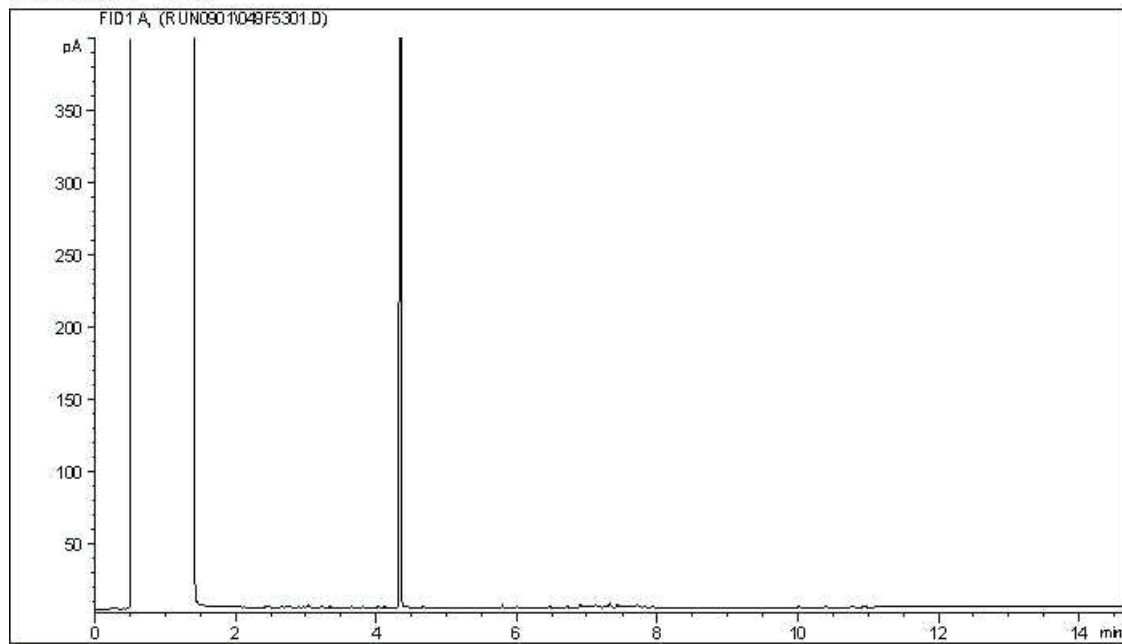
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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

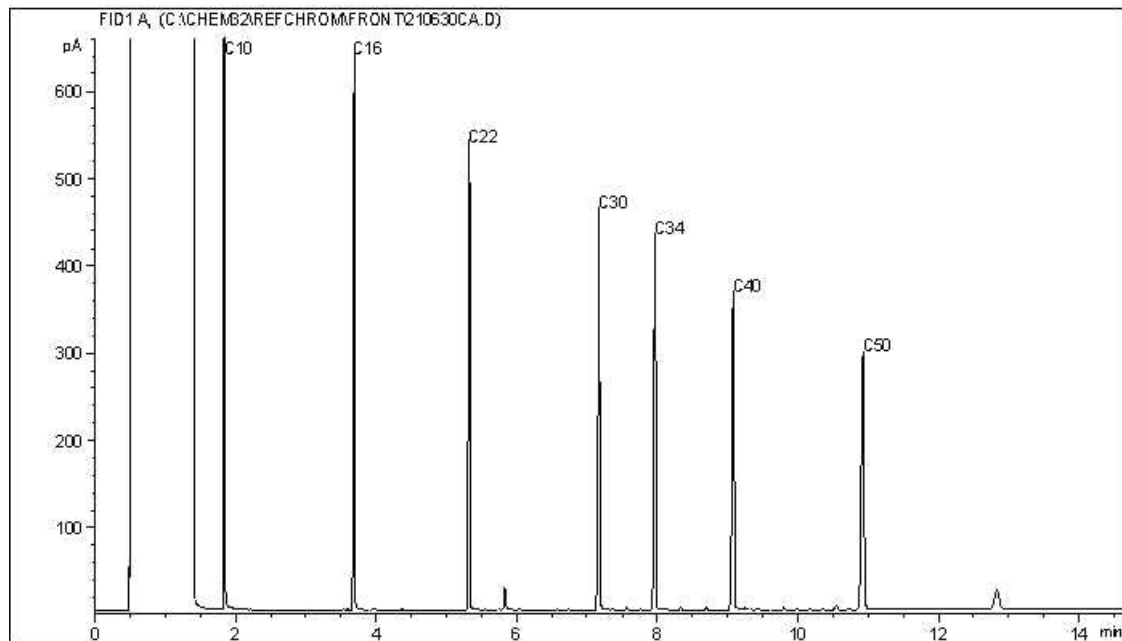


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



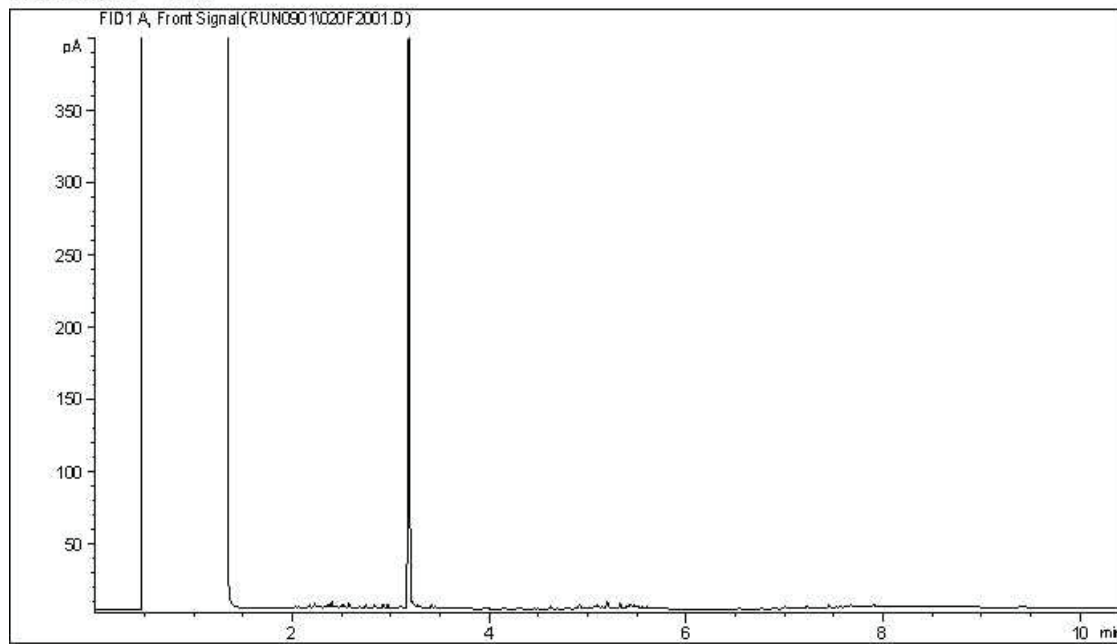
TYPICAL PRODUCT CARBON NUMBER RANGES

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

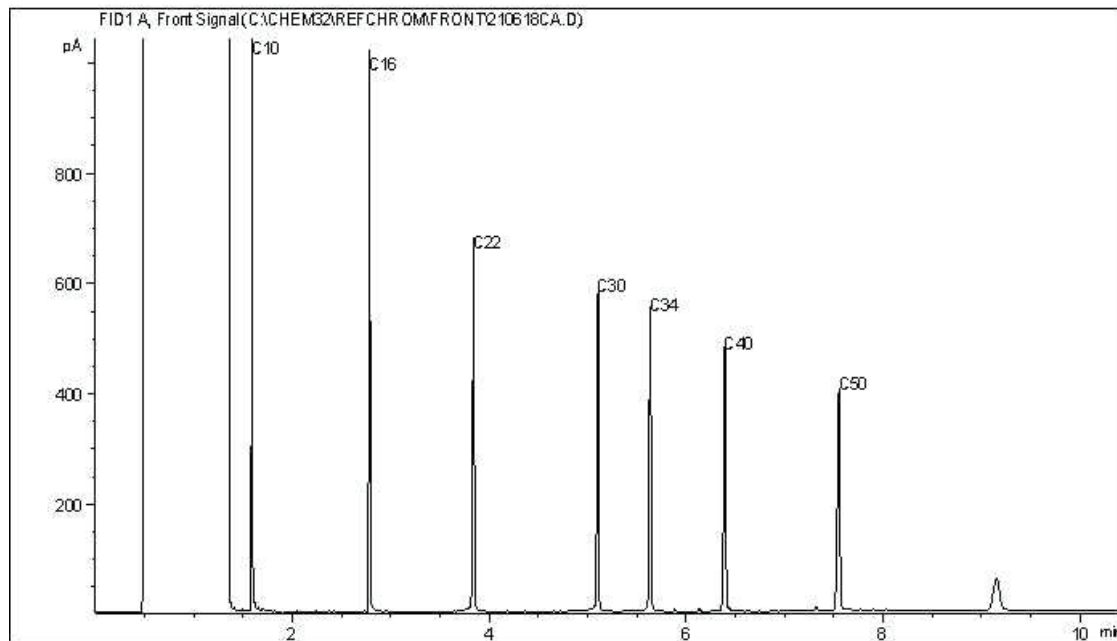
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



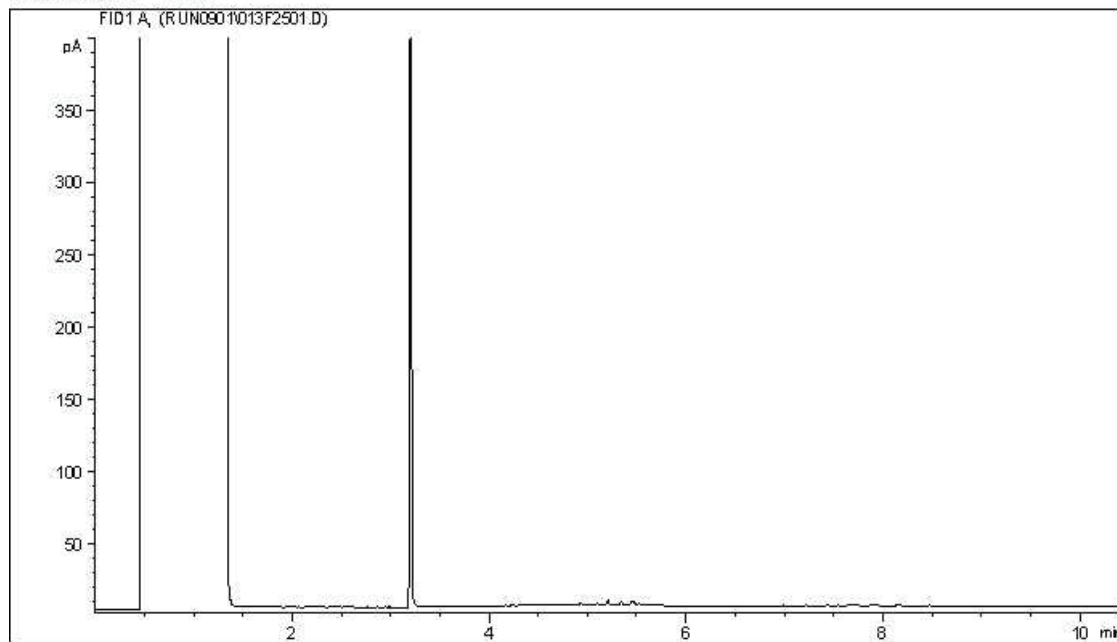
TYPICAL PRODUCT CARBON NUMBER RANGES

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

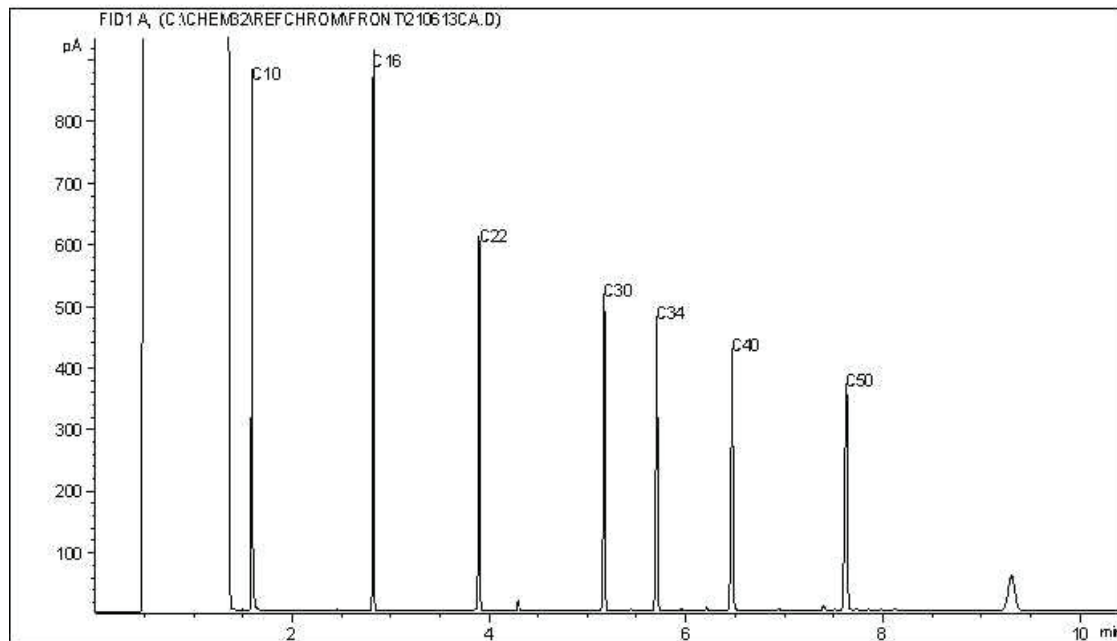
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



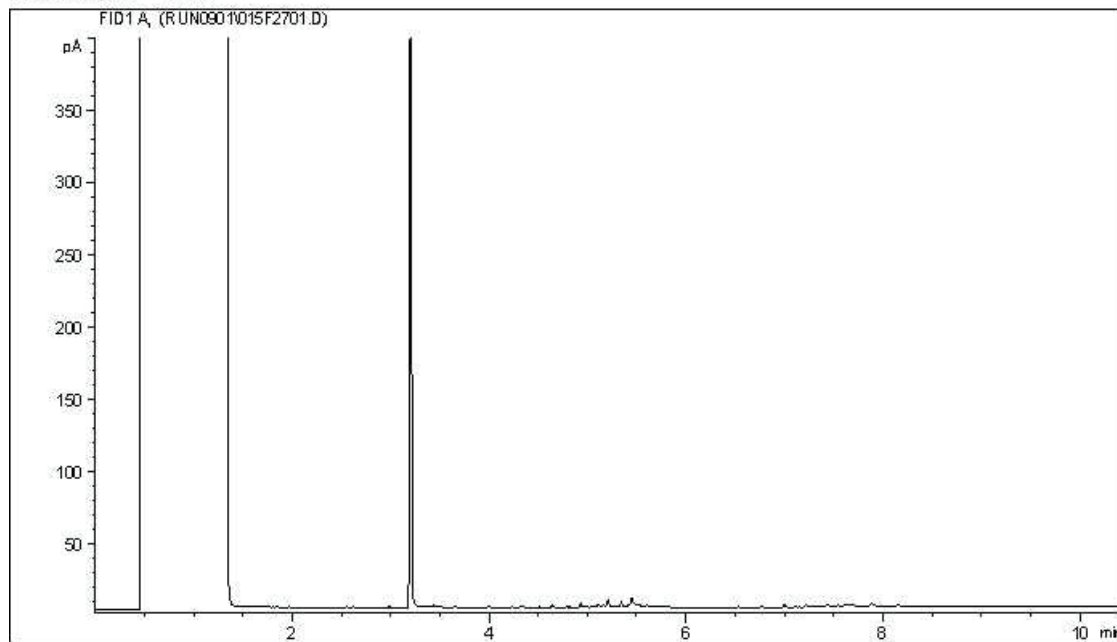
TYPICAL PRODUCT CARBON NUMBER RANGES

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

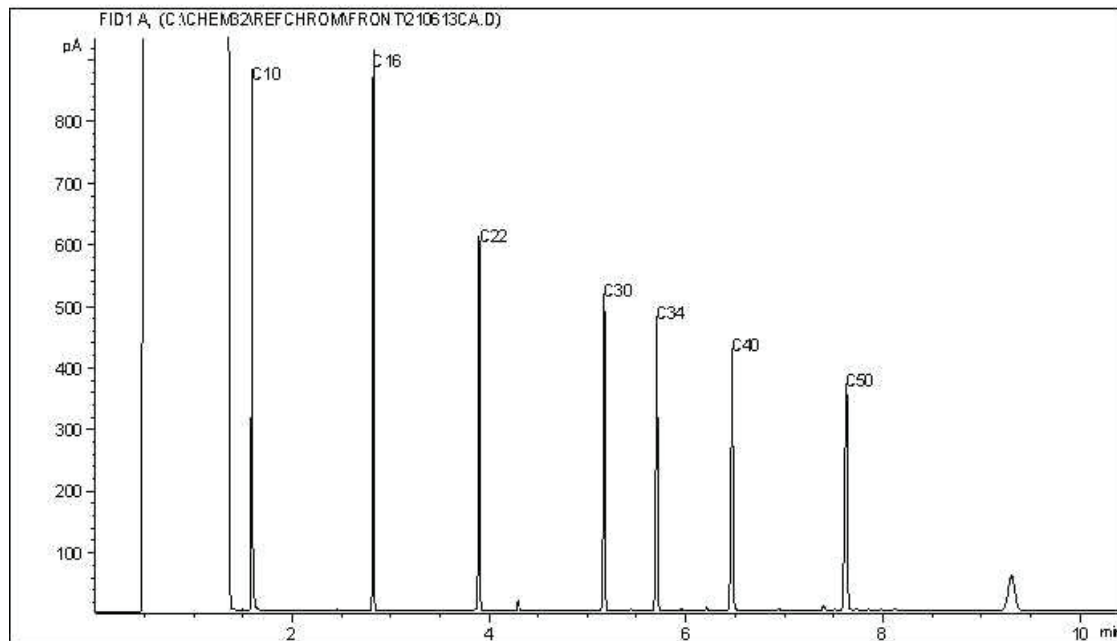
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



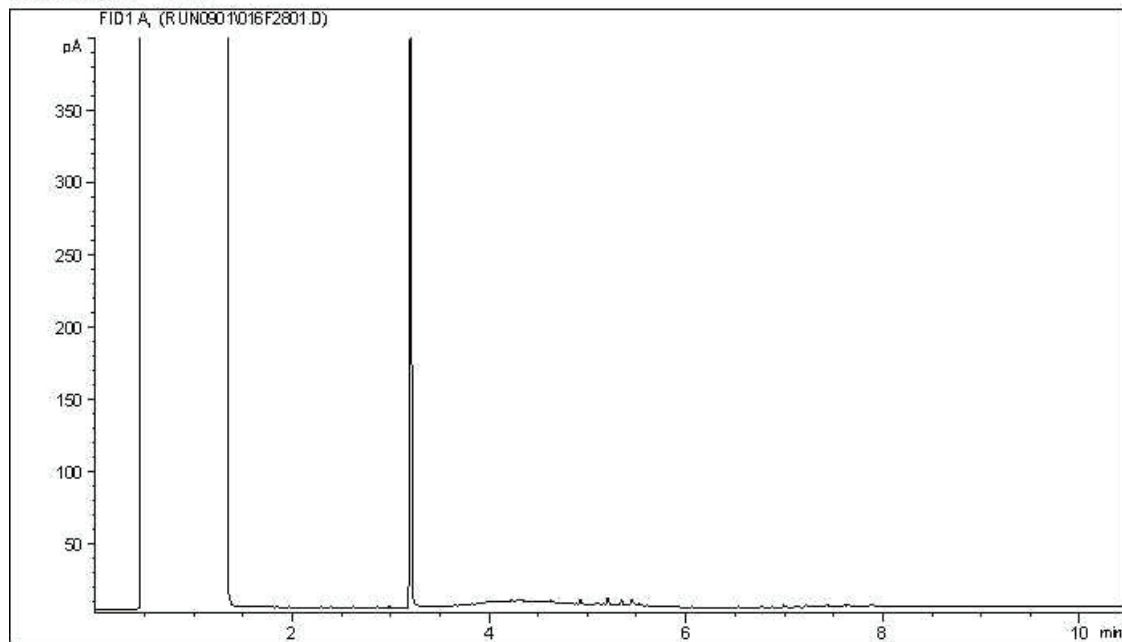
TYPICAL PRODUCT CARBON NUMBER RANGES

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

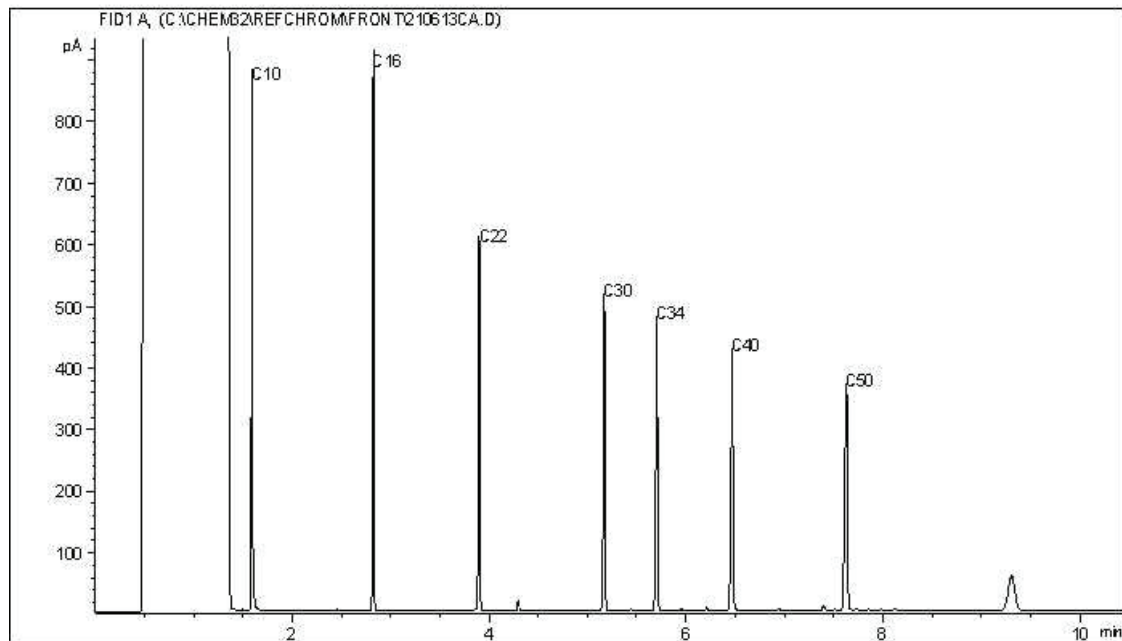
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



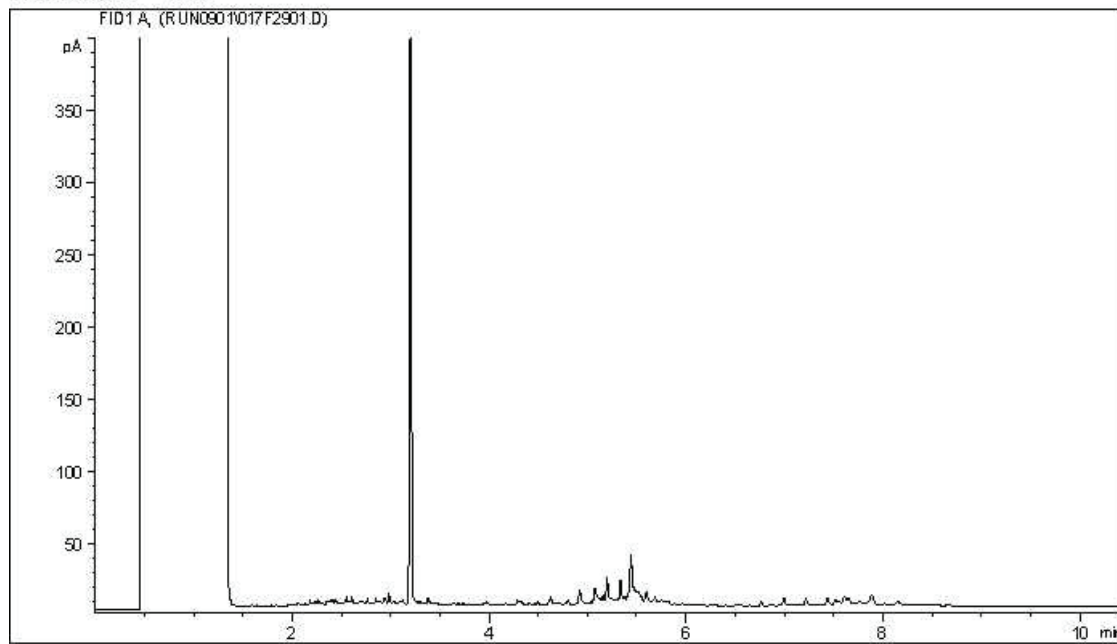
TYPICAL PRODUCT CARBON NUMBER RANGES

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

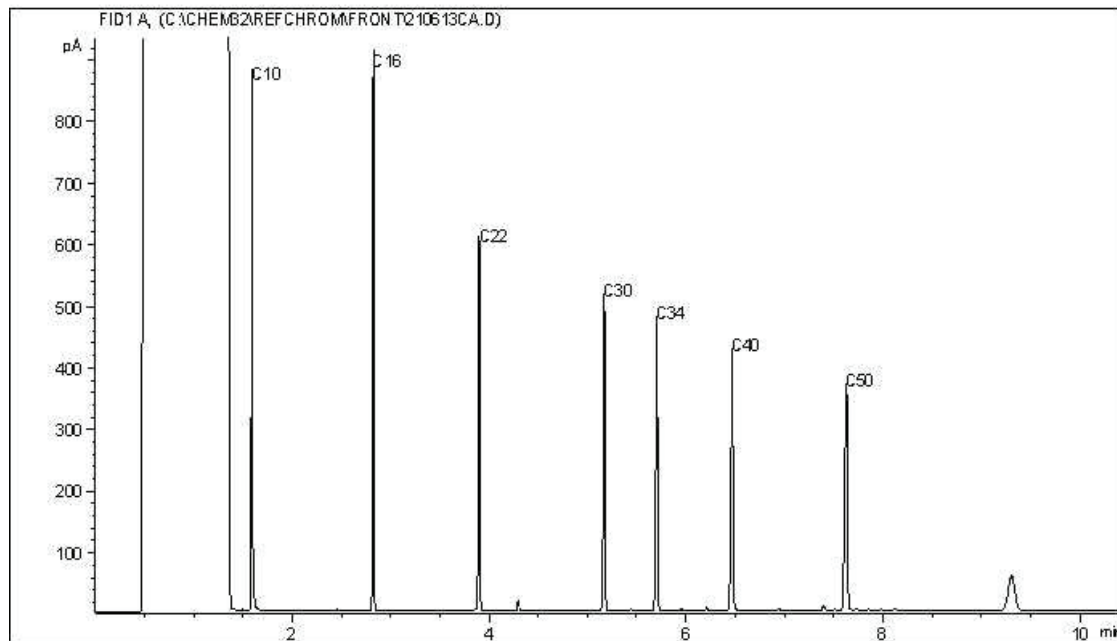
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



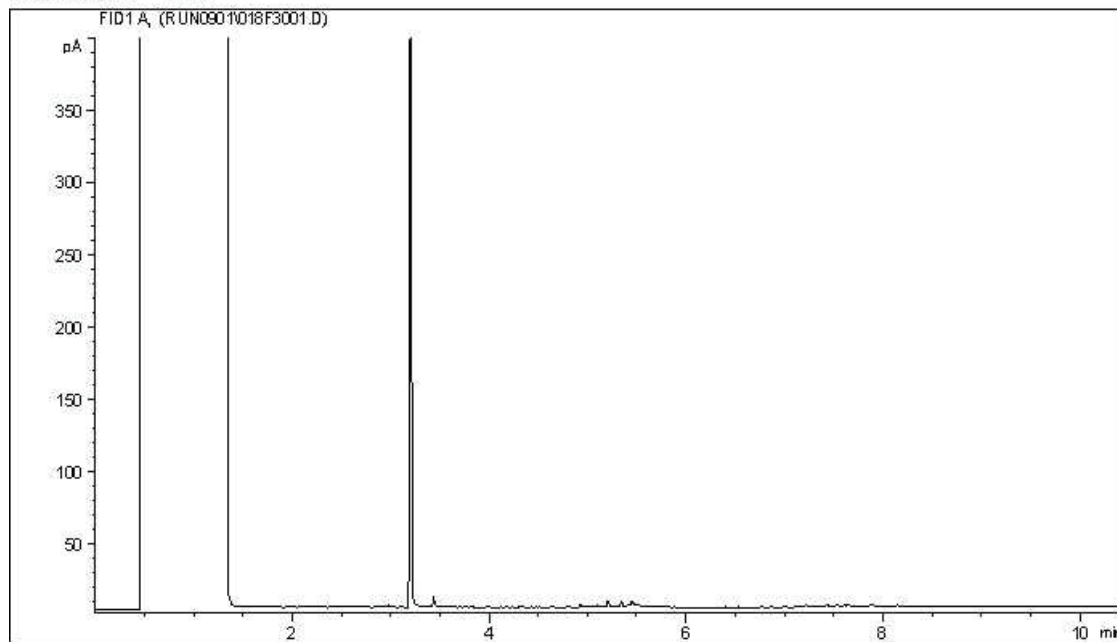
TYPICAL PRODUCT CARBON NUMBER RANGES

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

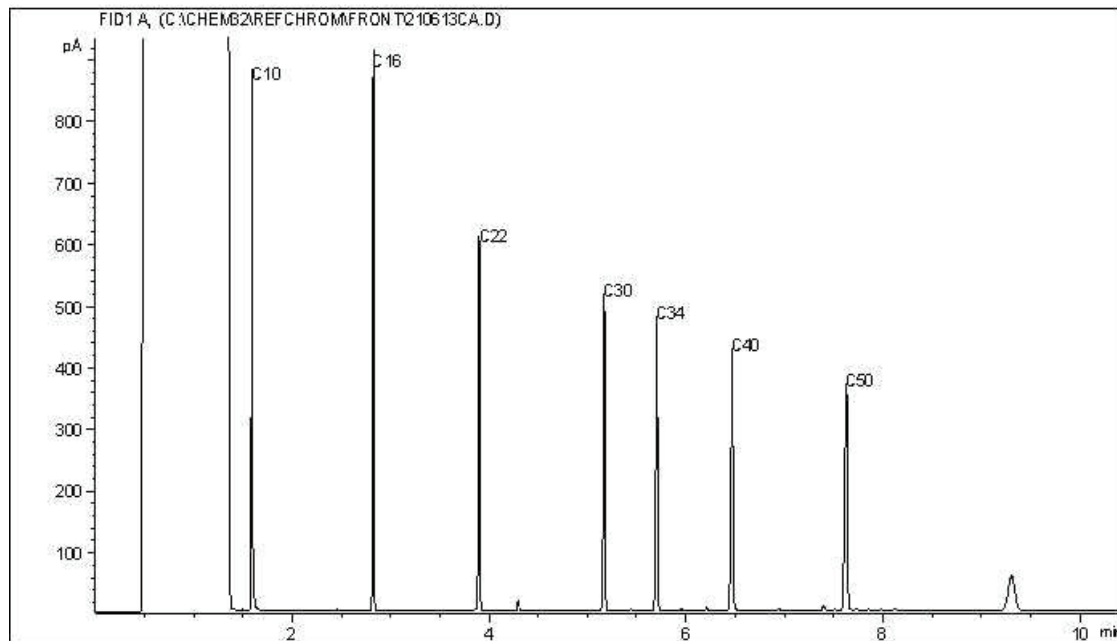
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

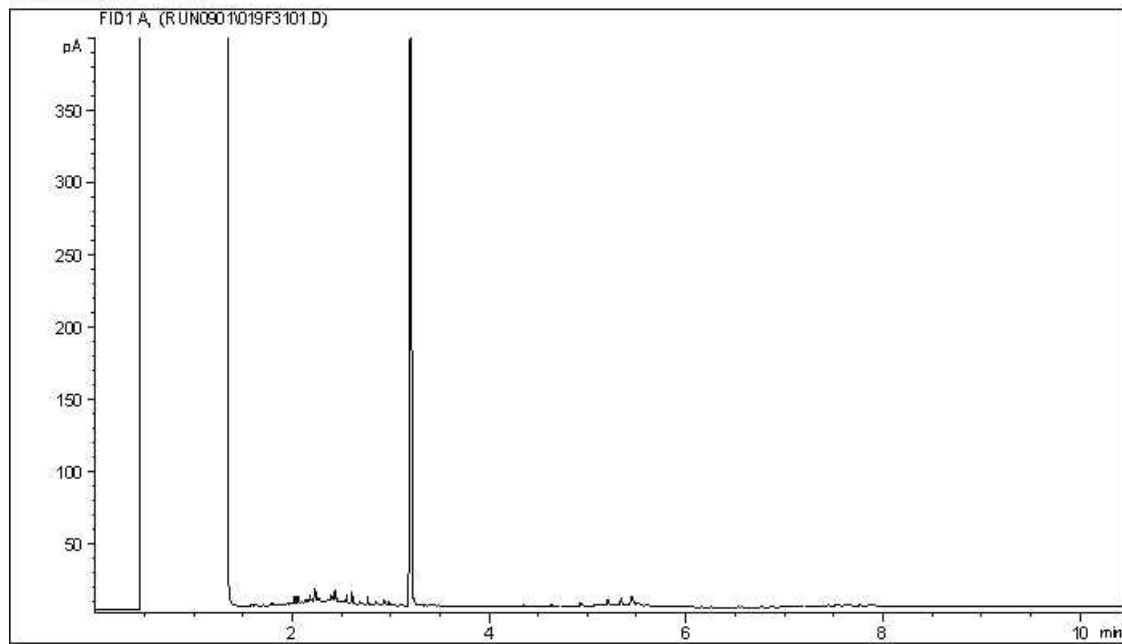
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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

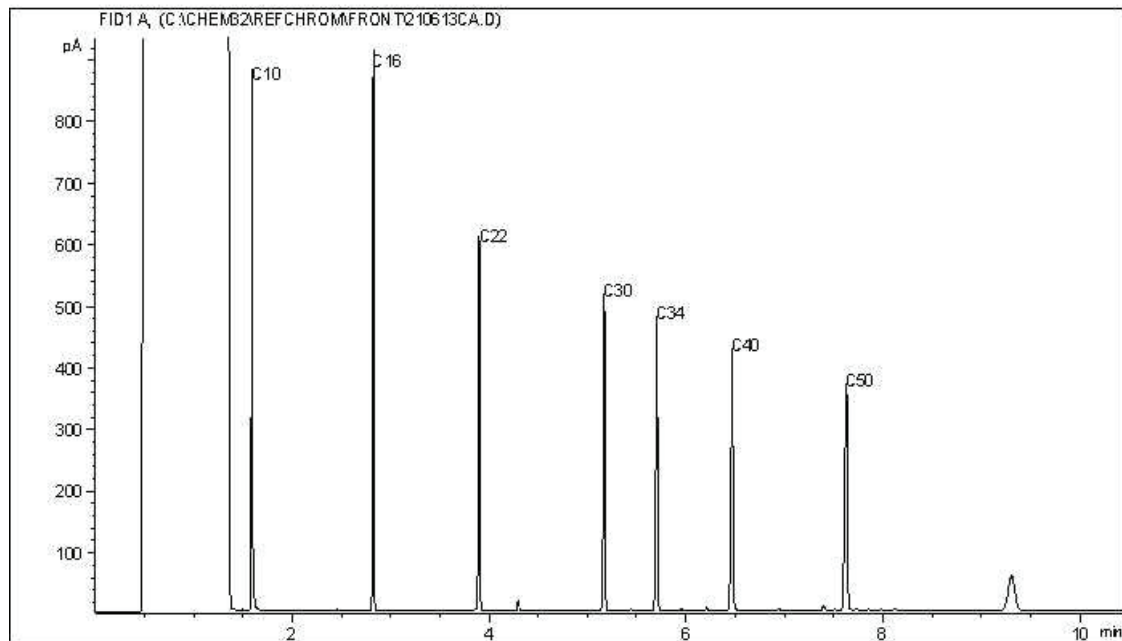


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



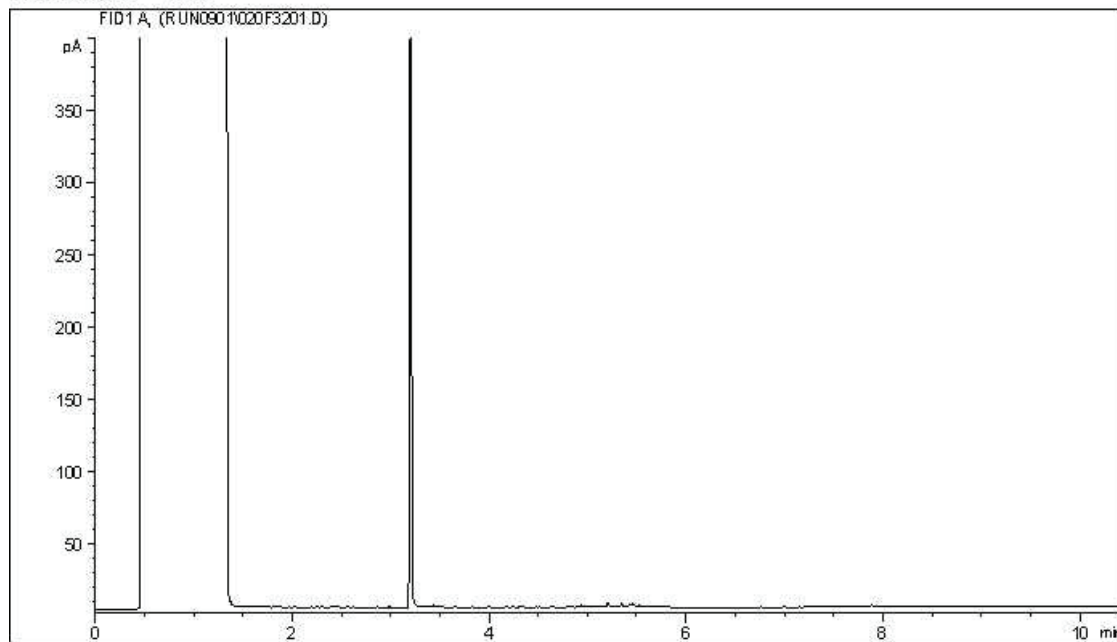
TYPICAL PRODUCT CARBON NUMBER RANGES

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

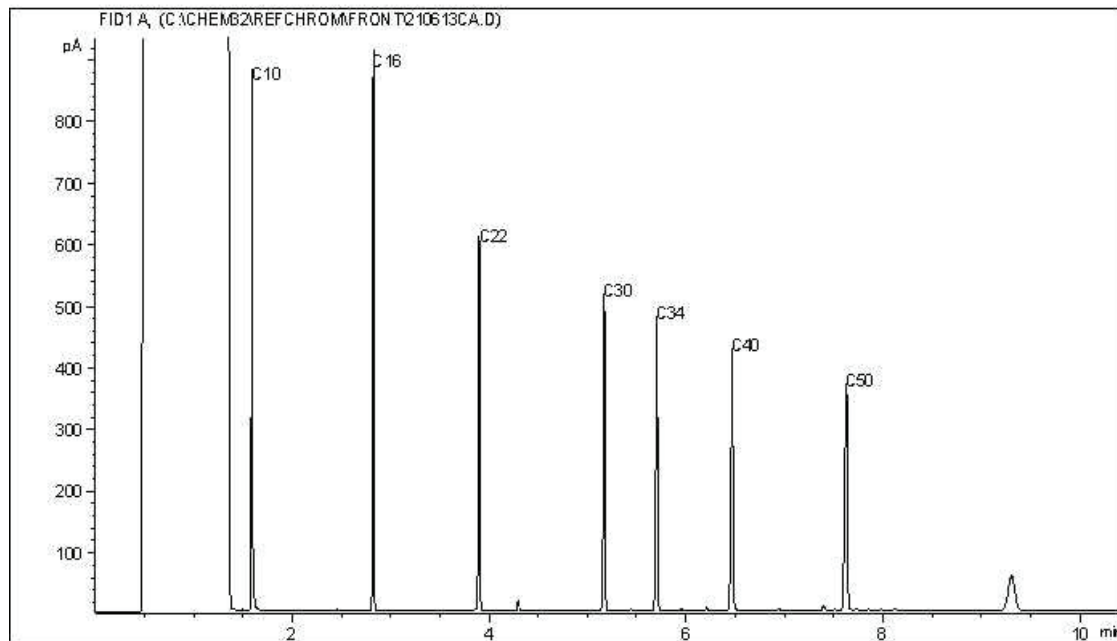
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



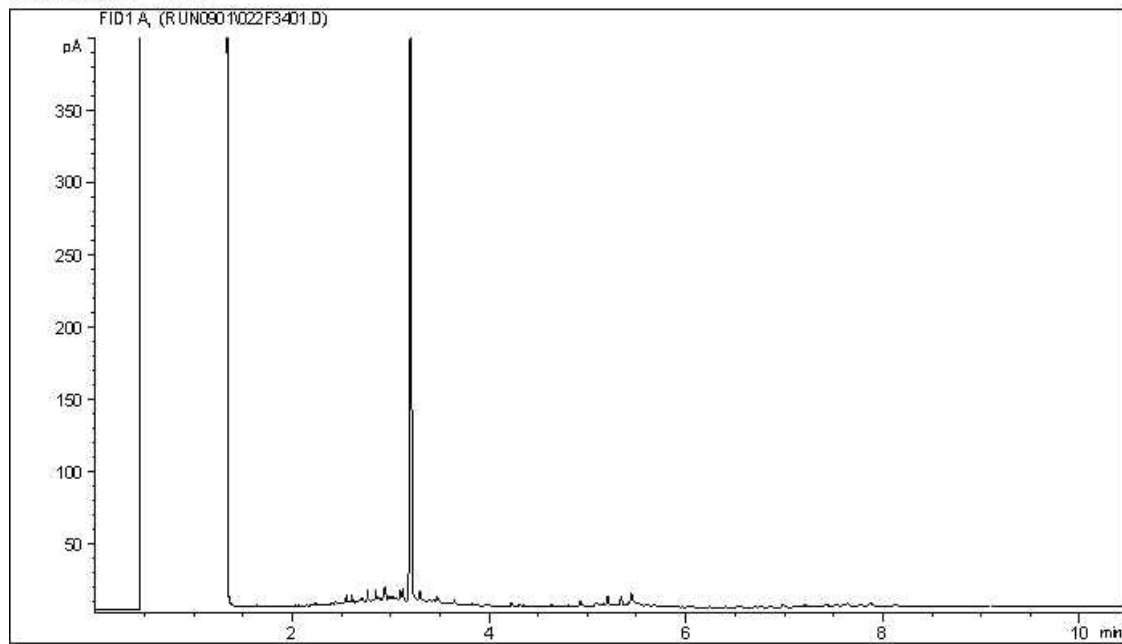
TYPICAL PRODUCT CARBON NUMBER RANGES

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

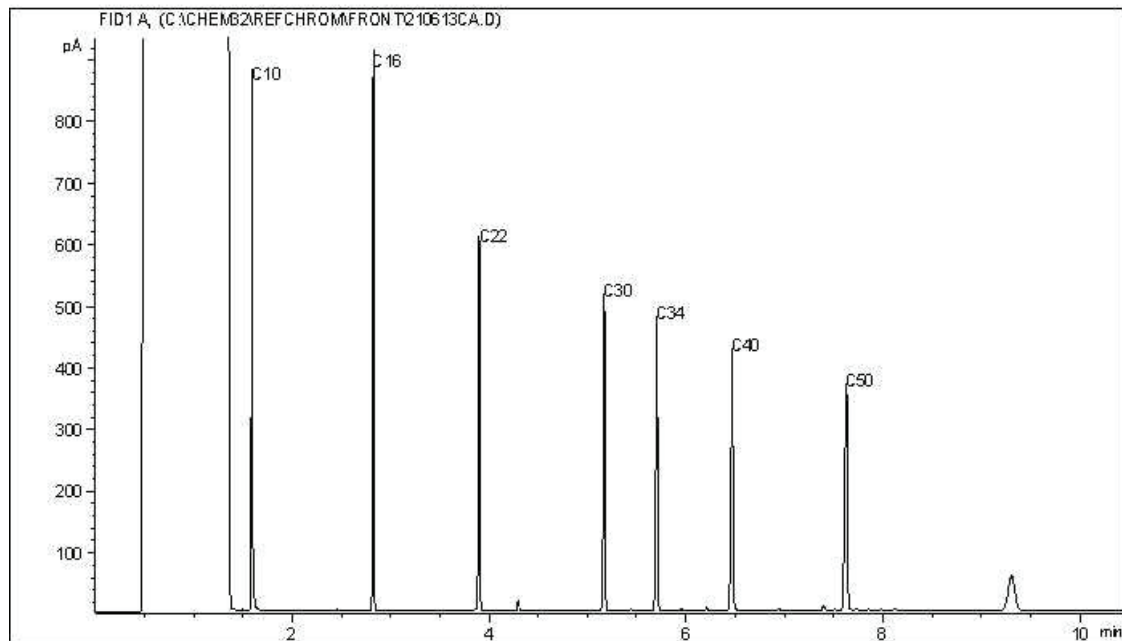
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



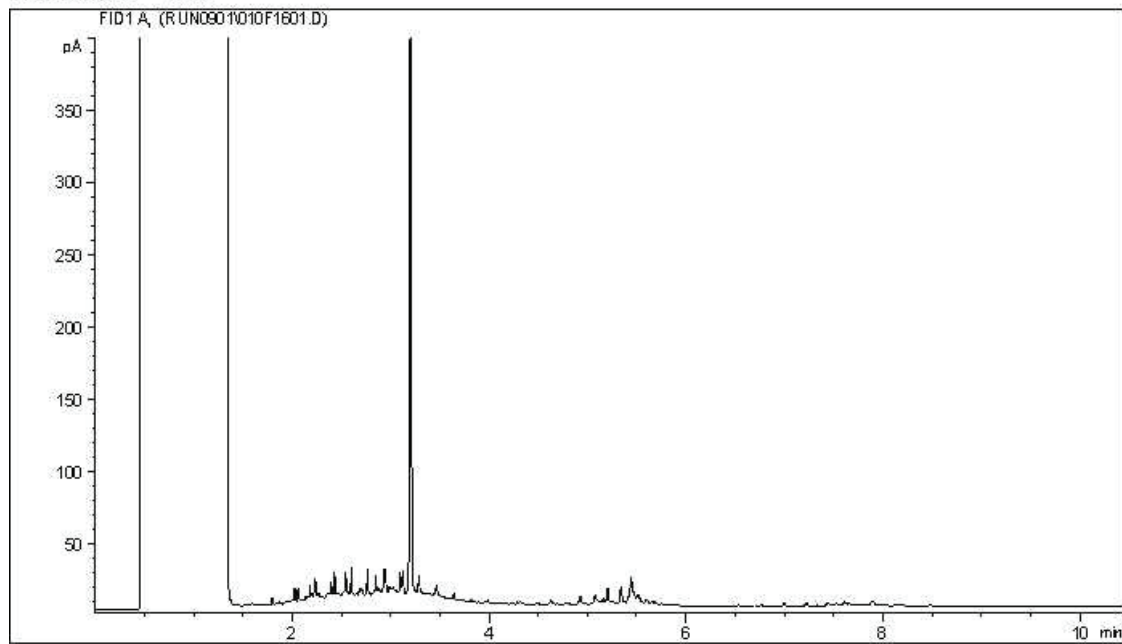
TYPICAL PRODUCT CARBON NUMBER RANGES

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

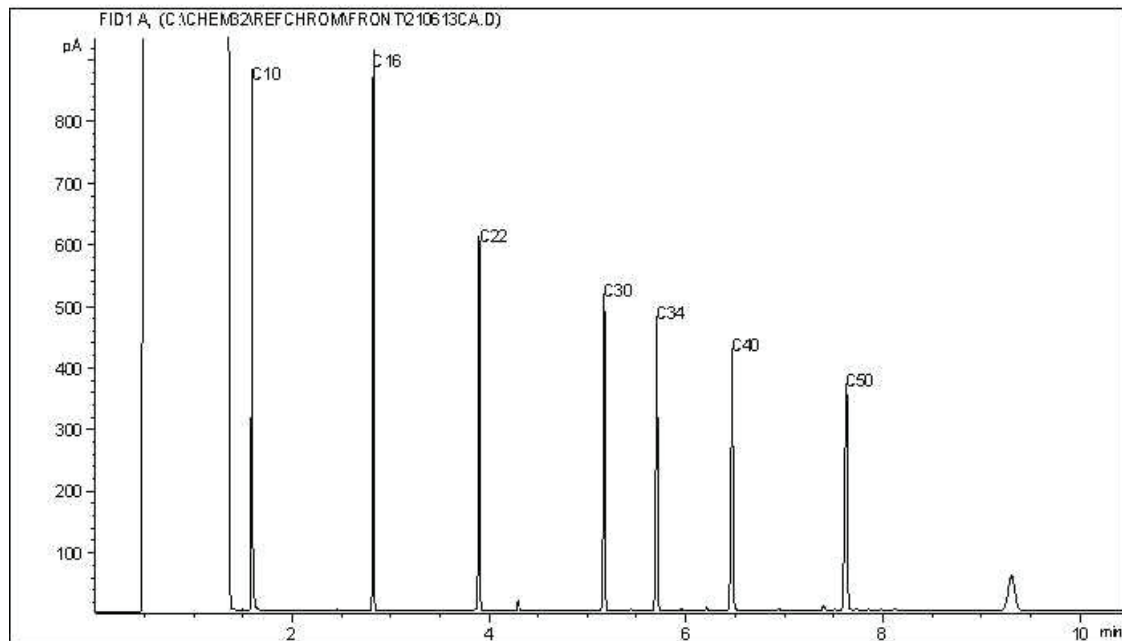
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



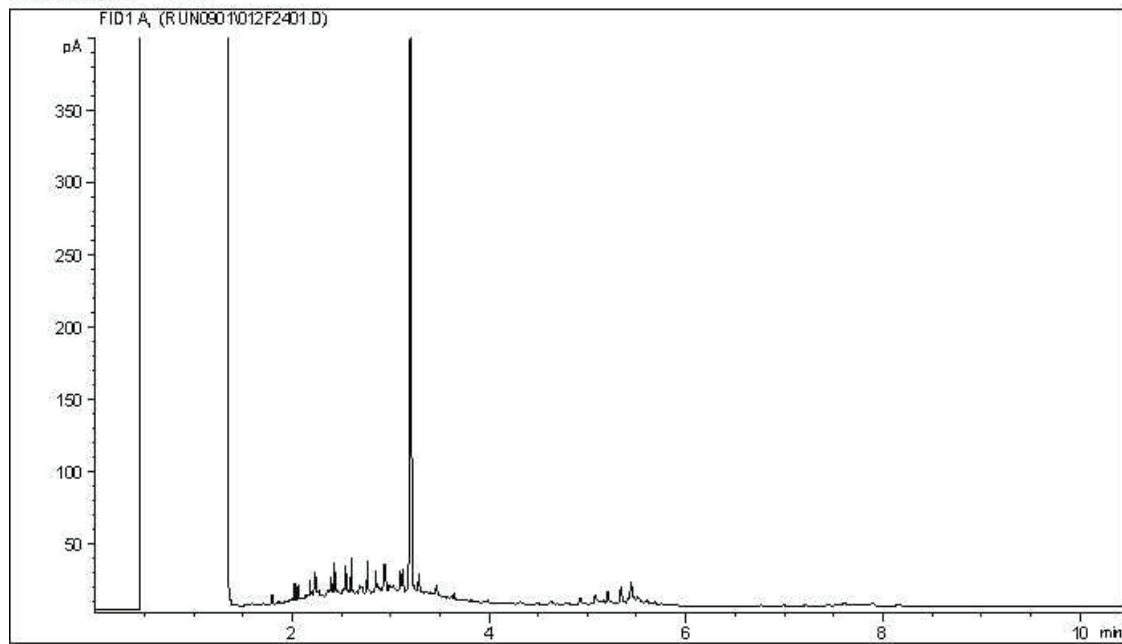
TYPICAL PRODUCT CARBON NUMBER RANGES

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

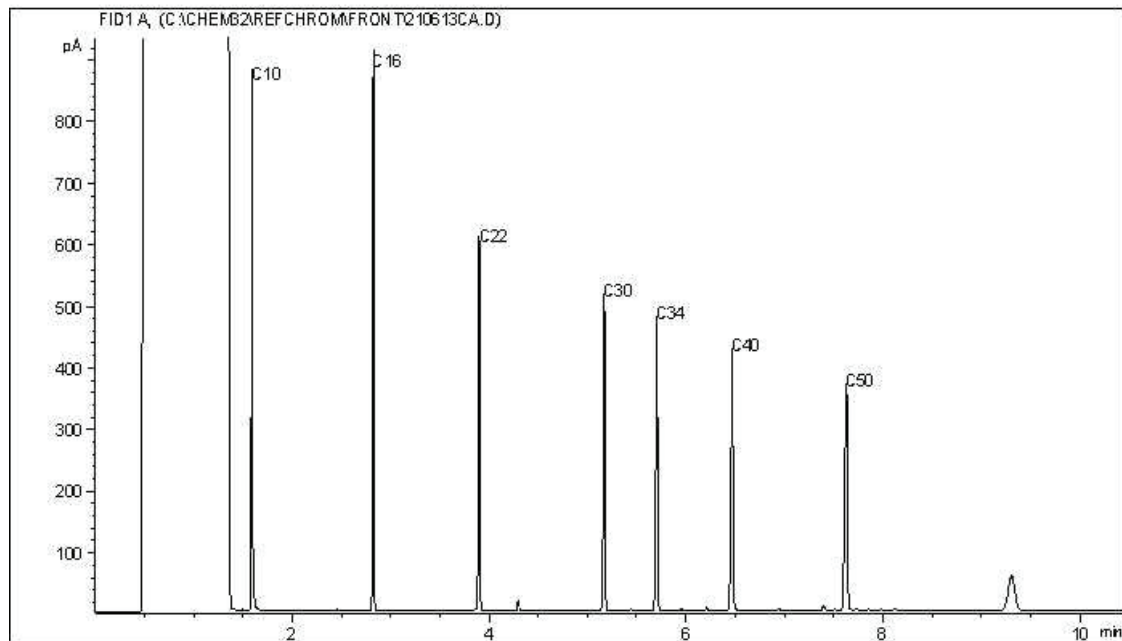
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



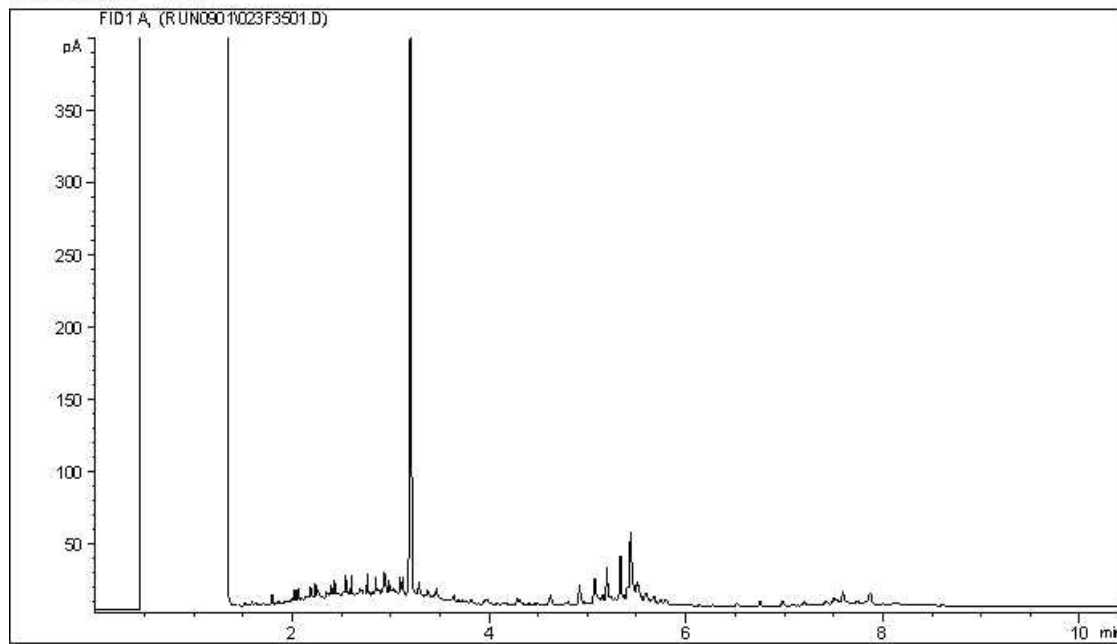
TYPICAL PRODUCT CARBON NUMBER RANGES

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

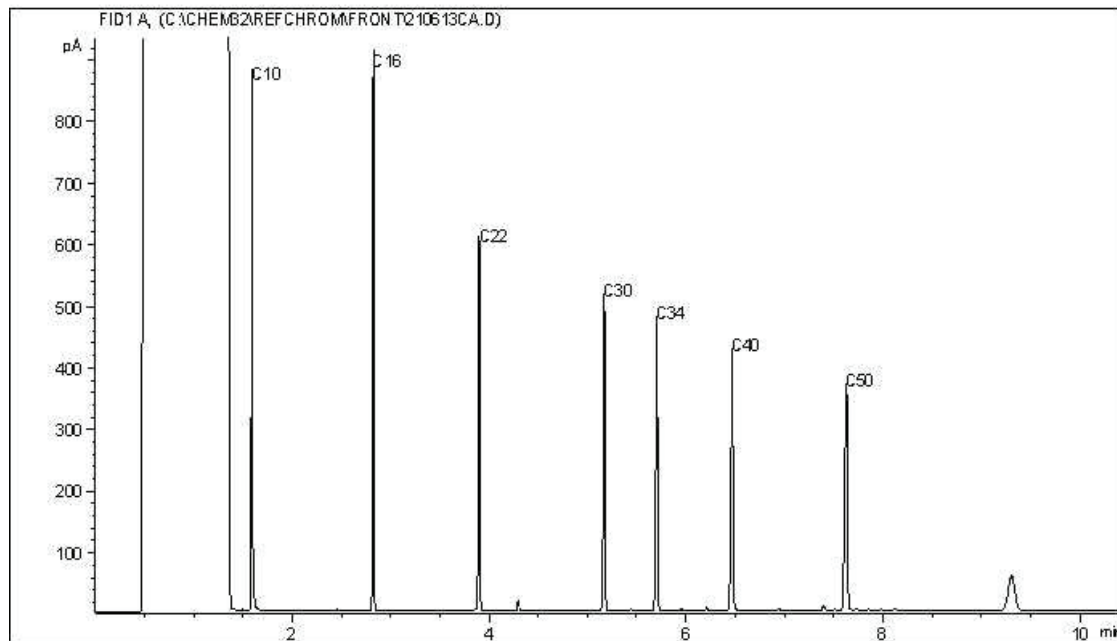
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



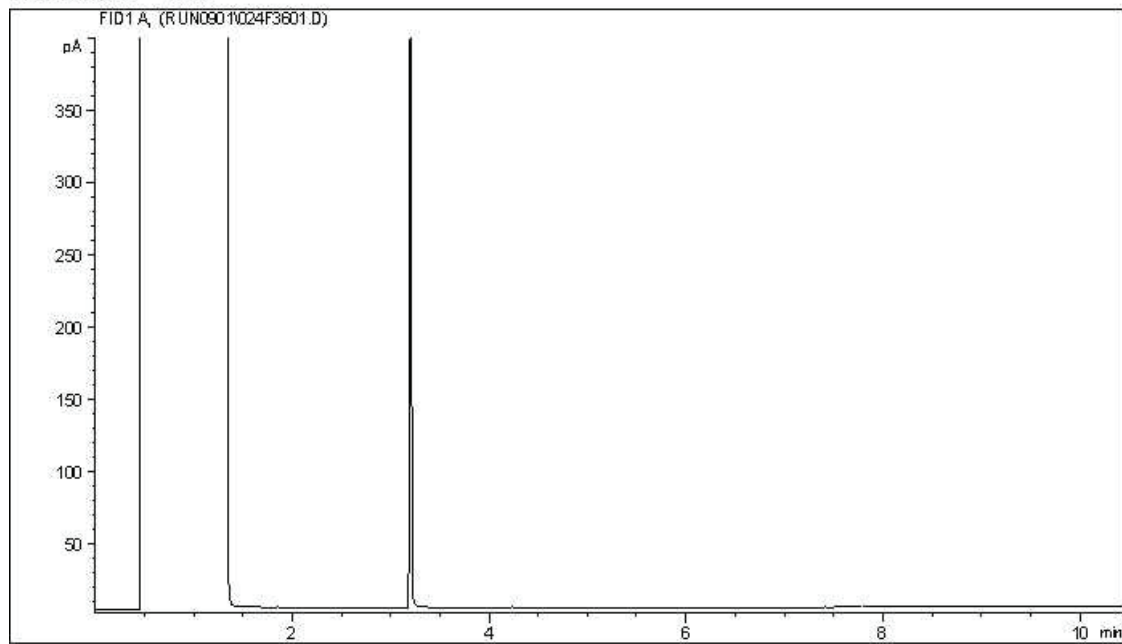
TYPICAL PRODUCT CARBON NUMBER RANGES

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

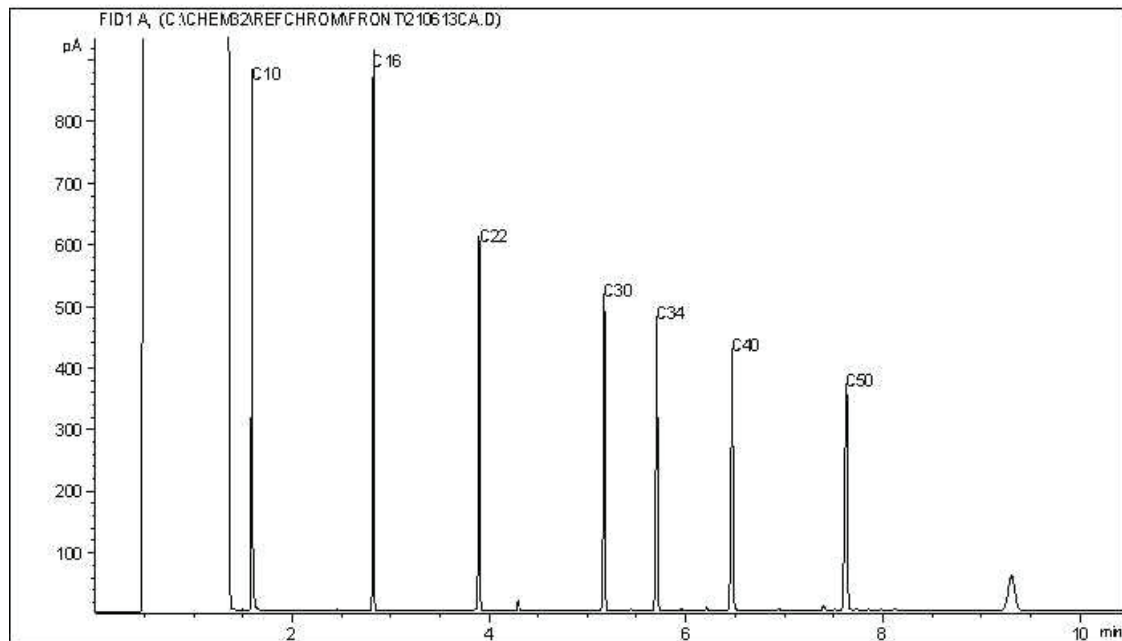
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

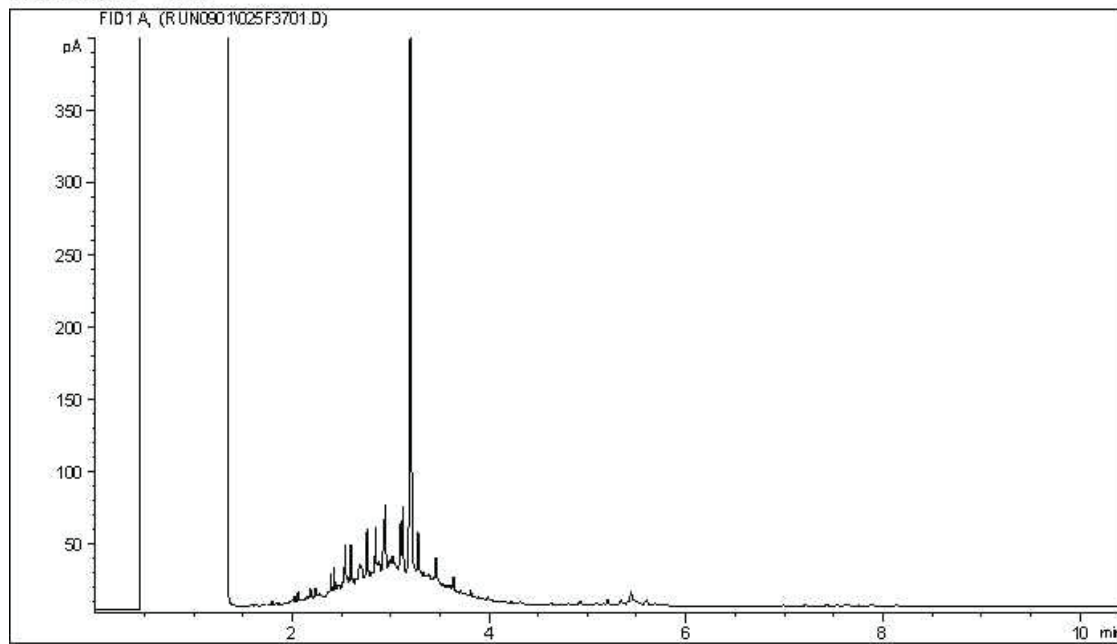
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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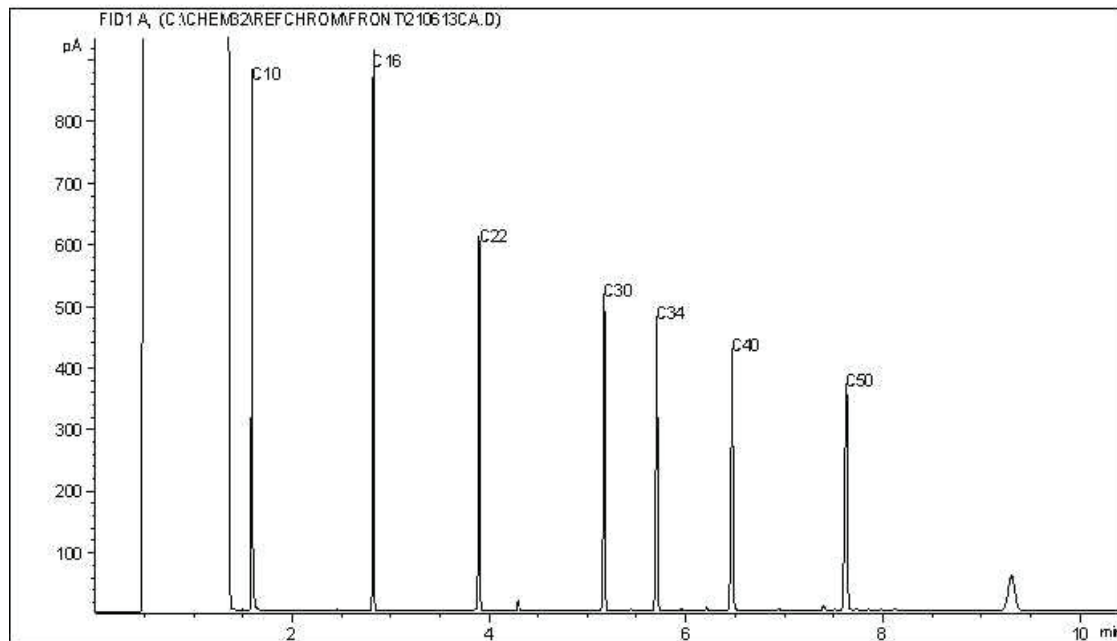


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



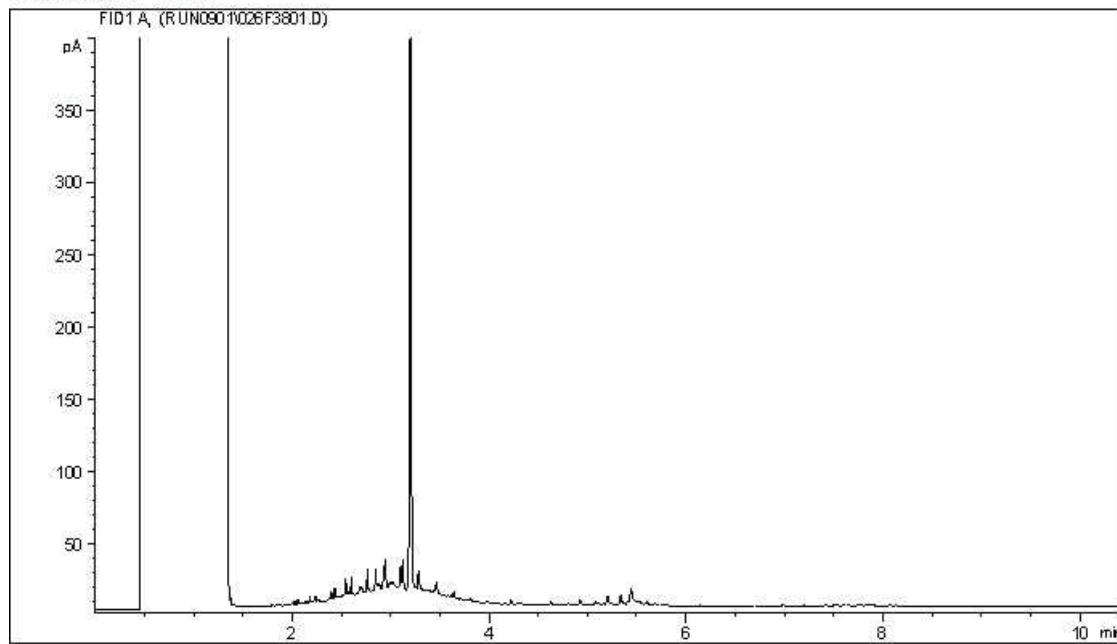
TYPICAL PRODUCT CARBON NUMBER RANGES

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

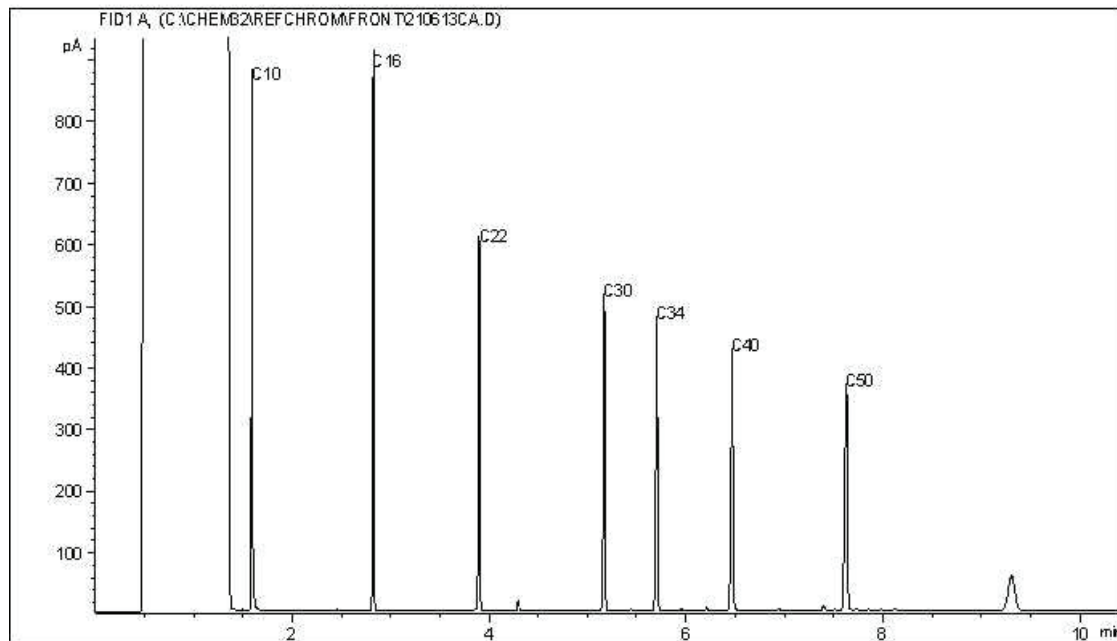
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



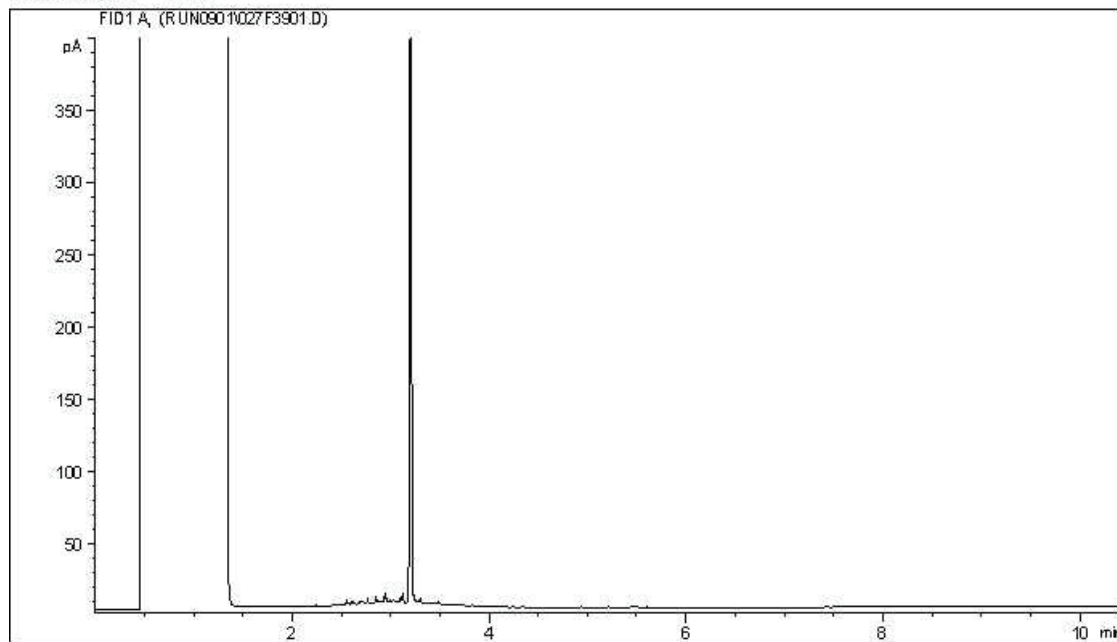
TYPICAL PRODUCT CARBON NUMBER RANGES

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

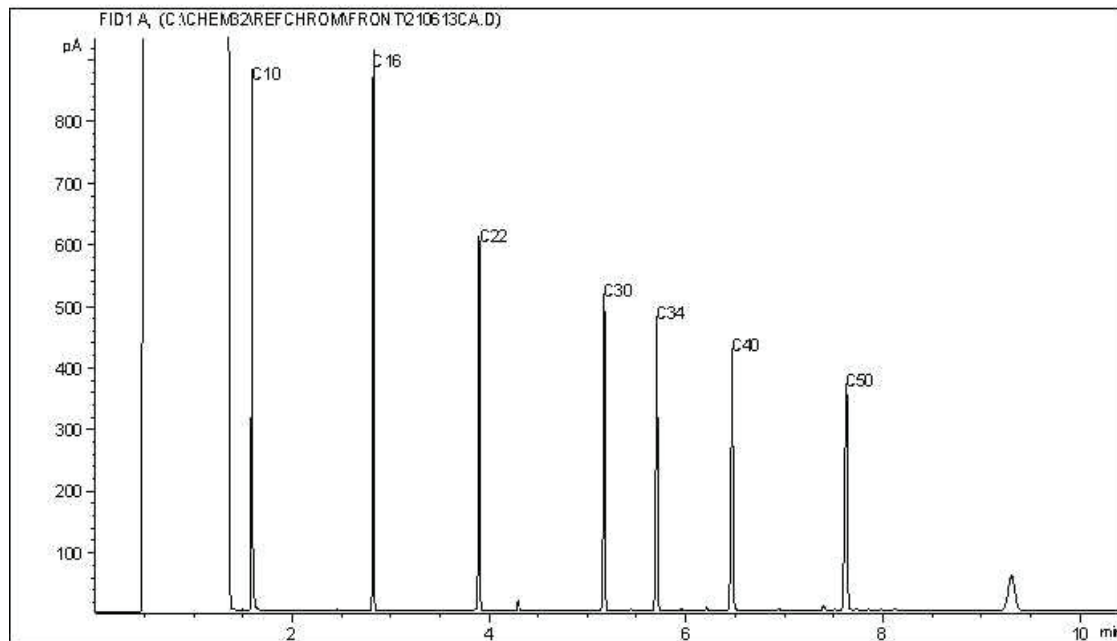
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



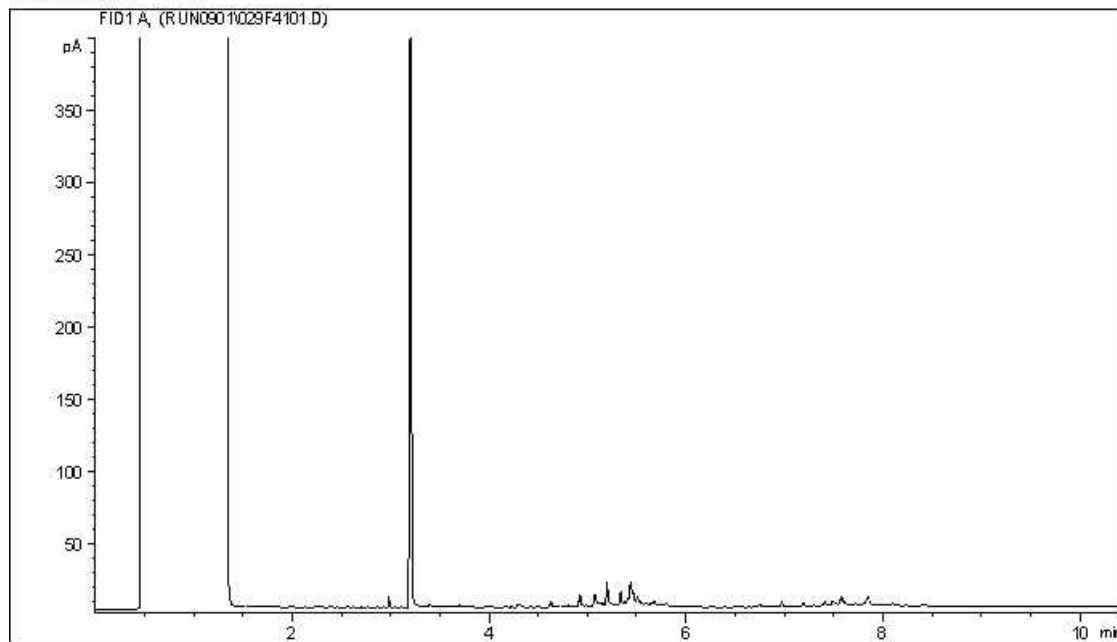
TYPICAL PRODUCT CARBON NUMBER RANGES

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

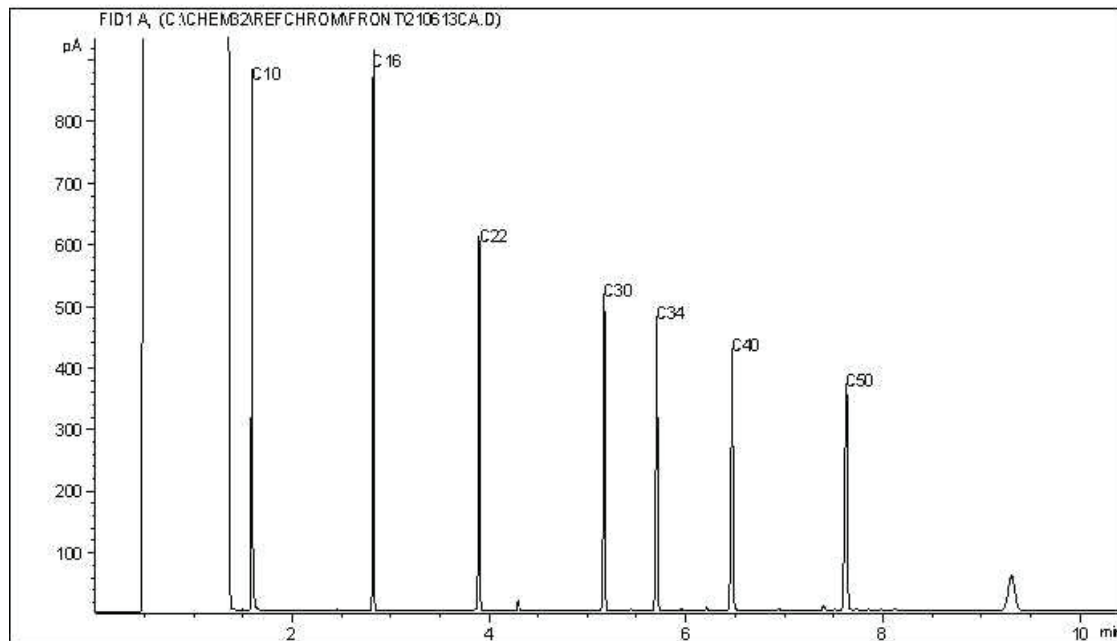
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



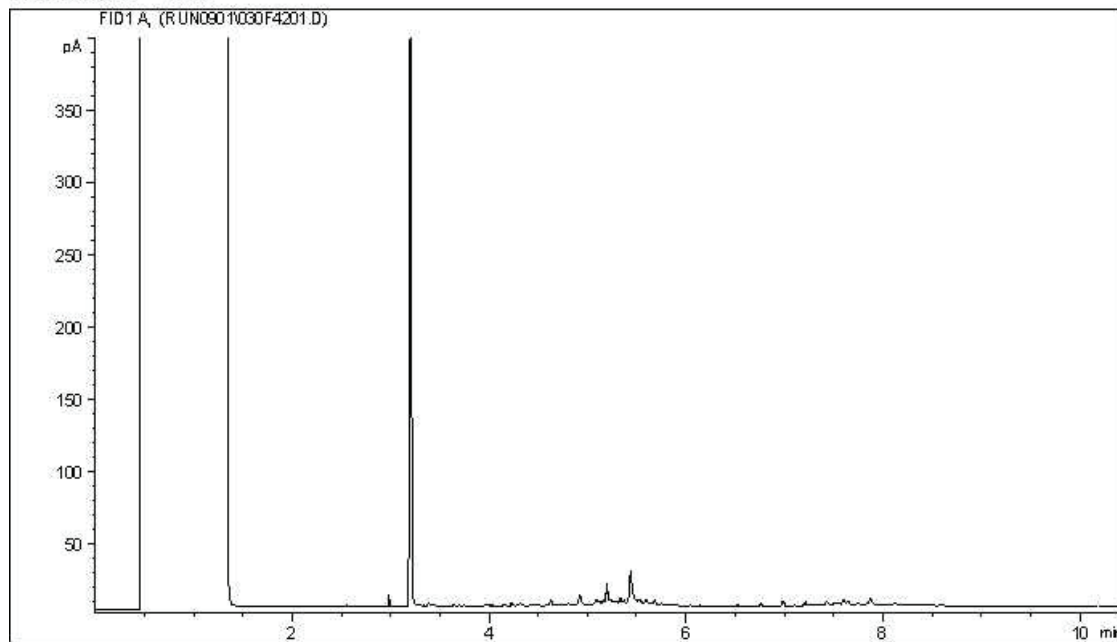
TYPICAL PRODUCT CARBON NUMBER RANGES

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

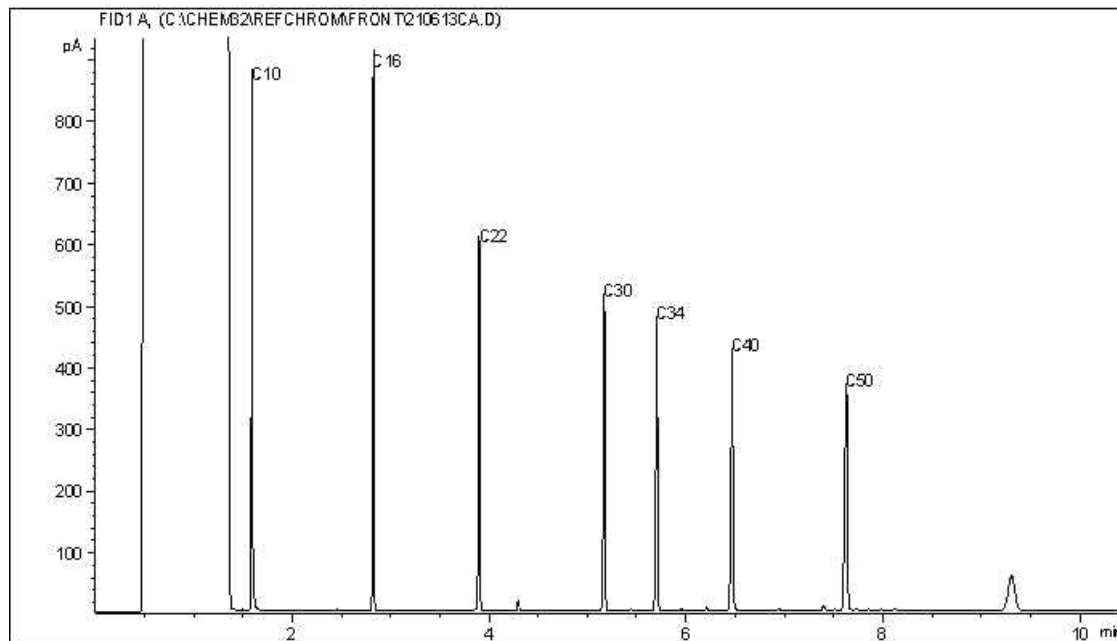
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



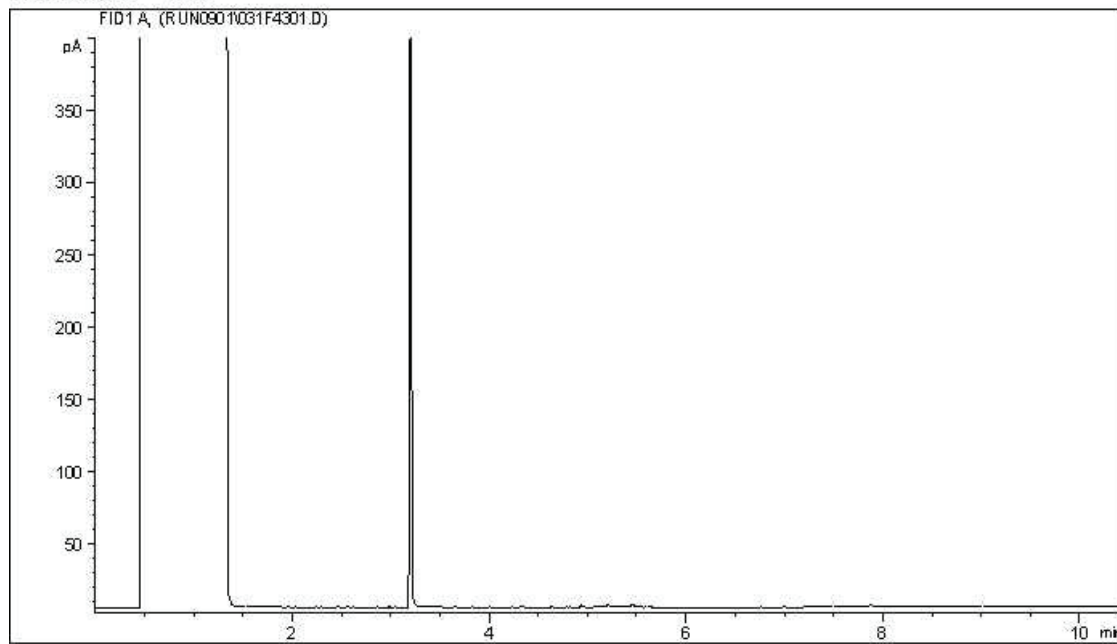
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

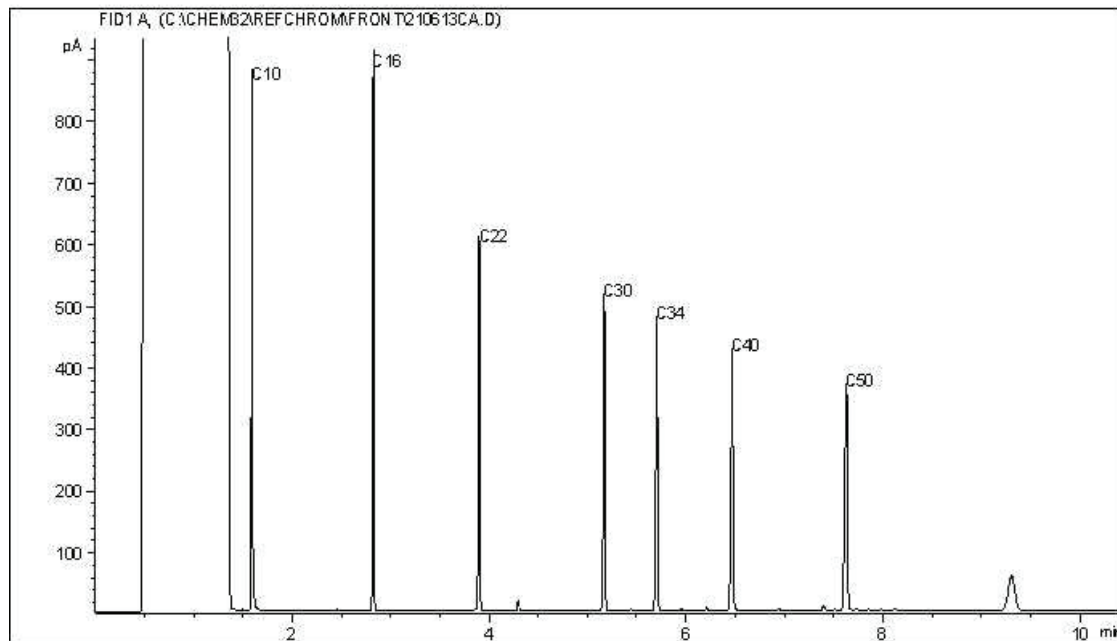
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



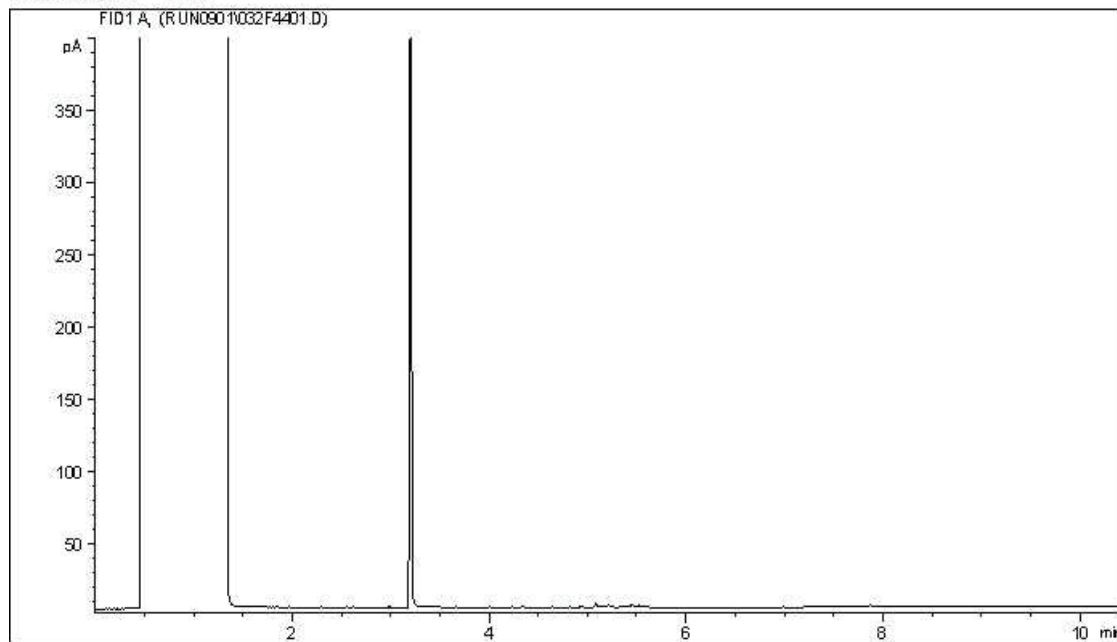
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

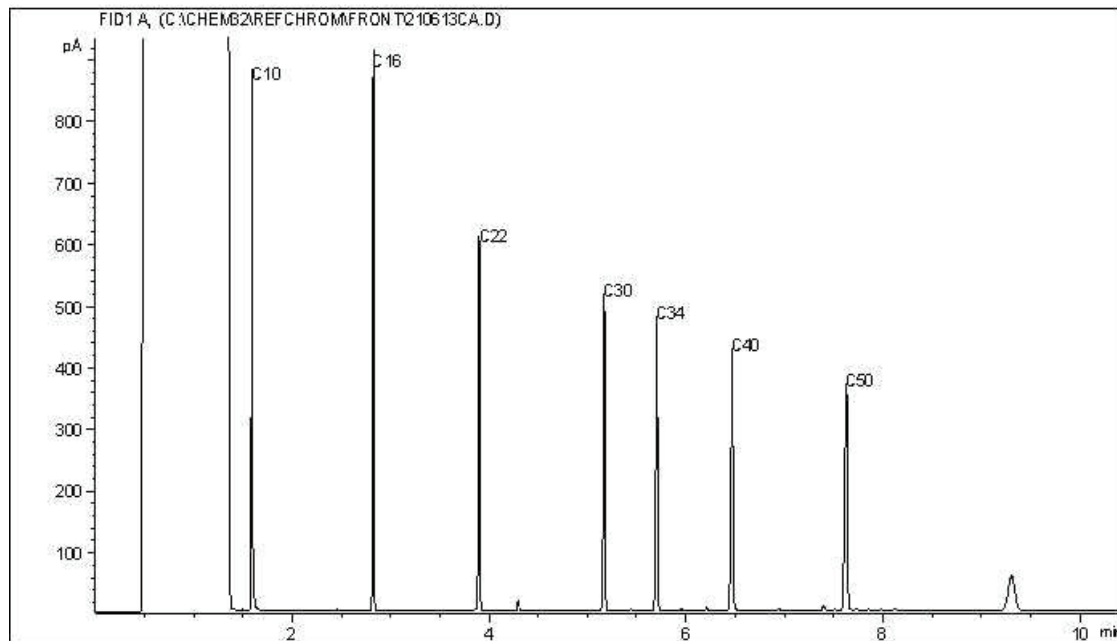
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

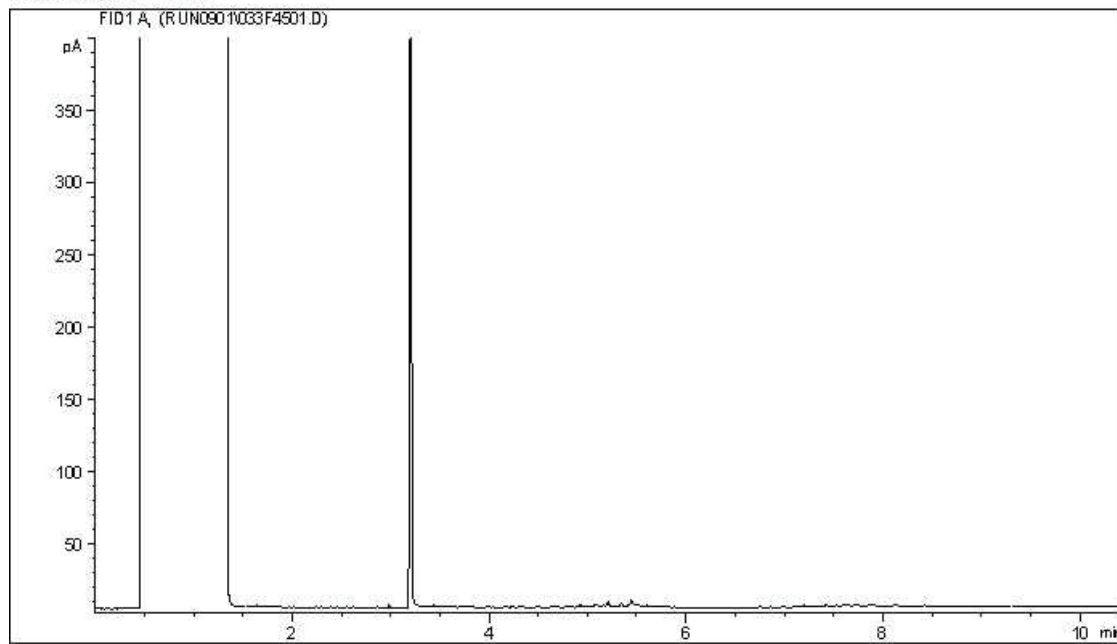
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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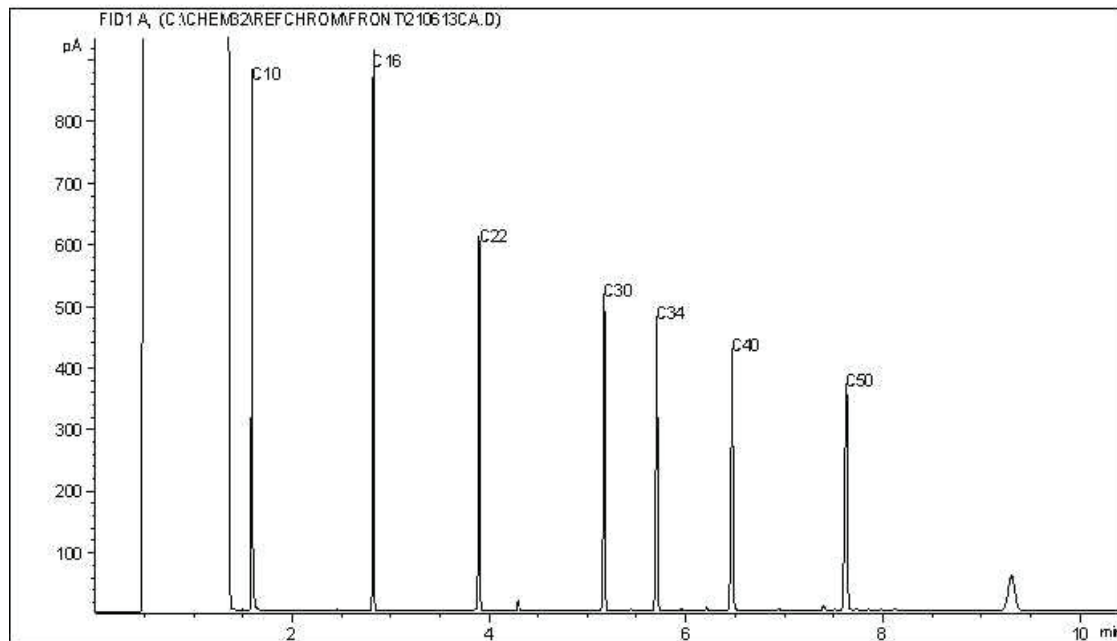


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



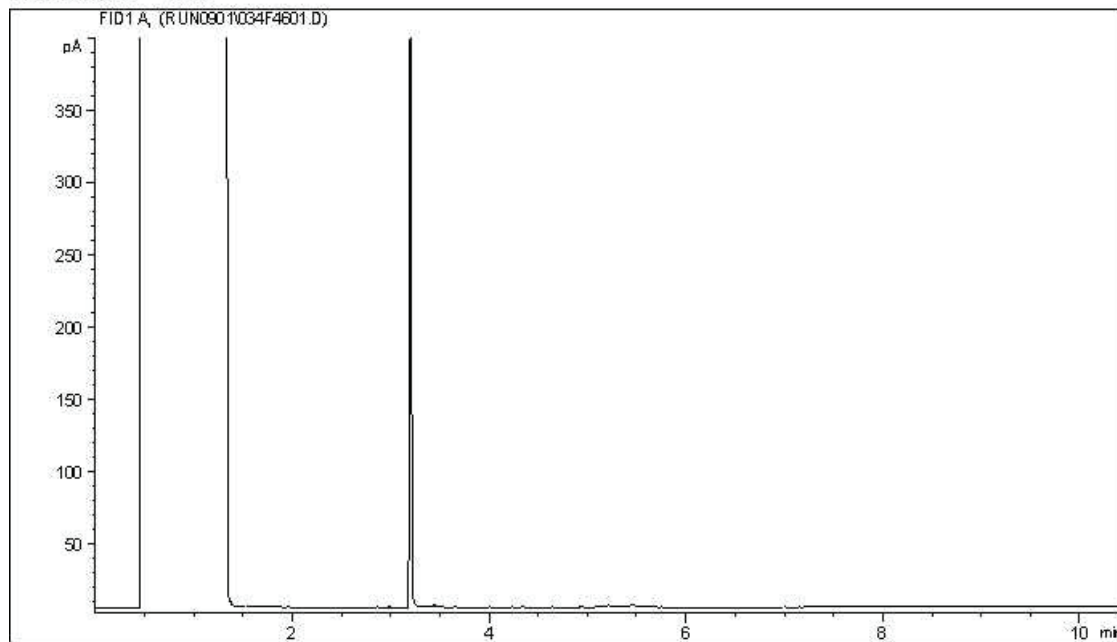
TYPICAL PRODUCT CARBON NUMBER RANGES

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

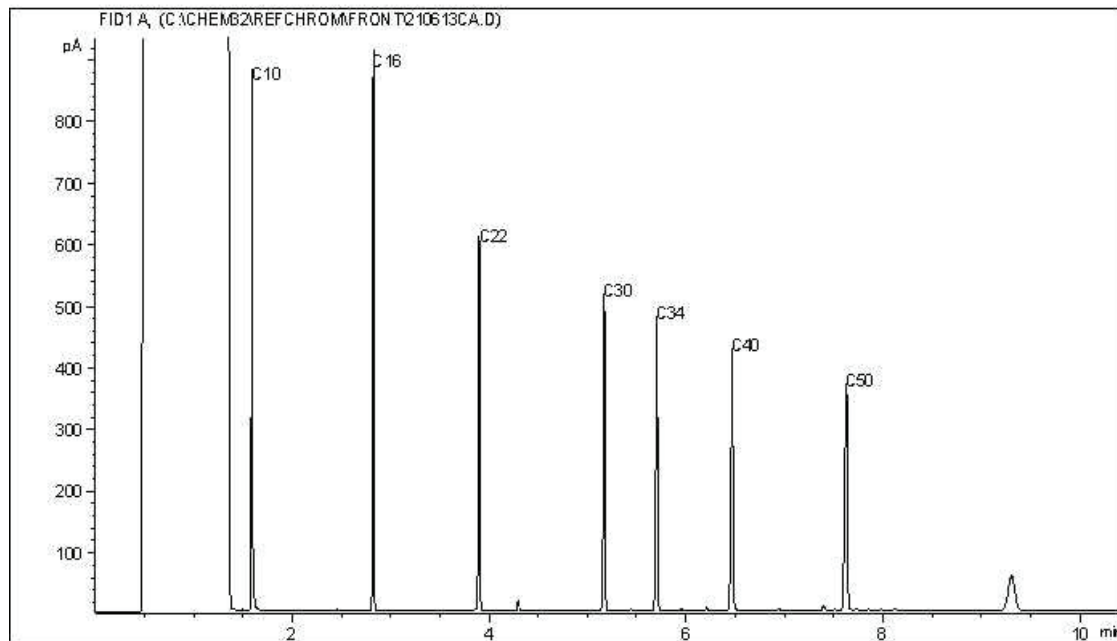
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



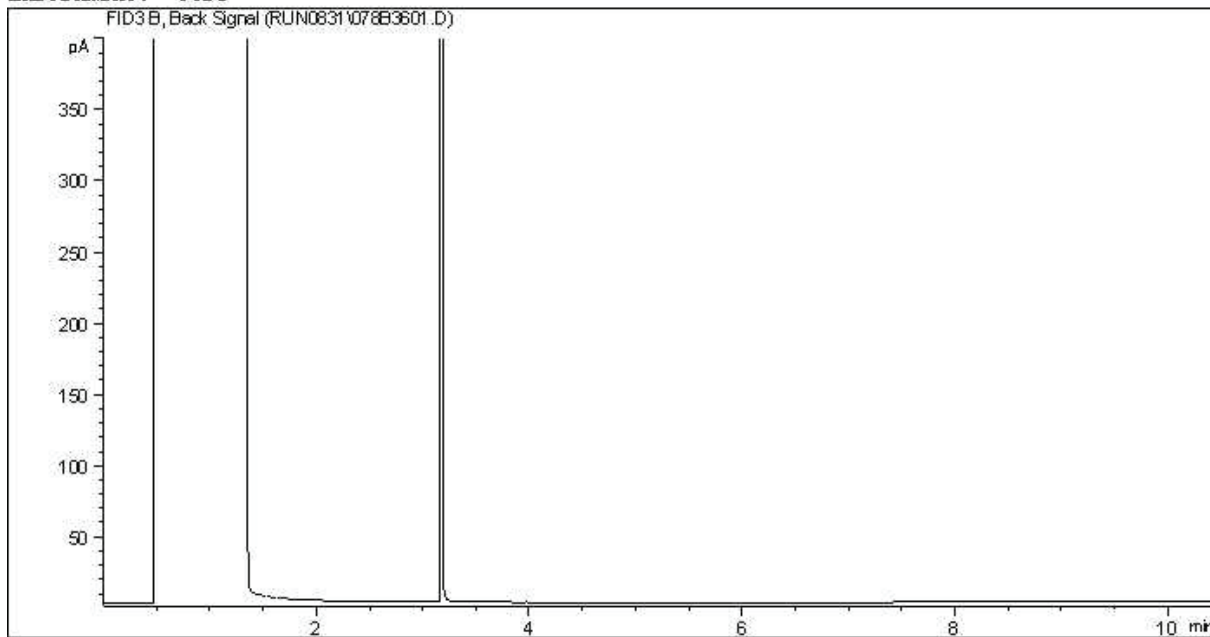
TYPICAL PRODUCT CARBON NUMBER RANGES

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

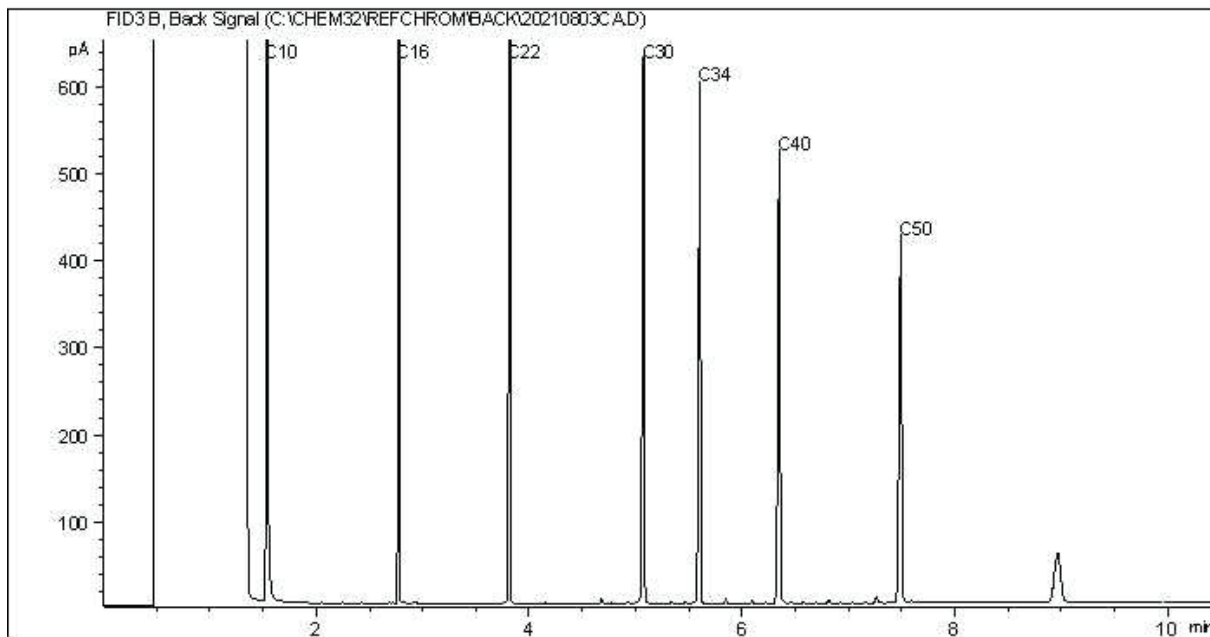
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



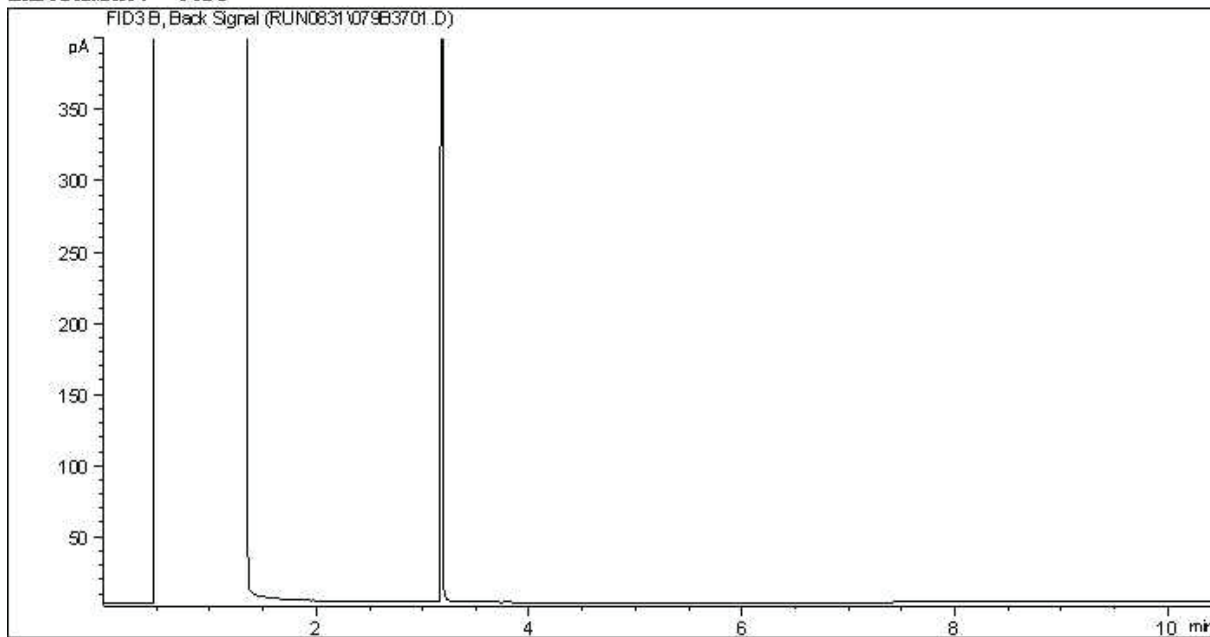
TYPICAL PRODUCT CARBON NUMBER RANGES

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

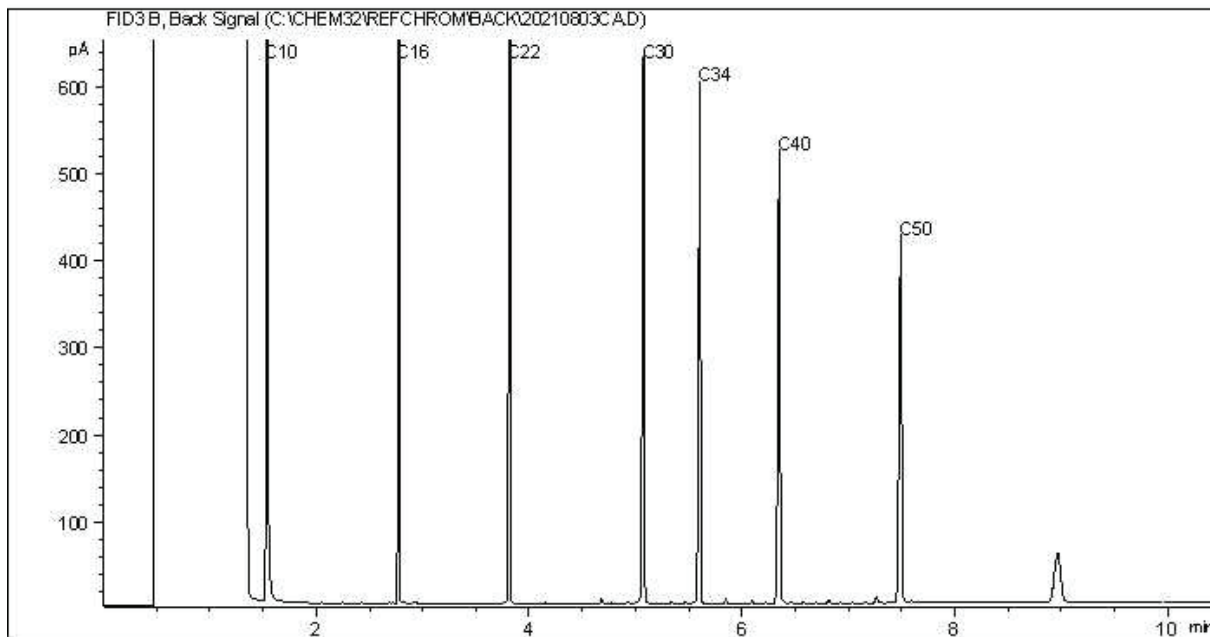
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC20



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.

**GOLDER DATA QUALITY REVIEW CHECKLIST**

Site Location: Camp Farewell

Sampling Date: August 21, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C162768

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 (157%)
Method Blank Concentration	X			exceeded the acceptance criteria (50-140%). Matrix
Laboratory Duplicate RPD	X			spike recovery for soluble nitrate plus nitrite (51%)
Matrix Spike Recovery		X		below 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: September 10, 2021



Your C.O.C. #: 644255-01-01

**Attention: PETER TAN**

GOLDER ASSOCIATES LTD  
16820-107 AVE  
EDMONTON, AB  
CANADA T5P 4C3

**Report Date: 2021/09/21**

Report #: R3074550

Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C164600**

**Received: 2021/08/31, 08:35**

Sample Matrix: Water  
# Samples Received: 7

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Alkalinity @25C (pp, total), CO3,HCO3,OH (1)	2	N/A	2021/09/02	AB SOP-00005	SM 23 2320 B m
BTEX/F1 in Water by HS GC/MS/FID (1)	5	N/A	2021/09/03	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	5	N/A	2021/09/04		Auto Calc
Cadmium - low level CCME - Dissolved (1)	1	N/A	2021/09/07		Auto Calc
Cadmium - low level CCME - Dissolved (1)	1	N/A	2021/09/09		Auto Calc
Chloride/Sulphate by Auto Colourimetry (1)	2	N/A	2021/09/03	AB SOP-00020	SM23-4500-Cl/SO4-E m
Conductivity @25C (1)	2	N/A	2021/09/02	AB SOP-00005	SM 23 2510 B m
CCME Hydrocarbons (F2-F4 in water) (1, 2)	5	2021/09/03	2021/09/04	AB SOP-00037	CCME PHC-CWS m
Hardness (1)	2	N/A	2021/09/05		Auto Calc
Elements by ICP - Dissolved (1, 3)	1	N/A	2021/09/04	AB SOP-00042	EPA 6010d R5 m
Elements by ICP - Dissolved (1, 3)	1	N/A	2021/09/09	AB SOP-00042	EPA 6010d R5 m
Elements by ICP-Dissolved-Lab Filtered (1, 3)	1	N/A	2021/09/04	AB SOP-00042	EPA 6010d R5 m
Elements by ICPMS - Dissolved (1, 3)	1	N/A	2021/09/07	AB SOP-00043	EPA 6020b R2 m
Elements by ICPMS - Dissolved (1, 3)	1	N/A	2021/09/08	AB SOP-00043	EPA 6020b R2 m
Ion Balance (1)	2	N/A	2021/09/05		Auto Calc
Sum of cations, anions (1)	1	N/A	2021/09/05		Auto Calc
Nitrate and Nitrite (1)	2	N/A	2021/09/02		Auto Calc
NO2 (N); NO2 (N) + NO3 (N) in Water (1)	2	N/A	2021/09/02	AB SOP-00091	SM 23 4500 NO3m
Nitrate (as N) (1)	2	2021/09/01	2021/09/02		Auto Calc
Benzo[a]pyrene Equivalency (1, 4)	4	N/A	2021/09/05		Auto Calc
Benzo[a]pyrene Equivalency (1, 4)	1	N/A	2021/09/08		Auto Calc
PAH in Water by GC/MS (1)	4	2021/09/03	2021/09/05	AB SOP-00037 / AB SOP-00003	EPA 3510C/8270E m
PAH in Water by GC/MS (1)	1	2021/09/07	2021/09/08	AB SOP-00037 / AB SOP-00003	EPA 3510C/8270E m
Total LMW, HMW, Total PAH Calc (1)	4	N/A	2021/09/05		Auto Calc
Total LMW, HMW, Total PAH Calc (1)	1	N/A	2021/09/08		Auto Calc
pH @25°C (1, 5)	2	N/A	2021/09/02	AB SOP-00005	SM 23 4500-H+B m
Total Dissolved Solids (Calculated) (1)	2	N/A	2021/09/05		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



Your C.O.C. #: 644255-01-01

**Attention: PETER TAN**  
GOLDER ASSOCIATES LTD  
16820-107 AVE  
EDMONTON, AB  
CANADA T5P 4C3

**Report Date: 2021/09/21**  
Report #: R3074550  
Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C164600**

**Received: 2021/08/31, 08:35**

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.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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) Silica gel clean up employed.
- (3) Dissolved > Total Imbalance: When applicable, Dissolved and Total results were reviewed and data quality meets acceptable levels unless otherwise noted.
- (4) B[a]P TPE is calculated using 1/2 of the RDL for non detect results as per Alberta Environment instructions. This protocol may not apply in other jurisdictions.
- (5) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas Laboratories endeavours to analyze samples as soon as possible after receipt.

Encryption Key



**AUTHORIZED REPORT  
RAPPORT AUTORISÉ**

Bureau Veritas  
21 Sep 2021 15:55:54

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

=====  
BV Labs 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

BV Labs Job #: C164600  
Report Date: 2021/09/21

GOLDER ASSOCIATES LTD  
Sampler Initials: PT

**RESULTS OF CHEMICAL ANALYSES OF WATER**

BV Labs ID		AEZ785			AEZ786			AEZ787		
Sampling Date		2021/08/28 13:30			2021/08/28 14:00			2021/08/29 09:00		
COC Number		644255-01-01			644255-01-01			644255-01-01		
	UNITS	P19-5	RDL	QC Batch	P19-4	RDL	QC Batch	P19-5	RDL	QC Batch
<b>Calculated Parameters</b>										
Hardness (CaCO3)	mg/L							400	0.50	A339501
Ion Balance (% Difference)	%							3.3	N/A	A339504
Dissolved Nitrate (N)	mg/L							<0.010	0.010	A339247
Dissolved Nitrate (NO3)	mg/L							<0.044	0.044	A339437
Dissolved Nitrite (NO2)	mg/L							<0.033	0.033	A339437
Calculated Total Dissolved Solids	mg/L							520	10	A339241
<b>Elements</b>										
Dissolved Cadmium (Cd)	ug/L	0.065	0.020	A339434						
<b>Misc. Inorganics</b>										
Conductivity	uS/cm							920	2.0	A340458
pH	pH							7.15	N/A	A340457
<b>Anions</b>										
Alkalinity (PP as CaCO3)	mg/L							<1.0	1.0	A340456
Alkalinity (Total as CaCO3)	mg/L							360	1.0	A340456
Bicarbonate (HCO3)	mg/L							440	1.0	A340456
Carbonate (CO3)	mg/L							<1.0	1.0	A340456
Hydroxide (OH)	mg/L							<1.0	1.0	A340456
Dissolved Chloride (Cl)	mg/L							50	1.0	A341958
Dissolved Sulphate (SO4)	mg/L							50	1.0	A341958
<b>Nutrients</b>										
Dissolved Nitrite (N)	mg/L							<0.010	0.010	A340069
Dissolved Nitrate plus Nitrite (N)	mg/L							<0.010	0.010	A340069
<b>Polycyclic Aromatics</b>										
Low Molecular Weight PAH's	ug/L	12	0.20	A339505	<0.20	0.20	A339505			
High Molecular Weight PAH's	ug/L	<0.050	0.050	A339505	<0.050	0.050	A339505			
Total PAH	ug/L	12	0.20	A339505	<0.20	0.20	A339505			
RDL = Reportable Detection Limit N/A = Not Applicable										



BUREAU  
VERITAS

BV Labs Job #: C164600  
Report Date: 2021/09/21

GOLDER ASSOCIATES LTD  
Sampler Initials: PT

**RESULTS OF CHEMICAL ANALYSES OF WATER**

BV Labs ID		AEZ788	AEZ789			AEZ790		
Sampling Date		2021/08/29 09:20	2021/08/29 14:00			2021/08/29 11:00		
COC Number		644255-01-01	644255-01-01			644255-01-01		
	<b>UNITS</b>	<b>P19-5D</b>	<b>P21-TB</b>	<b>RDL</b>	<b>QC Batch</b>	<b>P19-4</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>								
Anion Sum	meq/L					15	N/A	A339240
Cation Sum	meq/L					15	N/A	A339240
Hardness (CaCO3)	mg/L					660	0.50	A339245
Ion Balance (% Difference)	%					2.9	N/A	A339504
Dissolved Nitrate (N)	mg/L					18	0.25	A339247
Dissolved Nitrate (NO3)	mg/L					80	1.1	A339437
Dissolved Nitrite (NO2)	mg/L					0.73	0.033	A339437
Calculated Total Dissolved Solids	mg/L					880	10	A339241
<b>Elements</b>								
Dissolved Cadmium (Cd)	ug/L					0.034	0.020	A339434
<b>Misc. Inorganics</b>								
Conductivity	uS/cm					1300	2.0	A340458
pH	pH					7.54	N/A	A340457
<b>Anions</b>								
Alkalinity (PP as CaCO3)	mg/L					<1.0	1.0	A340456
Alkalinity (Total as CaCO3)	mg/L					260	1.0	A340456
Bicarbonate (HCO3)	mg/L					320	1.0	A340456
Carbonate (CO3)	mg/L					<1.0	1.0	A340456
Hydroxide (OH)	mg/L					<1.0	1.0	A340456
Dissolved Chloride (Cl)	mg/L					55	1.0	A341958
Dissolved Sulphate (SO4)	mg/L					310	5.0	A341958
<b>Nutrients</b>								
Dissolved Nitrite (N)	mg/L					0.22	0.010	A340069
Dissolved Nitrate plus Nitrite (N)	mg/L					18	0.25	A340069
<b>Polycyclic Aromatics</b>								
Low Molecular Weight PAH's	ug/L	20	<0.20	0.20	A339505			
High Molecular Weight PAH's	ug/L	<0.050	<0.050	0.050	A339505			
Total PAH	ug/L	20	<0.20	0.20	A339505			
RDL = Reportable Detection Limit N/A = Not Applicable								



**RESULTS OF CHEMICAL ANALYSES OF WATER**

<b>BV Labs ID</b>		AEZ791		
<b>Sampling Date</b>		2021/08/29 14:20		
<b>COC Number</b>		644255-01-01		
	<b>UNITS</b>	<b>P21-FB</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Polycyclic Aromatics</b>				
Low Molecular Weight PAH's	ug/L	<0.20	0.20	A339505
High Molecular Weight PAH's	ug/L	<0.050	0.050	A339505
Total PAH	ug/L	<0.20	0.20	A339505
RDL = Reportable Detection Limit				



**PETROLEUM HYDROCARBONS (CCME)**

<b>BV Labs ID</b>		AEZ785	AEZ786	AEZ788	AEZ789	AEZ791		
<b>Sampling Date</b>		2021/08/28 13:30	2021/08/28 14:00	2021/08/29 09:20	2021/08/29 14:00	2021/08/29 14:20		
<b>COC Number</b>		644255-01-01	644255-01-01	644255-01-01	644255-01-01	644255-01-01		
	<b>UNITS</b>	<b>P19-5</b>	<b>P19-4</b>	<b>P19-5D</b>	<b>P21-TB</b>	<b>P21-FB</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Ext. Pet. Hydrocarbon</b>								
F2 (C10-C16 Hydrocarbons)	mg/L	0.36	<0.10	0.43	<0.10	<0.10	0.10	A339935
F3 (C16-C34 Hydrocarbons)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A339935
F4 (C34-C50 Hydrocarbons)	mg/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	A339935
<b>Surrogate Recovery (%)</b>								
O-TERPHENYL (sur.)	%	105	101	103	106	101		A339935
RDL = Reportable Detection Limit								



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BV Labs Job #: C164600  
Report Date: 2021/09/21

GOLDER ASSOCIATES LTD  
Sampler Initials: PT

**SEMIVOLATILE ORGANICS BY GC-MS (WATER)**

BV Labs ID		AEZ785	AEZ786	AEZ788	AEZ789	AEZ791		
Sampling Date		2021/08/28 13:30	2021/08/28 14:00	2021/08/29 09:20	2021/08/29 14:00	2021/08/29 14:20		
COC Number		644255-01-01	644255-01-01	644255-01-01	644255-01-01	644255-01-01		
	UNITS	P19-5	P19-4	P19-5D	P21-TB	P21-FB	RDL	QC Batch
<b>Polycyclic Aromatics</b>								
B[a]P TPE Total Potency Equivalents	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A338303
Acenaphthene	ug/L	0.13	<0.10	0.21	<0.10	<0.10	0.10	A339934
Acenaphthylene	ug/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A339934
Acridine	ug/L	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	A339934
Anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A339934
Benzo(a)anthracene	ug/L	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	0.0085	A339934
Benzo(b&j)fluoranthene	ug/L	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	0.0085	A339934
Benzo(k)fluoranthene	ug/L	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	0.0085	A339934
Benzo(g,h,i)perylene	ug/L	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	0.0085	A339934
Benzo(c)phenanthrene	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A339934
Benzo(a)pyrene	ug/L	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	0.0075	A339934
Benzo(e)pyrene	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A339934
Chrysene	ug/L	0.021	<0.0085	0.015	<0.0085	<0.0085	0.0085	A339934
Dibenz(a,h)anthracene	ug/L	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	0.0075	A339934
Fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A339934
Fluorene	ug/L	0.27	<0.050	0.45	<0.050	<0.050	0.050	A339934
Indeno(1,2,3-cd)pyrene	ug/L	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	0.0085	A339934
1-Methylnaphthalene	ug/L	2.3	<0.10	3.7	<0.10	<0.10	0.10	A339934
2-Methylnaphthalene	ug/L	8.4	<0.10	16	<0.10	<0.10	0.10	A339934
Naphthalene	ug/L	2.8	<0.10	3.9	<0.10	<0.10	0.10	A339934
Phenanthrene	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A339934
Perylene	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A339934
Pyrene	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A339934
Quinoline	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	A339934
<b>Surrogate Recovery (%)</b>								
D10-ANTHRACENE (sur.)	%	86	108	110	109	103		A339934
D8-ACENAPHTHYLENE (sur.)	%	75	99	97	100	83		A339934
D8-NAPHTHALENE (sur.)	%	53	73	66	80	63		A339934
TERPHENYL-D14 (sur.)	%	74	87	95	94	97		A339934
RDL = Reportable Detection Limit								



BUREAU  
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BV Labs Job #: C164600  
Report Date: 2021/09/21

GOLDER ASSOCIATES LTD  
Sampler Initials: PT

### ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

<b>BV Labs ID</b>		AEZ785			AEZ787			AEZ790		
<b>Sampling Date</b>		2021/08/28 13:30			2021/08/29 09:00			2021/08/29 11:00		
<b>COC Number</b>		644255-01-01			644255-01-01			644255-01-01		
	<b>UNITS</b>	<b>P19-5</b>	<b>RDL</b>	<b>QC Batch</b>	<b>P19-5</b>	<b>RDL</b>	<b>QC Batch</b>	<b>P19-4</b>	<b>RDL</b>	<b>QC Batch</b>

Elements										
Dissolved Aluminum (Al)	mg/L	0.031	0.0030	A340769				0.010	0.0030	A340771
Dissolved Antimony (Sb)	mg/L	<0.00060	0.00060	A340769				<0.00060	0.00060	A340771
Dissolved Arsenic (As)	mg/L	0.011	0.00020	A340769				0.00074	0.00020	A340771
Dissolved Barium (Ba)	mg/L	0.18	0.010	A343870				0.074	0.010	A341798
Dissolved Beryllium (Be)	mg/L	<0.0010	0.0010	A340769				<0.0010	0.0010	A340771
Dissolved Boron (B)	mg/L	0.034	0.020	A343870				0.061	0.020	A341798
Dissolved Calcium (Ca)	mg/L	110	0.30	A343870				160	0.30	A341798
Dissolved Chromium (Cr)	mg/L	0.0022	0.0010	A340769				0.0012	0.0010	A340771
Dissolved Cobalt (Co)	mg/L	0.0080	0.00030	A340769				<0.00030	0.00030	A340771
Dissolved Copper (Cu)	mg/L	0.0010	0.00020	A340769				0.0060	0.00020	A340771
Dissolved Iron (Fe)	mg/L	18	0.060	A343870				<0.060	0.060	A341798
Dissolved Lead (Pb)	mg/L	<0.00020	0.00020	A340769				<0.00020	0.00020	A340771
Dissolved Lithium (Li)	mg/L	<0.020	0.020	A343870				<0.020	0.020	A341798
Dissolved Magnesium (Mg)	mg/L	32	0.20	A343870				65	0.20	A341798
Dissolved Manganese (Mn)	mg/L	1.9	0.0040	A343870				0.011	0.0040	A341798
Dissolved Molybdenum (Mo)	mg/L	0.0015	0.00020	A340769				0.00081	0.00020	A340771
Dissolved Nickel (Ni)	mg/L	0.018	0.00050	A340769				0.0068	0.00050	A340771
Dissolved Phosphorus (P)	mg/L	<0.10	0.10	A343870				<0.10	0.10	A341798
Dissolved Potassium (K)	mg/L	36	0.30	A343870				5.9	0.30	A341798
Dissolved Selenium (Se)	mg/L	0.00033	0.00020	A340769				0.0010	0.00020	A340771
Dissolved Silicon (Si)	mg/L	4.7	0.10	A343870				1.9	0.10	A341798
Dissolved Silver (Ag)	mg/L	<0.00010	0.00010	A340769				<0.00010	0.00010	A340771
Dissolved Sodium (Na)	mg/L	27	0.50	A343870				48	0.50	A341798
Dissolved Strontium (Sr)	mg/L	0.47	0.020	A343870				0.48	0.020	A341798
Dissolved Sulphur (S)	mg/L	17	0.20	A343870				110	0.20	A341798
Dissolved Thallium (Tl)	mg/L	<0.00020	0.00020	A340769				<0.00020	0.00020	A340771
Dissolved Tin (Sn)	mg/L	<0.0010	0.0010	A340769				<0.0010	0.0010	A340771
Dissolved Titanium (Ti)	mg/L	<0.0010	0.0010	A340769				<0.0010	0.0010	A340771
Dissolved Uranium (U)	mg/L	0.00067	0.00010	A340769				0.014	0.00010	A340771
Dissolved Vanadium (V)	mg/L	0.0030	0.0010	A340769				<0.0010	0.0010	A340771
Dissolved Zinc (Zn)	mg/L	0.025	0.0030	A340769				0.017	0.0030	A340771

Lab Filtered Elements										
Dissolved Calcium (Ca)	mg/L				110	0.30	A340078			

RDL = Reportable Detection Limit



**ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)**

BV Labs ID		AEZ785			AEZ787			AEZ790		
Sampling Date		2021/08/28 13:30			2021/08/29 09:00			2021/08/29 11:00		
COC Number		644255-01-01			644255-01-01			644255-01-01		
	UNITS	P19-5	RDL	QC Batch	P19-5	RDL	QC Batch	P19-4	RDL	QC Batch
Dissolved Iron (Fe)	mg/L				1.1	0.060	A340078			
Dissolved Magnesium (Mg)	mg/L				34	0.20	A340078			
Dissolved Manganese (Mn)	mg/L				1.8	0.0040	A340078			
Dissolved Potassium (K)	mg/L				34	0.30	A340078			
Dissolved Sodium (Na)	mg/L				28	0.50	A340078			
RDL = Reportable Detection Limit										





**VOLATILE ORGANICS BY GC-MS (WATER)**

BV Labs ID		AEZ785	AEZ786	AEZ788	AEZ789	AEZ791		
Sampling Date		2021/08/28 13:30	2021/08/28 14:00	2021/08/29 09:20	2021/08/29 14:00	2021/08/29 14:20		
COC Number		644255-01-01	644255-01-01	644255-01-01	644255-01-01	644255-01-01		
	UNITS	P19-5	P19-4	P19-5D	P21-TB	P21-FB	RDL	QC Batch
<b>Volatiles</b>								
Benzene	mg/L	0.00075	<0.00040	0.0010	<0.00040	<0.00040	0.00040	A340414
Toluene	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	0.0011	0.00040	A340414
Ethylbenzene	mg/L	0.0018	<0.00040	0.0025	<0.00040	<0.00040	0.00040	A340414
m & p-Xylene	mg/L	0.0014	<0.00080	0.0017	<0.00080	<0.00080	0.00080	A340414
o-Xylene	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040	0.00040	A340414
Xylenes (Total)	mg/L	0.0014	<0.00089	0.0017	<0.00089	<0.00089	0.00089	A339195
F1 (C6-C10) - BTEX	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A339195
F1 (C6-C10)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	A340414
<b>Surrogate Recovery (%)</b>								
1,4-Difluorobenzene (sur.)	%	100	101	102	102	103		A340414
4-Bromofluorobenzene (sur.)	%	99	98	98	99	99		A340414
D4-1,2-Dichloroethane (sur.)	%	100	101	104	98	99		A340414
RDL = Reportable Detection Limit								



### GENERAL COMMENTS

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

Package 1	0.7°C
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revised report: Generate EDD

Sample AEZ787 [P19-5] : NO<sub>2</sub> (N); NO<sub>2</sub> (N) + NO<sub>3</sub> (N) in Water completed within five days of sampling. Data is satisfactory for compliance purposes.

Sample AEZ790 [P19-4] : NO<sub>2</sub> (N); NO<sub>2</sub> (N) + NO<sub>3</sub> (N) in Water completed within five days of sampling. Data is satisfactory for compliance purposes.

**Results relate only to the items tested.**



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BV Labs Job #: C164600  
Report Date: 2021/09/21

GOLDER ASSOCIATES LTD  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
A339934	NK3	Matrix Spike	D10-ANTHRACENE (sur.)	2021/09/05	106	%	50 - 130			
			D8-ACENAPHTHYLENE (sur.)	2021/09/05	95	%	50 - 130			
			D8-NAPHTHALENE (sur.)	2021/09/05	70	%	50 - 130			
			TERPHENYL-D14 (sur.)	2021/09/05	93	%	50 - 130			
			Acenaphthene	2021/09/05	88	%	50 - 130			
			Acenaphthylene	2021/09/05	93	%	50 - 130			
			Acridine	2021/09/05	85	%	50 - 130			
			Anthracene	2021/09/05	88	%	50 - 130			
			Benzo(a)anthracene	2021/09/05	96	%	50 - 130			
			Benzo(b&j)fluoranthene	2021/09/05	91	%	50 - 130			
			Benzo(k)fluoranthene	2021/09/05	92	%	50 - 130			
			Benzo(g,h,i)perylene	2021/09/05	91	%	50 - 130			
			Benzo(c)phenanthrene	2021/09/05	91	%	50 - 130			
			Benzo(a)pyrene	2021/09/05	97	%	50 - 130			
			Benzo(e)pyrene	2021/09/05	86	%	50 - 130			
			Chrysene	2021/09/05	94	%	50 - 130			
			Dibenz(a,h)anthracene	2021/09/05	92	%	50 - 130			
			Fluoranthene	2021/09/05	94	%	50 - 130			
			Fluorene	2021/09/05	97	%	50 - 130			
			Indeno(1,2,3-cd)pyrene	2021/09/05	97	%	50 - 130			
			1-Methylnaphthalene	2021/09/05	60	%	50 - 130			
			2-Methylnaphthalene	2021/09/05	73	%	50 - 130			
			Naphthalene	2021/09/05	73	%	50 - 130			
			Phenanthrene	2021/09/05	94	%	50 - 130			
			Perylene	2021/09/05	90	%	50 - 130			
			Pyrene	2021/09/05	94	%	50 - 130			
			Quinoline	2021/09/05	102	%	50 - 130			
			A339934	NK3	Spiked Blank	D10-ANTHRACENE (sur.)	2021/09/05	109	%	50 - 130
						D8-ACENAPHTHYLENE (sur.)	2021/09/05	95	%	50 - 130
						D8-NAPHTHALENE (sur.)	2021/09/05	68	%	50 - 130
						TERPHENYL-D14 (sur.)	2021/09/05	95	%	50 - 130
Acenaphthene	2021/09/05	85				%	50 - 130			
Acenaphthylene	2021/09/05	92				%	50 - 130			
Acridine	2021/09/05	92				%	50 - 130			
Anthracene	2021/09/05	89				%	50 - 130			
Benzo(a)anthracene	2021/09/05	100				%	50 - 130			
Benzo(b&j)fluoranthene	2021/09/05	95				%	50 - 130			
Benzo(k)fluoranthene	2021/09/05	97				%	50 - 130			
Benzo(g,h,i)perylene	2021/09/05	98				%	50 - 130			
Benzo(c)phenanthrene	2021/09/05	93				%	50 - 130			
Benzo(a)pyrene	2021/09/05	104				%	50 - 130			
Benzo(e)pyrene	2021/09/05	92				%	50 - 130			
Chrysene	2021/09/05	97				%	50 - 130			
Dibenz(a,h)anthracene	2021/09/05	100				%	50 - 130			
Fluoranthene	2021/09/05	97				%	50 - 130			
Fluorene	2021/09/05	94				%	50 - 130			
Indeno(1,2,3-cd)pyrene	2021/09/05	104				%	50 - 130			
1-Methylnaphthalene	2021/09/05	58	%	50 - 130						
2-Methylnaphthalene	2021/09/05	69	%	50 - 130						
Naphthalene	2021/09/05	75	%	50 - 130						
Phenanthrene	2021/09/05	94	%	50 - 130						
Perylene	2021/09/05	96	%	50 - 130						
Pyrene	2021/09/05	98	%	50 - 130						
Quinoline	2021/09/05	98	%	50 - 130						
A339934	NK3	Method Blank	D10-ANTHRACENE (sur.)	2021/09/05	106	%	50 - 130			



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BV Labs Job #: C164600  
Report Date: 2021/09/21

GOLDER ASSOCIATES LTD  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			D8-ACENAPHTHYLENE (sur.)	2021/09/05		90	%	50 - 130
			D8-NAPHTHALENE (sur.)	2021/09/05		68	%	50 - 130
			TERPHENYL-D14 (sur.)	2021/09/05		89	%	50 - 130
			Acenaphthene	2021/09/05	<0.10		ug/L	
			Acenaphthylene	2021/09/05	<0.10		ug/L	
			Acridine	2021/09/05	<0.040		ug/L	
			Anthracene	2021/09/05	<0.010		ug/L	
			Benzo(a)anthracene	2021/09/05	<0.0085		ug/L	
			Benzo(b&j)fluoranthene	2021/09/05	<0.0085		ug/L	
			Benzo(k)fluoranthene	2021/09/05	<0.0085		ug/L	
			Benzo(g,h,i)perylene	2021/09/05	<0.0085		ug/L	
			Benzo(c)phenanthrene	2021/09/05	<0.050		ug/L	
			Benzo(a)pyrene	2021/09/05	<0.0075		ug/L	
			Benzo(e)pyrene	2021/09/05	<0.050		ug/L	
			Chrysene	2021/09/05	<0.0085		ug/L	
			Dibenz(a,h)anthracene	2021/09/05	<0.0075		ug/L	
			Fluoranthene	2021/09/05	<0.010		ug/L	
			Fluorene	2021/09/05	<0.050		ug/L	
			Indeno(1,2,3-cd)pyrene	2021/09/05	<0.0085		ug/L	
			1-Methylnaphthalene	2021/09/05	<0.10		ug/L	
			2-Methylnaphthalene	2021/09/05	<0.10		ug/L	
			Naphthalene	2021/09/05	<0.10		ug/L	
			Phenanthrene	2021/09/05	<0.050		ug/L	
			Perylene	2021/09/05	<0.050		ug/L	
			Pyrene	2021/09/05	<0.020		ug/L	
			Quinoline	2021/09/05	<0.20		ug/L	
A339934	NK3	RPD	Acenaphthene	2021/09/05	5.3		%	30
			Acenaphthylene	2021/09/05	7.1		%	30
			Acridine	2021/09/05	8.5		%	30
			Anthracene	2021/09/05	2.0		%	30
			Benzo(a)anthracene	2021/09/05	NC		%	30
			Benzo(b&j)fluoranthene	2021/09/05	NC		%	30
			Benzo(k)fluoranthene	2021/09/05	NC		%	30
			Benzo(g,h,i)perylene	2021/09/05	NC		%	30
			Benzo(c)phenanthrene	2021/09/05	NC		%	30
			Benzo(a)pyrene	2021/09/05	NC		%	30
			Benzo(e)pyrene	2021/09/05	NC		%	30
			Chrysene	2021/09/05	NC		%	30
			Dibenz(a,h)anthracene	2021/09/05	NC		%	30
			Fluoranthene	2021/09/05	27		%	30
			Fluorene	2021/09/05	7.4		%	30
			Indeno(1,2,3-cd)pyrene	2021/09/05	NC		%	30
			1-Methylnaphthalene	2021/09/05	4.6		%	30
			2-Methylnaphthalene	2021/09/05	NC		%	30
			Naphthalene	2021/09/05	6.8		%	30
			Phenanthrene	2021/09/05	NC		%	30
			Perylene	2021/09/05	NC		%	30
			Pyrene	2021/09/05	6.7		%	30
			Quinoline	2021/09/05	NC		%	30
A339935	ECO	Matrix Spike	O-TERPHENYL (sur.)	2021/09/04		101	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/04		101	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/04		100	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/04		144 (1)	%	60 - 140
A339935	ECO	Spiked Blank	O-TERPHENYL (sur.)	2021/09/04		97	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/04		90	%	60 - 140



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BV Labs Job #: C164600  
Report Date: 2021/09/21

GOLDER ASSOCIATES LTD  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
A339935	ECO	Method Blank	F3 (C16-C34 Hydrocarbons)	2021/09/04		92	%	60 - 140	
			F4 (C34-C50 Hydrocarbons)	2021/09/04		90	%	60 - 140	
			O-TERPHENYL (sur.)	2021/09/04		98	%	60 - 140	
			F2 (C10-C16 Hydrocarbons)	2021/09/04	<0.10			mg/L	
			F3 (C16-C34 Hydrocarbons)	2021/09/04	<0.10			mg/L	
A339935	ECO	RPD	F4 (C34-C50 Hydrocarbons)	2021/09/04	<0.20		mg/L		
			F2 (C10-C16 Hydrocarbons)	2021/09/04	23	%	30		
			F3 (C16-C34 Hydrocarbons)	2021/09/04	22	%	30		
A340069	SKM	Matrix Spike	F4 (C34-C50 Hydrocarbons)	2021/09/04	NC		%	30	
			Dissolved Nitrite (N)	2021/09/02		105	%	80 - 120	
A340069	SKM	Spiked Blank	Dissolved Nitrate plus Nitrite (N)	2021/09/02		133 (1)	%	80 - 120	
			Dissolved Nitrite (N)	2021/09/02		102	%	80 - 120	
A340069	SKM	Method Blank	Dissolved Nitrate plus Nitrite (N)	2021/09/02		102	%	80 - 120	
			Dissolved Nitrite (N)	2021/09/02	<0.010			mg/L	
A340069	SKM	RPD	Dissolved Nitrate plus Nitrite (N)	2021/09/02	<0.010		mg/L		
			Dissolved Nitrite (N)	2021/09/02	6.9	%	20		
A340078	JAB	Matrix Spike	Dissolved Nitrate plus Nitrite (N)	2021/09/02	5.8		%	20	
			Dissolved Calcium (Ca)	2021/09/04		102	%	80 - 120	
			Dissolved Iron (Fe)	2021/09/04		120	%	80 - 120	
			Dissolved Magnesium (Mg)	2021/09/04		109	%	80 - 120	
			Dissolved Manganese (Mn)	2021/09/04		105	%	80 - 120	
A340078	JAB	Spiked Blank	Dissolved Potassium (K)	2021/09/04		104	%	80 - 120	
			Dissolved Sodium (Na)	2021/09/04		99	%	80 - 120	
			Dissolved Calcium (Ca)	2021/09/04		101	%	80 - 120	
			Dissolved Iron (Fe)	2021/09/04		113	%	80 - 120	
			Dissolved Magnesium (Mg)	2021/09/04		107	%	80 - 120	
			Dissolved Manganese (Mn)	2021/09/04		106	%	80 - 120	
			Dissolved Potassium (K)	2021/09/04		103	%	80 - 120	
			Dissolved Sodium (Na)	2021/09/04		98	%	80 - 120	
A340078	JAB	Method Blank	Dissolved Calcium (Ca)	2021/09/04	<0.30		mg/L		
			Dissolved Iron (Fe)	2021/09/04	<0.060		mg/L		
			Dissolved Magnesium (Mg)	2021/09/04	<0.20		mg/L		
			Dissolved Manganese (Mn)	2021/09/04	<0.0040		mg/L		
			Dissolved Potassium (K)	2021/09/04	<0.30		mg/L		
			Dissolved Sodium (Na)	2021/09/04	<0.50		mg/L		
A340078	JAB	RPD	Dissolved Calcium (Ca)	2021/09/05	2.4		%	20	
			Dissolved Iron (Fe)	2021/09/05	3.2		%	20	
			Dissolved Magnesium (Mg)	2021/09/05	0.85		%	20	
			Dissolved Manganese (Mn)	2021/09/05	4.0		%	20	
			Dissolved Potassium (K)	2021/09/05	14		%	20	
			Dissolved Sodium (Na)	2021/09/05	2.8		%	20	
A340414	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/03		102	%	50 - 140	
			4-Bromofluorobenzene (sur.)	2021/09/03		99	%	50 - 140	
			D4-1,2-Dichloroethane (sur.)	2021/09/03		102	%	50 - 140	
			Benzene	2021/09/03		96	%	50 - 140	
			Toluene	2021/09/03		99	%	50 - 140	
			Ethylbenzene	2021/09/03		102	%	50 - 140	
			m & p-Xylene	2021/09/03		97	%	50 - 140	
			o-Xylene	2021/09/03		99	%	50 - 140	
			F1 (C6-C10)	2021/09/03		112	%	60 - 140	
			1,4-Difluorobenzene (sur.)	2021/09/03		100	%	50 - 140	
A340414	DO1	Spiked Blank	4-Bromofluorobenzene (sur.)	2021/09/03		102	%	50 - 140	
			D4-1,2-Dichloroethane (sur.)	2021/09/03		100	%	50 - 140	
			Benzene	2021/09/03		94	%	60 - 130	
			Toluene	2021/09/03		98	%	60 - 130	



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### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
				Ethylbenzene	2021/09/03		101	%	60 - 130
				m & p-Xylene	2021/09/03		98	%	60 - 130
				o-Xylene	2021/09/03		99	%	60 - 130
				F1 (C6-C10)	2021/09/03		97	%	60 - 140
A340414	DO1		Method Blank	1,4-Difluorobenzene (sur.)	2021/09/03		102	%	50 - 140
				4-Bromofluorobenzene (sur.)	2021/09/03		98	%	50 - 140
				D4-1,2-Dichloroethane (sur.)	2021/09/03		100	%	50 - 140
				Benzene	2021/09/03	<0.00040		mg/L	
				Toluene	2021/09/03	<0.00040		mg/L	
				Ethylbenzene	2021/09/03	<0.00040		mg/L	
				m & p-Xylene	2021/09/03	<0.00080		mg/L	
				o-Xylene	2021/09/03	<0.00040		mg/L	
				F1 (C6-C10)	2021/09/03	<0.10		mg/L	
A340414	DO1	RPD		Benzene	2021/09/03	NC		%	30
				Toluene	2021/09/03	NC		%	30
				Ethylbenzene	2021/09/03	NC		%	30
				m & p-Xylene	2021/09/03	NC		%	30
				o-Xylene	2021/09/03	NC		%	30
				F1 (C6-C10)	2021/09/03	NC		%	30
A340456	IKO		Spiked Blank	Alkalinity (Total as CaCO3)	2021/09/02		97	%	80 - 120
A340456	IKO		Method Blank	Alkalinity (PP as CaCO3)	2021/09/02	<1.0		mg/L	
				Alkalinity (Total as CaCO3)	2021/09/02	<1.0		mg/L	
				Bicarbonate (HCO3)	2021/09/02	<1.0		mg/L	
				Carbonate (CO3)	2021/09/02	<1.0		mg/L	
				Hydroxide (OH)	2021/09/02	<1.0		mg/L	
A340456	IKO	RPD		Alkalinity (PP as CaCO3)	2021/09/02	NC		%	20
				Alkalinity (Total as CaCO3)	2021/09/02	1.0		%	20
				Bicarbonate (HCO3)	2021/09/02	0.30		%	20
				Carbonate (CO3)	2021/09/02	NC		%	20
				Hydroxide (OH)	2021/09/02	NC		%	20
A340457	IKO		Spiked Blank	pH	2021/09/02		100	%	97 - 103
A340457	IKO		RPD	pH	2021/09/02	0.36		%	N/A
A340458	IKO		Spiked Blank	Conductivity	2021/09/02		102	%	90 - 110
A340458	IKO		Method Blank	Conductivity	2021/09/02	<2.0		uS/cm	
A340458	IKO		RPD	Conductivity	2021/09/02	0.34		%	10
A340769	LQ1		Matrix Spike	Dissolved Aluminum (Al)	2021/09/07		111	%	80 - 120
				Dissolved Antimony (Sb)	2021/09/07		112	%	80 - 120
				Dissolved Arsenic (As)	2021/09/07		106	%	80 - 120
				Dissolved Beryllium (Be)	2021/09/07		111	%	80 - 120
				Dissolved Chromium (Cr)	2021/09/07		107	%	80 - 120
				Dissolved Cobalt (Co)	2021/09/07		105	%	80 - 120
				Dissolved Copper (Cu)	2021/09/07		107	%	80 - 120
				Dissolved Lead (Pb)	2021/09/07		106	%	80 - 120
				Dissolved Molybdenum (Mo)	2021/09/07		109	%	80 - 120
				Dissolved Nickel (Ni)	2021/09/07		105	%	80 - 120
				Dissolved Selenium (Se)	2021/09/07		109	%	80 - 120
				Dissolved Silver (Ag)	2021/09/07		105	%	80 - 120
				Dissolved Thallium (Tl)	2021/09/07		105	%	80 - 120
				Dissolved Tin (Sn)	2021/09/07		109	%	80 - 120
				Dissolved Titanium (Ti)	2021/09/07		109	%	80 - 120
				Dissolved Uranium (U)	2021/09/07		104	%	80 - 120
				Dissolved Vanadium (V)	2021/09/07		109	%	80 - 120
				Dissolved Zinc (Zn)	2021/09/07		111	%	80 - 120
A340769	LQ1		Spiked Blank	Dissolved Aluminum (Al)	2021/09/07		112	%	80 - 120
				Dissolved Antimony (Sb)	2021/09/07		112	%	80 - 120



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			Dissolved Arsenic (As)	2021/09/07		105	%	80 - 120
			Dissolved Beryllium (Be)	2021/09/07		103	%	80 - 120
			Dissolved Chromium (Cr)	2021/09/07		106	%	80 - 120
			Dissolved Cobalt (Co)	2021/09/07		105	%	80 - 120
			Dissolved Copper (Cu)	2021/09/07		105	%	80 - 120
			Dissolved Lead (Pb)	2021/09/07		106	%	80 - 120
			Dissolved Molybdenum (Mo)	2021/09/07		112	%	80 - 120
			Dissolved Nickel (Ni)	2021/09/07		107	%	80 - 120
			Dissolved Selenium (Se)	2021/09/07		110	%	80 - 120
			Dissolved Silver (Ag)	2021/09/07		107	%	80 - 120
			Dissolved Thallium (Tl)	2021/09/07		103	%	80 - 120
			Dissolved Tin (Sn)	2021/09/07		110	%	80 - 120
			Dissolved Titanium (Ti)	2021/09/07		110	%	80 - 120
			Dissolved Uranium (U)	2021/09/07		106	%	80 - 120
			Dissolved Vanadium (V)	2021/09/07		111	%	80 - 120
			Dissolved Zinc (Zn)	2021/09/07		109	%	80 - 120
A340769	LQ1	Method Blank	Dissolved Aluminum (Al)	2021/09/07	<0.0030		mg/L	
			Dissolved Antimony (Sb)	2021/09/07	<0.00060		mg/L	
			Dissolved Arsenic (As)	2021/09/07	<0.00020		mg/L	
			Dissolved Beryllium (Be)	2021/09/07	<0.0010		mg/L	
			Dissolved Chromium (Cr)	2021/09/07	<0.0010		mg/L	
			Dissolved Cobalt (Co)	2021/09/07	<0.00030		mg/L	
			Dissolved Copper (Cu)	2021/09/07	<0.00020		mg/L	
			Dissolved Lead (Pb)	2021/09/07	<0.00020		mg/L	
			Dissolved Molybdenum (Mo)	2021/09/07	<0.00020		mg/L	
			Dissolved Nickel (Ni)	2021/09/07	<0.00050		mg/L	
			Dissolved Selenium (Se)	2021/09/07	<0.00020		mg/L	
			Dissolved Silver (Ag)	2021/09/07	<0.00010		mg/L	
			Dissolved Thallium (Tl)	2021/09/07	<0.00020		mg/L	
			Dissolved Tin (Sn)	2021/09/07	<0.0010		mg/L	
			Dissolved Titanium (Ti)	2021/09/07	<0.0010		mg/L	
			Dissolved Uranium (U)	2021/09/07	<0.00010		mg/L	
			Dissolved Vanadium (V)	2021/09/07	<0.0010		mg/L	
			Dissolved Zinc (Zn)	2021/09/07	<0.0030		mg/L	
A340769	LQ1	RPD	Dissolved Aluminum (Al)	2021/09/07	NC		%	20
			Dissolved Antimony (Sb)	2021/09/07	NC		%	20
			Dissolved Arsenic (As)	2021/09/07	NC		%	20
			Dissolved Beryllium (Be)	2021/09/07	NC		%	20
			Dissolved Chromium (Cr)	2021/09/07	NC		%	20
			Dissolved Cobalt (Co)	2021/09/07	NC		%	20
			Dissolved Copper (Cu)	2021/09/07	NC		%	20
			Dissolved Lead (Pb)	2021/09/07	NC		%	20
			Dissolved Molybdenum (Mo)	2021/09/07	NC		%	20
			Dissolved Nickel (Ni)	2021/09/07	NC		%	20
			Dissolved Selenium (Se)	2021/09/07	NC		%	20
			Dissolved Silver (Ag)	2021/09/07	NC		%	20
			Dissolved Thallium (Tl)	2021/09/07	NC		%	20
			Dissolved Tin (Sn)	2021/09/07	NC		%	20
			Dissolved Titanium (Ti)	2021/09/07	NC		%	20
			Dissolved Uranium (U)	2021/09/07	NC		%	20
			Dissolved Vanadium (V)	2021/09/07	8.2		%	20
			Dissolved Zinc (Zn)	2021/09/07	NC		%	20
A340771	LQ1	Matrix Spike	Dissolved Aluminum (Al)	2021/09/09		NC	%	80 - 120
			Dissolved Antimony (Sb)	2021/09/09		105	%	80 - 120
			Dissolved Arsenic (As)	2021/09/09		98	%	80 - 120





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			Dissolved Beryllium (Be)	2021/09/09		105	%	80 - 120
			Dissolved Chromium (Cr)	2021/09/09		100	%	80 - 120
			Dissolved Cobalt (Co)	2021/09/09		101	%	80 - 120
			Dissolved Copper (Cu)	2021/09/09		98	%	80 - 120
			Dissolved Lead (Pb)	2021/09/09		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2021/09/09		105	%	80 - 120
			Dissolved Nickel (Ni)	2021/09/09		97	%	80 - 120
			Dissolved Selenium (Se)	2021/09/09		105	%	80 - 120
			Dissolved Silver (Ag)	2021/09/09		102	%	80 - 120
			Dissolved Thallium (Tl)	2021/09/09		102	%	80 - 120
			Dissolved Tin (Sn)	2021/09/09		109	%	80 - 120
			Dissolved Titanium (Ti)	2021/09/09		109	%	80 - 120
			Dissolved Uranium (U)	2021/09/09		99	%	80 - 120
			Dissolved Vanadium (V)	2021/09/09		103	%	80 - 120
			Dissolved Zinc (Zn)	2021/09/09		104	%	80 - 120
A340771	LQ1	Spiked Blank	Dissolved Aluminum (Al)	2021/09/09		121 (1)	%	80 - 120
			Dissolved Antimony (Sb)	2021/09/09		112	%	80 - 120
			Dissolved Arsenic (As)	2021/09/09		105	%	80 - 120
			Dissolved Beryllium (Be)	2021/09/09		110	%	80 - 120
			Dissolved Chromium (Cr)	2021/09/09		107	%	80 - 120
			Dissolved Cobalt (Co)	2021/09/09		104	%	80 - 120
			Dissolved Copper (Cu)	2021/09/09		105	%	80 - 120
			Dissolved Lead (Pb)	2021/09/09		106	%	80 - 120
			Dissolved Molybdenum (Mo)	2021/09/09		109	%	80 - 120
			Dissolved Nickel (Ni)	2021/09/09		105	%	80 - 120
			Dissolved Selenium (Se)	2021/09/09		112	%	80 - 120
			Dissolved Silver (Ag)	2021/09/09		107	%	80 - 120
			Dissolved Thallium (Tl)	2021/09/09		105	%	80 - 120
			Dissolved Tin (Sn)	2021/09/09		112	%	80 - 120
			Dissolved Titanium (Ti)	2021/09/09		103	%	80 - 120
			Dissolved Uranium (U)	2021/09/09		103	%	80 - 120
			Dissolved Vanadium (V)	2021/09/09		111	%	80 - 120
			Dissolved Zinc (Zn)	2021/09/09		103	%	80 - 120
A340771	LQ1	Method Blank	Dissolved Aluminum (Al)	2021/09/09	<0.0030		mg/L	
			Dissolved Antimony (Sb)	2021/09/09	<0.00060		mg/L	
			Dissolved Arsenic (As)	2021/09/09	<0.00020		mg/L	
			Dissolved Beryllium (Be)	2021/09/09	<0.0010		mg/L	
			Dissolved Chromium (Cr)	2021/09/09	<0.0010		mg/L	
			Dissolved Cobalt (Co)	2021/09/09	<0.00030		mg/L	
			Dissolved Copper (Cu)	2021/09/09	<0.00020		mg/L	
			Dissolved Lead (Pb)	2021/09/09	<0.00020		mg/L	
			Dissolved Molybdenum (Mo)	2021/09/09	<0.00020		mg/L	
			Dissolved Nickel (Ni)	2021/09/09	<0.00050		mg/L	
			Dissolved Selenium (Se)	2021/09/09	<0.00020		mg/L	
			Dissolved Silver (Ag)	2021/09/09	<0.00010		mg/L	
			Dissolved Thallium (Tl)	2021/09/09	<0.00020		mg/L	
			Dissolved Tin (Sn)	2021/09/09	<0.0010		mg/L	
			Dissolved Titanium (Ti)	2021/09/09	<0.0010		mg/L	
			Dissolved Uranium (U)	2021/09/09	<0.00010		mg/L	
			Dissolved Vanadium (V)	2021/09/09	<0.0010		mg/L	
			Dissolved Zinc (Zn)	2021/09/09	<0.0030		mg/L	
A340771	LQ1	RPD	Dissolved Aluminum (Al)	2021/09/09	0.82		%	20
			Dissolved Antimony (Sb)	2021/09/09	NC		%	20
			Dissolved Arsenic (As)	2021/09/09	NC		%	20
			Dissolved Beryllium (Be)	2021/09/09	NC		%	20



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			Dissolved Chromium (Cr)	2021/09/09	NC		%	20
			Dissolved Cobalt (Co)	2021/09/09	7.9		%	20
			Dissolved Copper (Cu)	2021/09/09	12		%	20
			Dissolved Lead (Pb)	2021/09/09	4.0		%	20
			Dissolved Molybdenum (Mo)	2021/09/09	NC		%	20
			Dissolved Nickel (Ni)	2021/09/09	0.78		%	20
			Dissolved Selenium (Se)	2021/09/09	NC		%	20
			Dissolved Silver (Ag)	2021/09/09	NC		%	20
			Dissolved Thallium (Tl)	2021/09/09	NC		%	20
			Dissolved Tin (Sn)	2021/09/09	NC		%	20
			Dissolved Titanium (Ti)	2021/09/09	17		%	20
			Dissolved Uranium (U)	2021/09/09	8.3		%	20
			Dissolved Vanadium (V)	2021/09/09	5.9		%	20
			Dissolved Zinc (Zn)	2021/09/09	1.0		%	20
A341798	JAB	Matrix Spike	Dissolved Barium (Ba)	2021/09/04		9.0 (2)	%	80 - 120
			Dissolved Boron (B)	2021/09/04		95	%	80 - 120
			Dissolved Calcium (Ca)	2021/09/04		NC	%	80 - 120
			Dissolved Iron (Fe)	2021/09/04		NC	%	80 - 120
			Dissolved Lithium (Li)	2021/09/04		98	%	80 - 120
			Dissolved Magnesium (Mg)	2021/09/04		NC	%	80 - 120
			Dissolved Manganese (Mn)	2021/09/04		91	%	80 - 120
			Dissolved Phosphorus (P)	2021/09/04		101	%	80 - 120
			Dissolved Potassium (K)	2021/09/04		100	%	80 - 120
			Dissolved Silicon (Si)	2021/09/04		NC	%	80 - 120
			Dissolved Sodium (Na)	2021/09/04		96	%	80 - 120
			Dissolved Strontium (Sr)	2021/09/04		NC	%	80 - 120
			Dissolved Sulphur (S)	2021/09/04		NC	%	80 - 120
A341798	JAB	Spiked Blank	Dissolved Barium (Ba)	2021/09/04		98	%	80 - 120
			Dissolved Boron (B)	2021/09/04		96	%	80 - 120
			Dissolved Calcium (Ca)	2021/09/04		100	%	80 - 120
			Dissolved Iron (Fe)	2021/09/04		106	%	80 - 120
			Dissolved Lithium (Li)	2021/09/04		100	%	80 - 120
			Dissolved Magnesium (Mg)	2021/09/04		106	%	80 - 120
			Dissolved Manganese (Mn)	2021/09/04		102	%	80 - 120
			Dissolved Phosphorus (P)	2021/09/04		104	%	80 - 120
			Dissolved Potassium (K)	2021/09/04		102	%	80 - 120
			Dissolved Silicon (Si)	2021/09/04		98	%	80 - 120
			Dissolved Sodium (Na)	2021/09/04		97	%	80 - 120
			Dissolved Strontium (Sr)	2021/09/04		97	%	80 - 120
			Dissolved Sulphur (S)	2021/09/04		101	%	80 - 120
A341798	JAB	Method Blank	Dissolved Barium (Ba)	2021/09/04	<0.010		mg/L	
			Dissolved Boron (B)	2021/09/04	<0.020		mg/L	
			Dissolved Calcium (Ca)	2021/09/04	<0.30		mg/L	
			Dissolved Iron (Fe)	2021/09/04	<0.060		mg/L	
			Dissolved Lithium (Li)	2021/09/04	<0.020		mg/L	
			Dissolved Magnesium (Mg)	2021/09/04	<0.20		mg/L	
			Dissolved Manganese (Mn)	2021/09/04	<0.0040		mg/L	
			Dissolved Phosphorus (P)	2021/09/04	<0.10		mg/L	
			Dissolved Potassium (K)	2021/09/04	<0.30		mg/L	
			Dissolved Silicon (Si)	2021/09/04	<0.10		mg/L	
			Dissolved Sodium (Na)	2021/09/04	<0.50		mg/L	
			Dissolved Strontium (Sr)	2021/09/04	<0.020		mg/L	
			Dissolved Sulphur (S)	2021/09/04	<0.20		mg/L	
A341798	JAB	RPD	Dissolved Calcium (Ca)	2021/09/05	0.039		%	20
			Dissolved Iron (Fe)	2021/09/05	0.039		%	20



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			Dissolved Magnesium (Mg)	2021/09/05	1.0		%	20
			Dissolved Manganese (Mn)	2021/09/05	0.47		%	20
			Dissolved Potassium (K)	2021/09/05	0.25		%	20
			Dissolved Sodium (Na)	2021/09/05	0.52		%	20
A341958	NR	Matrix Spike	Dissolved Chloride (Cl)	2021/09/03		102	%	80 - 120
			Dissolved Sulphate (SO4)	2021/09/03		115	%	80 - 120
A341958	NR	Spiked Blank	Dissolved Chloride (Cl)	2021/09/03		103	%	80 - 120
			Dissolved Sulphate (SO4)	2021/09/03		99	%	80 - 120
A341958	NR	Method Blank	Dissolved Chloride (Cl)	2021/09/03	<1.0		mg/L	
			Dissolved Sulphate (SO4)	2021/09/03	<1.0		mg/L	
A341958	NR	RPD	Dissolved Chloride (Cl)	2021/09/03	11		%	20
			Dissolved Sulphate (SO4)	2021/09/03	NC		%	20
A343870	MPU	Matrix Spike	Dissolved Barium (Ba)	2021/09/09		9.5 (1)	%	80 - 120
			Dissolved Boron (B)	2021/09/09		83	%	80 - 120
			Dissolved Calcium (Ca)	2021/09/09		NC	%	80 - 120
			Dissolved Iron (Fe)	2021/09/09		100	%	80 - 120
			Dissolved Lithium (Li)	2021/09/09		86	%	80 - 120
			Dissolved Magnesium (Mg)	2021/09/09		NC	%	80 - 120
			Dissolved Manganese (Mn)	2021/09/09		96	%	80 - 120
			Dissolved Phosphorus (P)	2021/09/09		98	%	80 - 120
			Dissolved Potassium (K)	2021/09/09		94	%	80 - 120
			Dissolved Silicon (Si)	2021/09/09		78 (1)	%	80 - 120
			Dissolved Sodium (Na)	2021/09/09		NC	%	80 - 120
			Dissolved Strontium (Sr)	2021/09/09		NC	%	80 - 120
			Dissolved Sulphur (S)	2021/09/09		NC	%	80 - 120
A343870	MPU	Spiked Blank	Dissolved Barium (Ba)	2021/09/09		95	%	80 - 120
			Dissolved Boron (B)	2021/09/09		94	%	80 - 120
			Dissolved Calcium (Ca)	2021/09/09		96	%	80 - 120
			Dissolved Iron (Fe)	2021/09/09		98	%	80 - 120
			Dissolved Lithium (Li)	2021/09/09		94	%	80 - 120
			Dissolved Magnesium (Mg)	2021/09/09		100	%	80 - 120
			Dissolved Manganese (Mn)	2021/09/09		93	%	80 - 120
			Dissolved Phosphorus (P)	2021/09/09		100	%	80 - 120
			Dissolved Potassium (K)	2021/09/09		97	%	80 - 120
			Dissolved Silicon (Si)	2021/09/09		93	%	80 - 120
			Dissolved Sodium (Na)	2021/09/09		93	%	80 - 120
			Dissolved Strontium (Sr)	2021/09/09		94	%	80 - 120
			Dissolved Sulphur (S)	2021/09/09		96	%	80 - 120
A343870	MPU	Method Blank	Dissolved Barium (Ba)	2021/09/09	<0.010		mg/L	
			Dissolved Boron (B)	2021/09/09	<0.020		mg/L	
			Dissolved Calcium (Ca)	2021/09/09	<0.30		mg/L	
			Dissolved Iron (Fe)	2021/09/09	<0.060		mg/L	
			Dissolved Lithium (Li)	2021/09/09	<0.020		mg/L	
			Dissolved Magnesium (Mg)	2021/09/09	<0.20		mg/L	
			Dissolved Manganese (Mn)	2021/09/09	<0.0040		mg/L	
			Dissolved Phosphorus (P)	2021/09/09	<0.10		mg/L	
			Dissolved Potassium (K)	2021/09/09	<0.30		mg/L	
			Dissolved Silicon (Si)	2021/09/09	<0.10		mg/L	
			Dissolved Sodium (Na)	2021/09/09	<0.50		mg/L	
			Dissolved Strontium (Sr)	2021/09/09	<0.020		mg/L	
			Dissolved Sulphur (S)	2021/09/09	<0.20		mg/L	
A343870	MPU	RPD	Dissolved Calcium (Ca)	2021/09/09	0.33		%	20
			Dissolved Magnesium (Mg)	2021/09/09	0.97		%	20
			Dissolved Potassium (K)	2021/09/09	11		%	20



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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Sodium (Na)	2021/09/09	0.53		%	20
<p>N/A = Not Applicable</p> <p>Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.</p> <p>Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.</p> <p>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.</p> <p>Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.</p> <p>Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.</p> <p>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)</p> <p>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 &lt;= 2x RDL).</p> <p>(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.</p> <p>(2) Matrix spike exceeds acceptance limits due to matrix interference.</p>								



### 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

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

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

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BV Labs 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.

Chain Of Custody Record

**INVOICE TO:**  
 #2045 GOLDER ASSOCIATES LTD  
 ACCOUNTS PAYABLE  
 16820-107 AVE  
 EDMONTON AB T5P 4C3  
 Phone (780) 483-3499 Fax (780) 483-1574  
 Email CanadaAccountsPayableInvoices@golder.com

**Report Information**  
 Company Name: GOLDER ASSOCIATES LTD  
 Contact Name: PETER TAN  
 Address: 2800 700-2ND ST SW  
 Phone: (780) 483-3499 Fax: (780) 483-3499  
 Email: peter\_tan@golder.com  
 Website: golder.com

**Project Information**  
 Quotation #: 66340  
 P.O. #: 100-2AD ST SW  
 Project #: C-100-2AD ST SW  
 Project Name: AB TAP 200  
 Site #: 100-2AD ST SW  
 Project Manager: Carmen McKay

**Laboratory Use Only**  
 BV Labs Job #: C164600  
 Chain Of Custody Record: 64255  
 Project Manager: Carmen McKay  
 Turnaround Time (TAT) Required:  Regular (Standard) TAT  
 (will be applied if Rush TAT is not specified)  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dissolved Solids are > 5 days - contact your Project Manager for details.  
 Job Specific Rush TAT (if applies to entire submission)  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)		Regulated Metals (C/ME/AT)		PAH	Water	Routine Water	Analysis Requested	Received in Yellowknife By: J. McKay @ 5:35 PM AUG 31 2021 see ATTC Temp: _____	# of Bottles	Comments
					Metals Field Filtered ? (Y/N)	- Dissolved									
1 NA	P19-5	28 AUG 21	1330	H <sub>2</sub> O	N	N	Y	Y	Y	Y		Received in Yellowknife	5	min volume for PAH (absolute only)	
2	P19-4	28 AUG 21	1400	H <sub>2</sub> O	N	N	N	N	Y	Y			3	routine - same well as above P19-5	
3	P19-5	29 AUG 21	09:00	H <sub>2</sub> O	N	N	N	N	Y	Y			2		
4	P19-5 D	29 AUG 21	09:30	H <sub>2</sub> O	N	N	N	N	Y	Y			4		
5	P21-T8	29 AUG 21	14:00	H <sub>2</sub> O	N	N	N	N	Y	Y			4	D. Metals sampled @ 11am - same well routine sampled @ 1pm. See above.	
6	P19-4	29 AUG 21	11:00	H <sub>2</sub> O	N	N	N	N	Y	Y			3	BTEX - only one vial. min vol.	
7	P21-F6	29 AUG 21	1420	H <sub>2</sub> O	N	N	N	N	Y	Y			3		
8															
9															
10															

**Regulatory Criteria**  
 ✓ ART  
 ✓ CME

**Special Instructions**  
 email: sheela@golder.com  
 facility code 41259544

**RECEIVED BY: (Signature/Print)**  
 Date: (YYMMDD) 21/08/21 16:39  
 Time: 16:39  
 Signature: Peter Dawit  
 RECEIVED BY: (Signature/Print) Kibrah  
 Date: (YYMMDD) 20/08/21 16:00  
 Time: 16:00

**Lab Use Only**  
 Temperature (°C) on Receipt: 11.11  
 Custody Seal Intact on Cooler?  Yes  No  
 Time Sensitive  Yes  No  
 White: BV Labs Yellow: Client

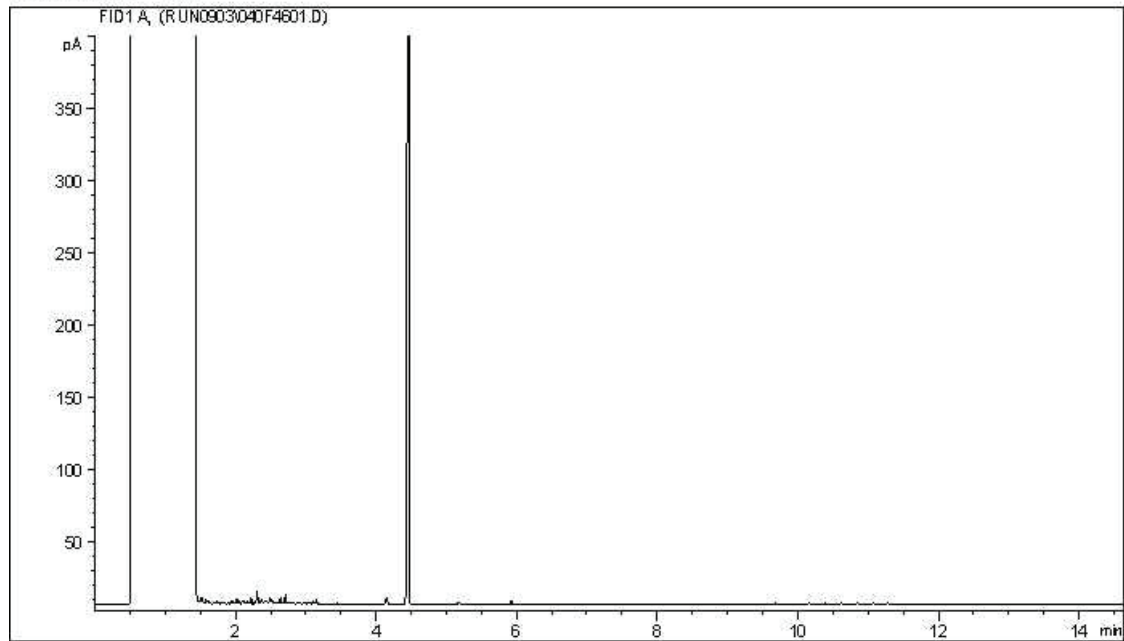
1/011  
 CS=Y & M7  
 1UE=Y

\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.  
 \* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

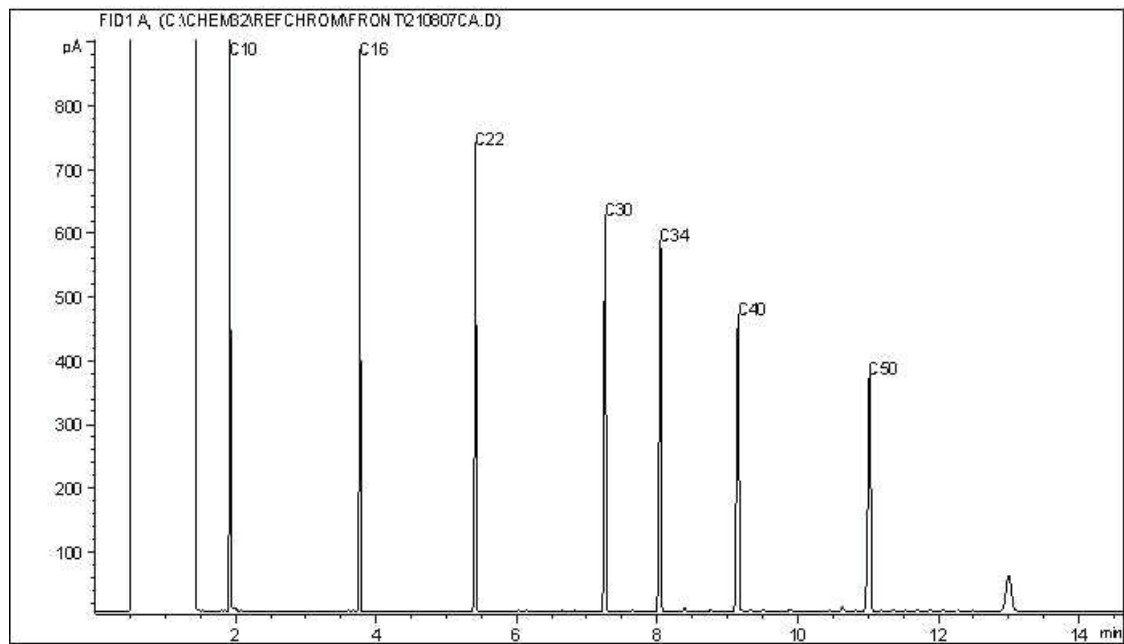


CCME Hydrocarbons (F2-F4 in water) Chromatogram

Instrument: GC7



Carbon Range Distribution - Reference Chromatogram



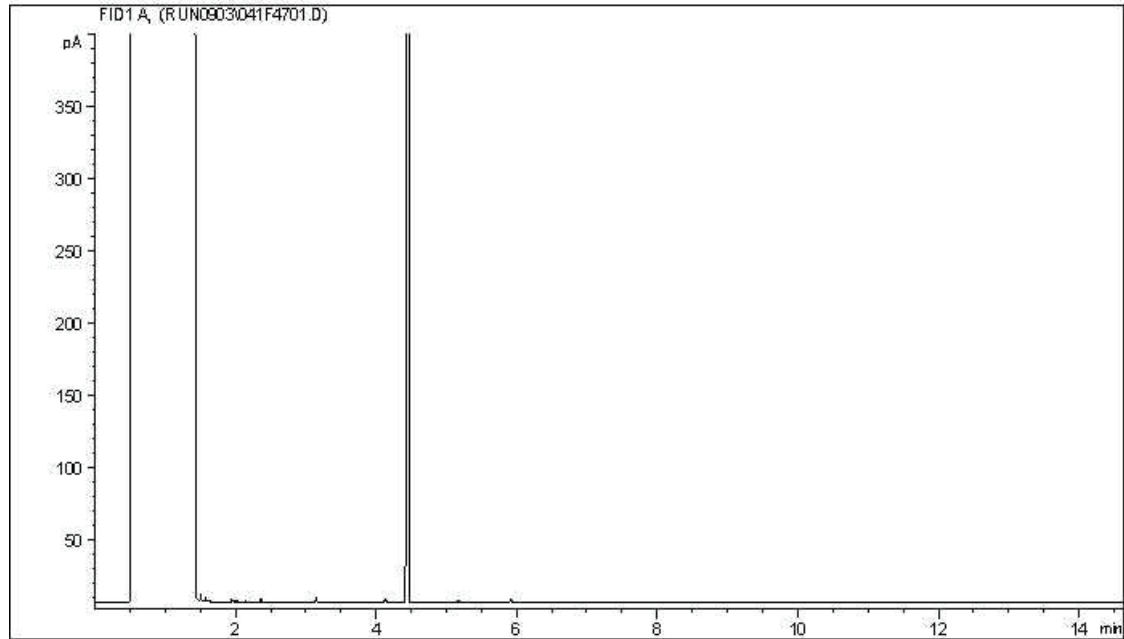
TYPICAL PRODUCT CARBON NUMBER RANGES

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

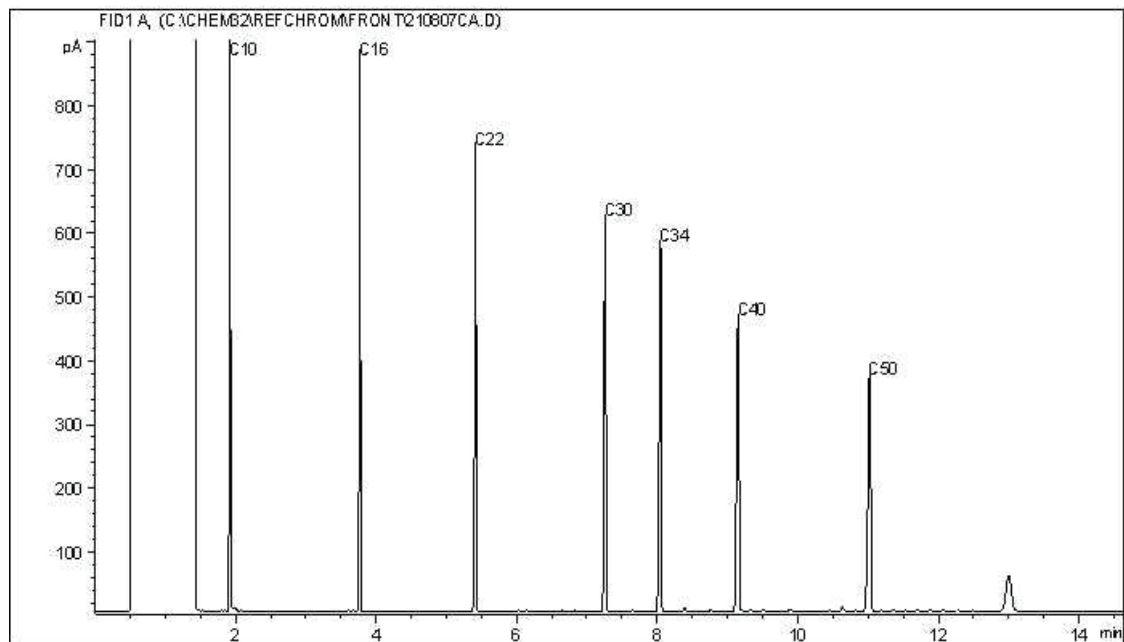
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in water) Chromatogram

Instrument: GC7



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

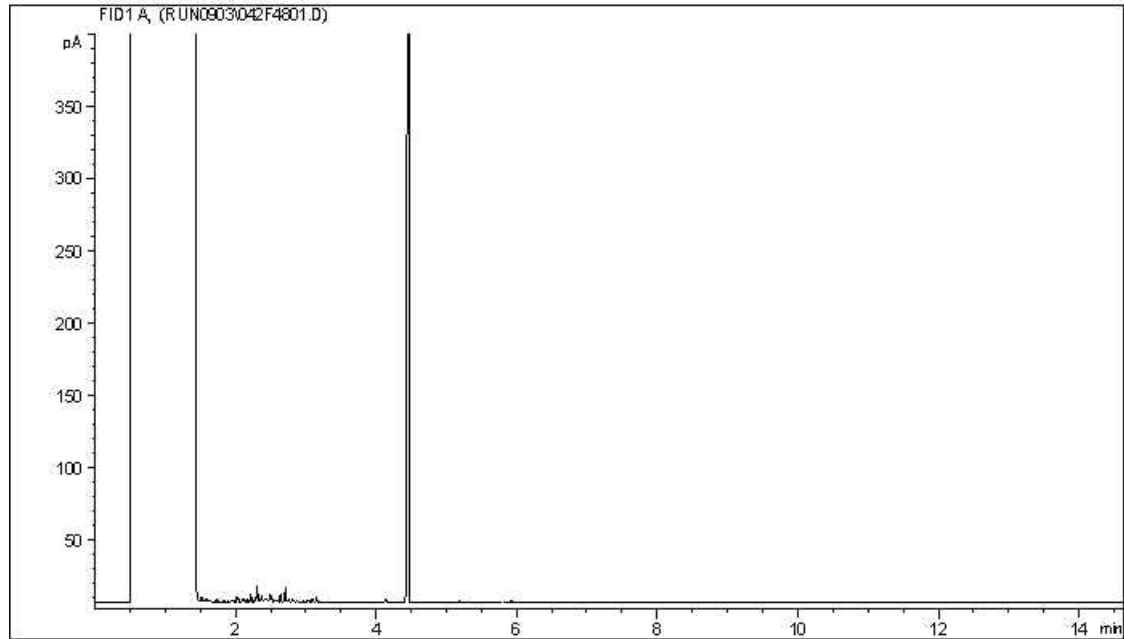
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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

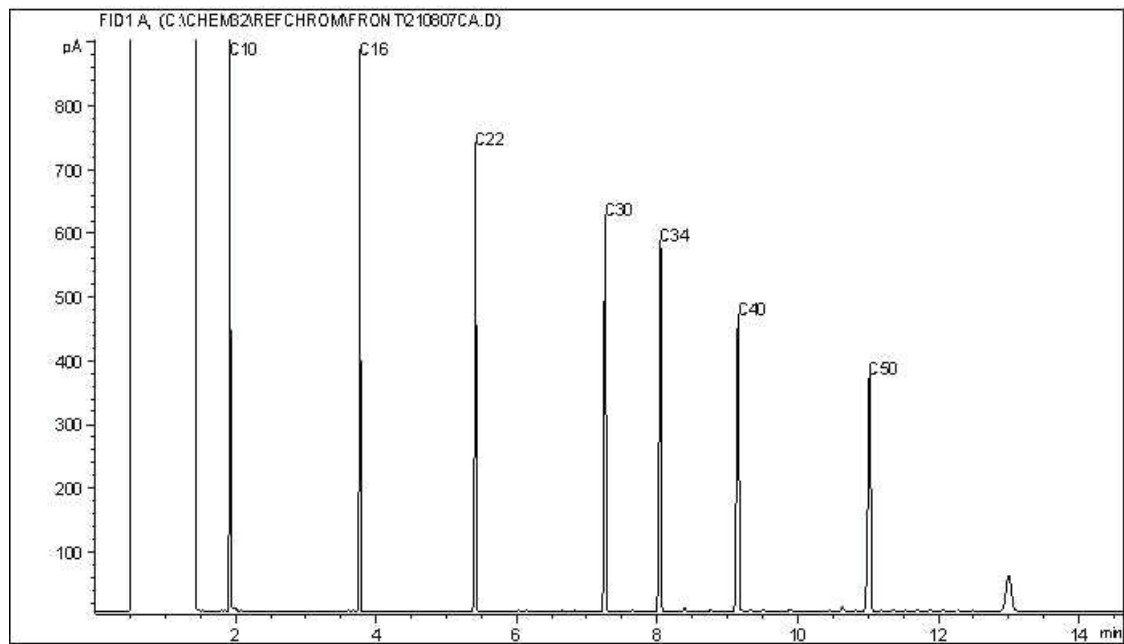


CCME Hydrocarbons (F2-F4 in water) Chromatogram

Instrument: GC7



Carbon Range Distribution - Reference Chromatogram



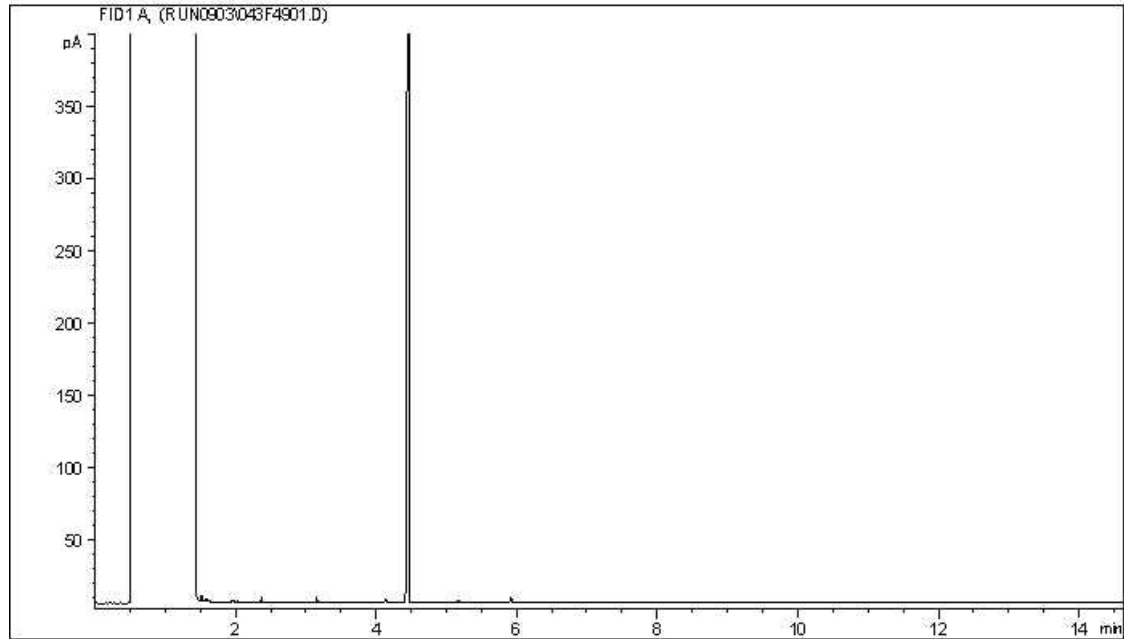
TYPICAL PRODUCT CARBON NUMBER RANGES

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

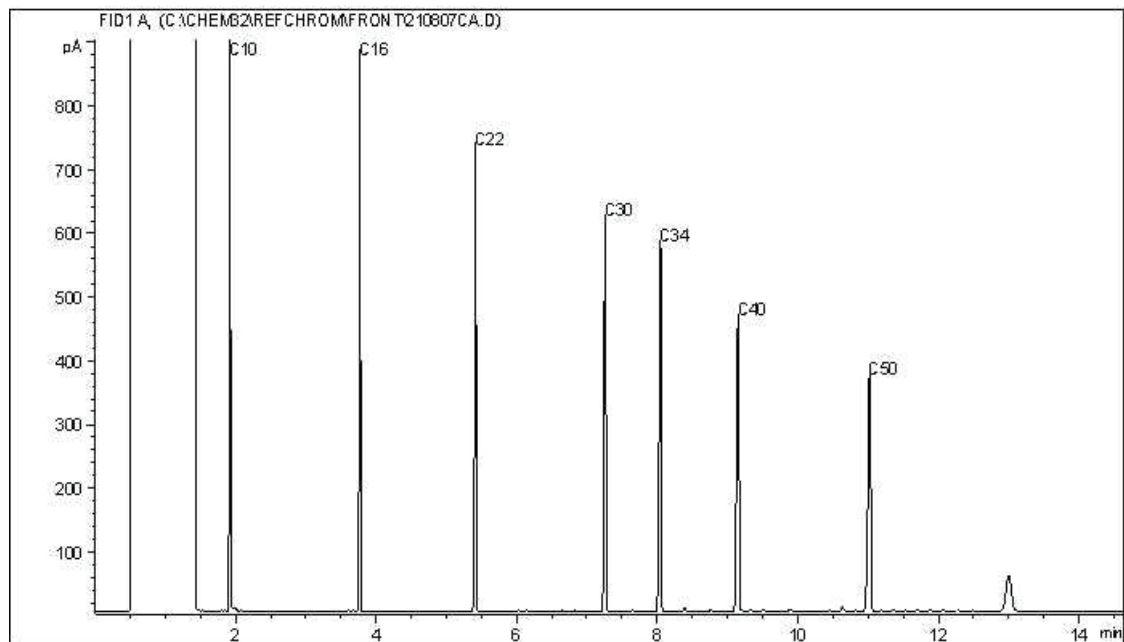
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in water) Chromatogram

Instrument: GC7



Carbon Range Distribution - Reference Chromatogram



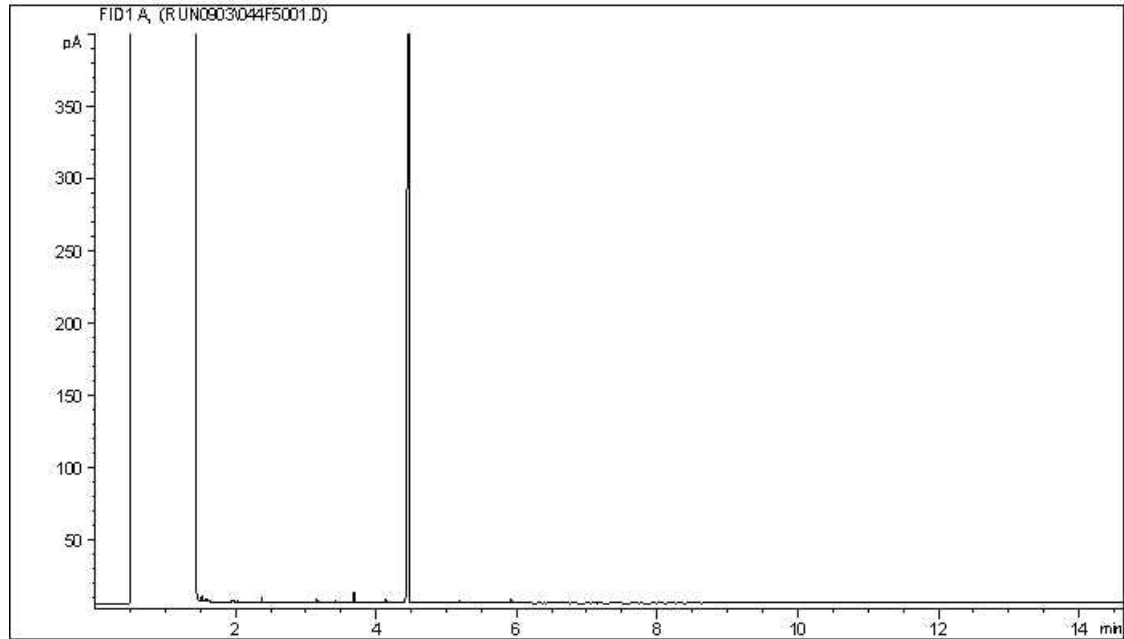
TYPICAL PRODUCT CARBON NUMBER RANGES

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

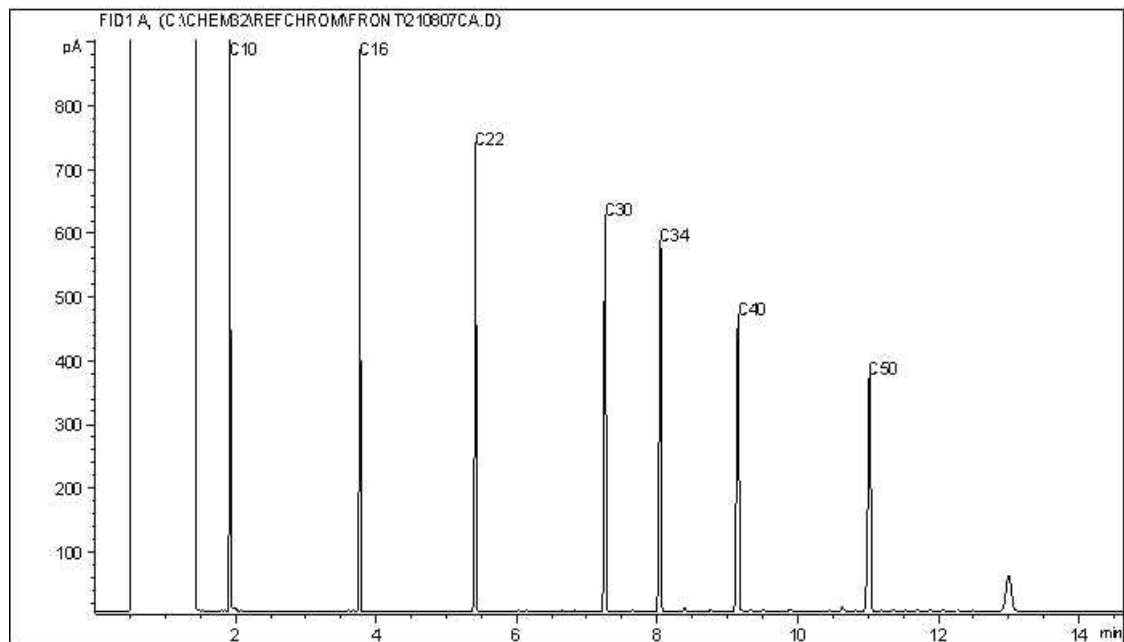
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in water) 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.

**GOLDER DATA QUALITY REVIEW CHECKLIST**

Site Location: Camp Farewell

Sampling Date: August 28 and 29, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C164600

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 acceptance criteria, please see QA/QC appendix.
Method Blank Concentration	X			
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			Samples P19-5 and P19-5D exceed the alert limits for dissolved iron (177%) and 2-methylnaphthalene (62%).
Trip Blank Concentration	X			
Field Duplicate RPD		X		All remaining field QC samples are within alert limits.

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: September 27, 2021



Your P.O. #: 20368099-7000-1001  
 Your Project #: 20368099-6000-1001  
 Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-65-01, 644511-66-01, 644511-63-01, 644511-64-01

**Report Date: 2021/12/24**  
 Report #: R3113759  
 Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C164643**

**Received: 2021/08/31, 08:35**

Sample Matrix: Soil  
 # Samples Received: 38

<b>Analyses</b>	<b>Quantity</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Laboratory Method</b>	<b>Analytical Method</b>
Barium on ICP using Fusion Extraction (1)	3	2021/09/15	2021/09/16	AB SOP-00044 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	38	N/A	2021/09/07	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	38	N/A	2021/09/08		Auto Calc
Hexavalent Chromium (1, 3)	3	2021/09/07	2021/09/07	AB SOP-00063	SM 23 3500-Cr B m
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 4)	1	2021/09/05	2021/09/08	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	20	2021/09/03	2021/09/07	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	18	2021/09/05	2021/09/08	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 6)	1	N/A	2021/12/23		Auto Calc
Elements by ICPMS - Soils (1)	3	2021/09/05	2021/09/06	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Moisture (1)	20	N/A	2021/09/04	AB SOP-00002	CCME PHC-CWS m
Moisture (1)	18	N/A	2021/09/05	AB SOP-00002	CCME PHC-CWS m
Nitrite-N and Nitrate-N (soluble) (1)	3	2021/09/05	2021/09/07	AB SOP-00033 / AB SOP-00023	SM 23 4110 B m
Soluble Ions (1)	3	2021/09/05	2021/09/07	AB SOP-00033 / AB SOP-00042	EPA 6010d R5 m
Soluble Paste (1)	3	2021/09/05	2021/09/05	AB SOP-00033	Carter 2nd ed 15.2 m
Soluble Boron Calculation (1)	3	N/A	2021/09/09		Auto Calc
Soluble Ions Calculation (1)	3	N/A	2021/09/04		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.



Your P.O. #: 20368099-7000-1001  
Your Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-65-01, 644511-66-01, 644511-63-01, 644511-64-01

**Report Date: 2021/12/24**  
Report #: R3113759  
Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C164643**

**Received: 2021/08/31, 08:35**

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.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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 Laboratories 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) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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.

(6) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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. #: 20368099-7000-1001  
Your Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-65-01, 644511-66-01, 644511-63-01, 644511-64-01

**Report Date: 2021/12/24**  
Report #: R3113759  
Version: 3 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C164643**

**Received: 2021/08/31, 08:35**

Encryption Key



**AUTHORIZED REPORT  
RAPPORT AUTORISÉ**

Bureau Veritas

24 Dec 2021 12:54:11

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

=====

BV Labs 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

Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

Bureau Veritas ID		AFA000	AFA000	AFA001	AFA002	AFA003	AFA004		
Sampling Date		2021/08/28 09:09	2021/08/28 09:09	2021/08/28 09:10	2021/08/28 09:15	2021/08/28 09:29	2021/08/28 09:30		
COC Number		644511-65-01	644511-65-01	644511-65-01	644511-65-01	644511-65-01	644511-65-01		
	UNITS	TP21-65-01	TP21-65-01 Lab-Dup	TP21-65-03	TP21-65-06	TP21-66-01	TP21-66-03	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	59	N/A	370	<10	200	150	10	A341987
F3 (C16-C34 Hydrocarbons)	mg/kg	200	N/A	560	<50	270	400	50	A341987
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	N/A	<50	<50	<50	55	50	A341987
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	Yes	Yes	Yes	N/A	A341987

Physical Properties									
Moisture	%	11	N/A	7.7	17	13	15	0.30	A341981

Volatiles									
Xylenes (Total)	mg/kg	<0.045	N/A	<0.045	<0.045	<0.045	<0.045	0.045	A340245
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	<10	<10	<10	<10	10	A340245

Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A341576
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	1.0	0.050	A341576
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A341576
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	A341576
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A341576
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	<10	<10	10	A341576

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	98	97	98	98	97	98	N/A	A341576
4-Bromofluorobenzene (sur.)	%	102	103	102	102	101	103	N/A	A341576
D10-o-Xylene (sur.)	%	104	105	96	104	102	96	N/A	A341576
D4-1,2-Dichloroethane (sur.)	%	107	107	106	104	105	106	N/A	A341576
O-TERPHENYL (sur.)	%	107	N/A	117	101	100	109	N/A	A341987

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





**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

Bureau Veritas ID		AFA005		AFA006	AFA006		AFA007		
Sampling Date		2021/08/28 09:39		2021/08/28 09:49	2021/08/28 09:49		2021/08/28 09:50		
COC Number		644511-65-01		644511-65-01	644511-65-01		644511-65-01		
	UNITS	TP21-66-06	RDL	TP21-67-02	TP21-67-02 Lab-Dup	RDL	TP21-67-04	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	47	N/A	10	<26 (1)	26	A341987
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	50	270	N/A	50	270 (1)	130	A341987
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	53	N/A	50	<130 (1)	130	A341987
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	N/A	Yes	N/A	A341987
<b>Physical Properties</b>									
Moisture	%	21	0.30	20	21	0.30	61	0.30	A341981
<b>Volatiles</b>									
Xylenes (Total)	mg/kg	<0.045	0.045	<0.045	N/A	0.045	<0.19	0.19	A340245
F1 (C6-C10) - BTEX	mg/kg	<16	16	<10	N/A	10	<29	29	A340245
<b>Field Preserved Volatiles</b>									
Benzene	mg/kg	<0.0050	0.0050	<0.0050	N/A	0.0050	<0.014 (2)	0.014	A341576
Toluene	mg/kg	0.11	0.050	0.40	N/A	0.050	9.0 (3)	0.21	A341576
Ethylbenzene	mg/kg	<0.010	0.010	<0.010	N/A	0.010	<0.015 (2)	0.015	A341576
m & p-Xylene	mg/kg	<0.040	0.040	<0.040	N/A	0.040	<0.17 (3)	0.17	A341576
o-Xylene	mg/kg	<0.020	0.020	<0.020	N/A	0.020	<0.084 (3)	0.084	A341576
F1 (C6-C10)	mg/kg	<16 (4)	16	<10	N/A	10	<29 (2)	29	A341576
<b>Surrogate Recovery (%)</b>									
1,4-Difluorobenzene (sur.)	%	97	N/A	96	N/A	N/A	99	N/A	A341576
4-Bromofluorobenzene (sur.)	%	102	N/A	104	N/A	N/A	101	N/A	A341576
D10-o-Xylene (sur.)	%	98	N/A	109	N/A	N/A	105	N/A	A341576
D4-1,2-Dichloroethane (sur.)	%	105	N/A	105	N/A	N/A	106	N/A	A341576
O-TERPHENYL (sur.)	%	105	N/A	103	N/A	N/A	103	N/A	A341987
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) Detection limit raised due to interferent.									



BUREAU  
VERITAS

Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

### AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AFA008	AFA009	AFA010		AFA011		AFA012		
Sampling Date		2021/08/28 09:57	2021/08/28 09:57	2021/08/28 10:07		2021/08/28 10:20		2021/08/28 10:21		
COC Number		644511-65-01	644511-65-01	644511-66-01		644511-66-01		644511-66-01		
	UNITS	TP21-67-06	DUP-JJ	TP21-68-04	RDL	TP21-68-05	RDL	TP21-68-06	RDL	QC Batch

Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	83	10	61 (1)	24	<10	10	A341987
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	270	50	1000 (1)	120	<50	50	A341987
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	50	260 (1)	120	<50	50	A341987
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	N/A	Yes	N/A	Yes	N/A	A341987

Physical Properties										
Moisture	%	18	15	15	0.30	58	0.30	17	0.30	A341981

Volatiles										
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	0.045	<0.15	0.15	<0.045	0.045	A340245
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	10	<23	23	<10	10	A340245

Field Preserved Volatiles										
Benzene	mg/kg	<0.0050	<0.0050	0.0076	0.0050	<0.011 (2)	0.011	<0.0050	0.0050	A341576
Toluene	mg/kg	<0.050	<0.050	0.51	0.050	2.2 (3)	0.17	<0.050	0.050	A341576
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	0.010	<0.012 (2)	0.012	<0.010	0.010	A341576
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	0.040	<0.13 (3)	0.13	<0.040	0.040	A341576
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	<0.067 (3)	0.067	<0.020	0.020	A341576
F1 (C6-C10)	mg/kg	<10	<10	<10	10	<23 (2)	23	<10	10	A341576

Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	97	97	98	N/A	97	N/A	98	N/A	A341576
4-Bromofluorobenzene (sur.)	%	103	101	103	N/A	101	N/A	102	N/A	A341576
D10-o-Xylene (sur.)	%	105	110	96	N/A	104	N/A	97	N/A	A341576
D4-1,2-Dichloroethane (sur.)	%	104	106	105	N/A	107	N/A	106	N/A	A341576
O-TERPHENYL (sur.)	%	99	103	101	N/A	104	N/A	101	N/A	A341987

RDL = Reportable Detection Limit

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.



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Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

Bureau Veritas ID		AFA013	AFA014	AFA015	AFA016	AFA016	AFA017		
Sampling Date		2021/08/28 10:30	2021/08/28 10:40	2021/08/28 10:51	2021/08/28 11:00	2021/08/28 11:00	2021/08/28 11:00		
COC Number		644511-66-01	644511-66-01	644511-66-01	644511-66-01	644511-66-01	644511-66-01		
	UNITS	TP21-69-03	TP21-69-06	TP21-70-03	TP21-70-06	TP21-70-06 Lab-Dup	DUP-KK	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	340	<10	32	<10	<10	<10	10	A341987
F3 (C16-C34 Hydrocarbons)	mg/kg	280	<50	150	<50	<50	<50	50	A341987
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	50	A341987
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A341987

Physical Properties									
Moisture	%	12	14	9.2	19	N/A	20	0.30	A341981

Volatiles									
Xylenes (Total)	mg/kg	<0.045	0.35	<0.045	<0.045	N/A	<0.045	0.045	A340245
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	N/A	<10	10	A340245

Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	0.0079	<0.0050	<0.0050	N/A	<0.0050	0.0050	A341576
Toluene	mg/kg	0.42	0.36	0.069	<0.050	N/A	<0.050	0.050	A341576
Ethylbenzene	mg/kg	<0.010	0.073	0.016	<0.010	N/A	<0.010	0.010	A341576
m & p-Xylene	mg/kg	<0.040	0.20	<0.040	<0.040	N/A	<0.040	0.040	A341576
o-Xylene	mg/kg	<0.020	0.15	0.025	<0.020	N/A	<0.020	0.020	A341576
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	N/A	<10	10	A341576

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	98	96	95	98	N/A	97	N/A	A341576
4-Bromofluorobenzene (sur.)	%	103	102	101	103	N/A	103	N/A	A341576
D10-o-Xylene (sur.)	%	99	97	94	103	N/A	102	N/A	A341576
D4-1,2-Dichloroethane (sur.)	%	105	105	105	106	N/A	106	N/A	A341576
O-TERPHENYL (sur.)	%	103	104	101	100	102	99	N/A	A341987

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



BUREAU VERITAS

Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

Bureau Veritas ID		AFA018	AFA019		AFA020	AFA020	AFA021		
Sampling Date		2021/08/28 10:52	2021/08/28 13:42		2021/08/28 13:43	2021/08/28 13:43	2021/08/28 13:55		
COC Number		644511-66-01	644511-63-01		644511-63-01	644511-63-01	644511-63-01		
	UNITS	TP21-70-04	TP21-71-02	QC Batch	TP21-71-04	TP21-71-04 Lab-Dup	TP21-71-06	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	110	30	A341987	70	N/A	<10	10	A342518
F3 (C16-C34 Hydrocarbons)	mg/kg	200	100	A341987	160	N/A	79	50	A342518
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A341987	<50	N/A	<50	50	A342518
Reached Baseline at C50	mg/kg	Yes	Yes	A341987	Yes	N/A	Yes	N/A	A342518
Physical Properties									
Moisture	%	9.8	10	A341981	6.2	N/A	15	0.30	A342517
Volatiles									
Xylenes (Total)	mg/kg	0.094	0.13	A340245	<0.045	N/A	<0.045	0.045	A340245
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A340245	<10	N/A	<10	10	A340245
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	A341576	<0.0050	<0.0050	<0.0050	0.0050	A341580
Toluene	mg/kg	<0.050	0.47	A341576	<0.050	<0.050	<0.050	0.050	A341580
Ethylbenzene	mg/kg	0.025	0.023	A341576	<0.010	<0.010	<0.010	0.010	A341580
m & p-Xylene	mg/kg	0.049	0.089	A341576	<0.040	<0.040	<0.040	0.040	A341580
o-Xylene	mg/kg	0.045	0.037	A341576	<0.020	<0.020	<0.020	0.020	A341580
F1 (C6-C10)	mg/kg	<10	<10	A341576	<10	<10	<10	10	A341580
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	98	98	A341576	97	99	98	N/A	A341580
4-Bromofluorobenzene (sur.)	%	103	103	A341576	102	104	103	N/A	A341580
D10-o-Xylene (sur.)	%	99	101	A341576	103	104	103	N/A	A341580
D4-1,2-Dichloroethane (sur.)	%	106	106	A341576	105	104	106	N/A	A341580
O-TERPHENYL (sur.)	%	103	104	A341987	132	N/A	106	N/A	A342518
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable									



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Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

Bureau Veritas ID		AFA022	AFA022	AFA023	AFA024	AFA025	AFA026		
Sampling Date		2021/08/28 14:05	2021/08/28 14:05	2021/08/28 14:16	2021/08/28 14:17	2021/08/28 14:26	2021/08/28 14:34		
COC Number		644511-63-01	644511-63-01	644511-63-01	644511-63-01	644511-63-01	644511-63-01		
	UNITS	TP21-72-03	TP21-72-03 Lab-Dup	TP21-72-05	TP21-72-06	TP21-83-04	TP21-83-05	RDL	QC Batch

Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	89	62	<10	<10	170	28	10	A342518
F3 (C16-C34 Hydrocarbons)	mg/kg	160	180	<50	<50	390	590	50	A342518
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	52	170	50	A342518
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A342518

Physical Properties									
Moisture	%	7.3	N/A	12	17	9.3	21	0.30	A342517

Volatiles									
Xylenes (Total)	mg/kg	<0.045	N/A	<0.045	<0.045	0.14	<0.045	0.045	A340245
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	<10	<10	<10	<10	10	A340245

Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	N/A	<0.0050	<0.0050	0.0074	<0.0050	0.0050	A341580
Toluene	mg/kg	<0.050	N/A	<0.050	<0.050	0.45	0.76	0.050	A341580
Ethylbenzene	mg/kg	<0.010	N/A	<0.010	<0.010	0.019	<0.010	0.010	A341580
m & p-Xylene	mg/kg	<0.040	N/A	<0.040	<0.040	0.090	<0.040	0.040	A341580
o-Xylene	mg/kg	<0.020	N/A	<0.020	<0.020	0.046	<0.020	0.020	A341580
F1 (C6-C10)	mg/kg	<10	N/A	<10	<10	<10	<10	10	A341580

Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	98	N/A	97	96	97	100	N/A	A341580
4-Bromofluorobenzene (sur.)	%	100	N/A	101	106	103	107	N/A	A341580
D10-o-Xylene (sur.)	%	97	N/A	100	102	106	100	N/A	A341580
D4-1,2-Dichloroethane (sur.)	%	106	N/A	106	105	105	107	N/A	A341580
O-TERPHENYL (sur.)	%	109	105	111	110	107	107	N/A	A342518

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



BUREAU VERITAS

Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

<b>Bureau Veritas ID</b>		AFA027	AFA028		AFA031	AFA032	AFA033		
<b>Sampling Date</b>		2021/08/28 14:35	2021/08/28 14:44		2021/08/28 14:45	2021/08/28 14:53	2021/08/28 14:53		
<b>COC Number</b>		644511-63-01	644511-63-01		644511-64-01	644511-64-01	644511-64-01		
	<b>UNITS</b>	<b>TP21-83-06</b>	<b>TP21-84-03</b>	<b>QC Batch</b>	<b>TP21-84-04</b>	<b>TP21-84-05</b>	<b>DUP-LL</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Ext. Pet. Hydrocarbon</b>									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	90	A342518	93	49	97	10	A342518
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	290	A342518	230	520	360	50	A342518
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A342518	<50	150	71	50	A342518
Reached Baseline at C50	mg/kg	Yes	Yes	A342518	Yes	Yes	Yes	N/A	A342518
<b>Physical Properties</b>									
Moisture	%	15	13	A342517	7.8	18	13	0.30	A342517
<b>Volatiles</b>									
Xylenes (Total)	mg/kg	<0.045	0.058	A340245	<0.045	0.048	0.18	0.045	A340320
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A340245	36	<10	<10	10	A340320
<b>Field Preserved Volatiles</b>									
Benzene	mg/kg	<0.0050	<0.0050	A341580	<0.0050	0.0099	0.016	0.0050	A341580
Toluene	mg/kg	<0.050	<0.050	A341580	<0.050	0.10	0.13	0.050	A341580
Ethylbenzene	mg/kg	<0.010	<0.010	A341580	<0.010	0.021	0.028	0.010	A341580
m & p-Xylene	mg/kg	<0.040	0.058	A341580	<0.040	<0.040	0.11	0.040	A341580
o-Xylene	mg/kg	<0.020	<0.020	A341580	<0.020	0.048	0.071	0.020	A341580
F1 (C6-C10)	mg/kg	<10	<10	A341580	36	<10	<10	10	A341580
<b>Surrogate Recovery (%)</b>									
1,4-Difluorobenzene (sur.)	%	96	97	A341580	97	94	98	N/A	A341580
4-Bromofluorobenzene (sur.)	%	102	103	A341580	101	102	105	N/A	A341580
D10-o-Xylene (sur.)	%	103	106	A341580	99	105	109	N/A	A341580
D4-1,2-Dichloroethane (sur.)	%	105	107	A341580	105	104	107	N/A	A341580
O-TERPHENYL (sur.)	%	111	113	A342518	110	107	116	N/A	A342518

RDL = Reportable Detection Limit  
N/A = Not Applicable



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Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

### AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AFA034		AFA035		AFA036	AFA037	AFA038		
Sampling Date		2021/08/28 15:06		2021/08/28 15:07		2021/08/28 15:14	2021/08/28 15:26	2021/08/28 15:33		
COC Number		644511-64-01		644511-64-01		644511-64-01	644511-64-01	644511-64-01		
	UNITS	TP21-85-03	RDL	TP21-85-04	RDL	TP21-85-05	TP21-86-03	TP21-86-05	RDL	QC Batch

Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	12	10	47 (1)	20	<10	<10	<10	10	A342518
F3 (C16-C34 Hydrocarbons)	mg/kg	82	50	540 (1)	100	53	<50	<50	50	A342518
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	160 (1)	100	<50	<50	<50	50	A342518
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	Yes	Yes	Yes	N/A	A342518

Physical Properties										
Moisture	%	9.0	0.30	51	0.30	16	4.3	16	0.30	A342517

Volatiles										
Xylenes (Total)	mg/kg	<0.045	0.045	4.3	0.10	0.36	<0.045	<0.045	0.045	A340320
F1 (C6-C10) - BTEX	mg/kg	<10	10	<23	23	<10	<10	<10	10	A340320

Field Preserved Volatiles										
Benzene	mg/kg	<0.0050	0.0050	<0.010 (2)	0.010	0.0094	<0.0050	<0.0050	0.0050	A341580
Toluene	mg/kg	<0.050	0.050	6.3 (3)	0.12	0.60	0.058	0.20	0.050	A341580
Ethylbenzene	mg/kg	<0.010	0.010	0.50 (3)	0.023	0.062	<0.010	<0.010	0.010	A341580
m & p-Xylene	mg/kg	<0.040	0.040	3.0 (3)	0.092	0.23	<0.040	<0.040	0.040	A341580
o-Xylene	mg/kg	<0.020	0.020	1.3 (3)	0.046	0.13	<0.020	<0.020	0.020	A341580
F1 (C6-C10)	mg/kg	<10	10	<23 (3)	23	<10	<10	<10	10	A341580

Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	97	N/A	98	N/A	98	97	97	N/A	A341580
4-Bromofluorobenzene (sur.)	%	102	N/A	99	N/A	103	99	103	N/A	A341580
D10-o-Xylene (sur.)	%	115	N/A	111	N/A	98	105	111	N/A	A341580
D4-1,2-Dichloroethane (sur.)	%	105	N/A	107	N/A	106	106	106	N/A	A341580
O-TERPHENYL (sur.)	%	114	N/A	110	N/A	102	103	105	N/A	A342518

RDL = Reportable Detection Limit

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.



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VERITAS

Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

Bureau Veritas ID		AFA038	AFA039		
Sampling Date		2021/08/28 15:33	2021/08/28 15:34		
COC Number		644511-64-01	644511-64-01		
	UNITS	TP21-86-05 Lab-Dup	TP21-86-06	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>					
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	14	10	A342518
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	64	50	A342518
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	<50	50	A342518
Reached Baseline at C50	mg/kg	N/A	Yes	N/A	A342518
<b>Physical Properties</b>					
Moisture	%	17	12	0.30	A342517
<b>Volatiles</b>					
Xylenes (Total)	mg/kg	N/A	<0.045	0.045	A340320
F1 (C6-C10) - BTEX	mg/kg	N/A	<10	10	A340320
<b>Field Preserved Volatiles</b>					
Benzene	mg/kg	N/A	<0.0050	0.0050	A341580
Toluene	mg/kg	N/A	0.23	0.050	A341580
Ethylbenzene	mg/kg	N/A	<0.010	0.010	A341580
m & p-Xylene	mg/kg	N/A	<0.040	0.040	A341580
o-Xylene	mg/kg	N/A	<0.020	0.020	A341580
F1 (C6-C10)	mg/kg	N/A	<10	10	A341580
<b>Surrogate Recovery (%)</b>					
1,4-Difluorobenzene (sur.)	%	N/A	97	N/A	A341580
4-Bromofluorobenzene (sur.)	%	N/A	104	N/A	A341580
D10-o-Xylene (sur.)	%	N/A	101	N/A	A341580
D4-1,2-Dichloroethane (sur.)	%	N/A	105	N/A	A341580
O-TERPHENYL (sur.)	%	N/A	101	N/A	A342518
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable					





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Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

### AT1 REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AFA003		AFA004		AFA005		
Sampling Date		2021/08/28 09:29		2021/08/28 09:30		2021/08/28 09:39		
COC Number		644511-65-01		644511-65-01		644511-65-01		
	UNITS	TP21-66-01	RDL	TP21-66-03	RDL	TP21-66-06	RDL	QC Batch
<b>Calculated Parameters</b>								
Calculated Boron (B)	mg/kg	<0.039	0.039	<0.061	0.061	<0.032	0.032	A339887
<b>Elements</b>								
Hex. Chromium (Cr 6+)	mg/kg	<0.080	0.080	<0.080	0.080	<0.080	0.080	A343760
<b>Soluble Parameters</b>								
Soluble Boron (B)	mg/L	<0.10	0.10	<0.10	0.10	<0.10	0.10	A343801
Saturation %	%	39	N/A	61	N/A	32	N/A	A342449
Soluble Sulphate (SO4)	mg/L	460	5.0	62	5.0	47	5.0	A343801
<b>Elements</b>								
Total Antimony (Sb)	mg/kg	<0.50	0.50	<0.50	0.50	<0.50	0.50	A342492
Total Arsenic (As)	mg/kg	5.9	1.0	4.7	1.0	5.8	1.0	A342492
Total Barium (Ba)	mg/kg	1800	1.0	1000	1.0	150	1.0	A342492
Total Beryllium (Be)	mg/kg	<0.40	0.40	<0.40	0.40	<0.40	0.40	A342492
Total Cadmium (Cd)	mg/kg	0.14	0.050	0.13	0.050	0.080	0.050	A342492
Total Chromium (Cr)	mg/kg	72	1.0	40	1.0	12	1.0	A342492
Total Cobalt (Co)	mg/kg	4.8	0.50	3.9	0.50	3.5	0.50	A342492
Total Copper (Cu)	mg/kg	10	1.0	8.1	1.0	4.9	1.0	A342492
Total Lead (Pb)	mg/kg	13	0.50	8.8	0.50	4.2	0.50	A342492
Total Mercury (Hg)	mg/kg	0.057	0.050	0.054	0.050	<0.050	0.050	A342492
Total Molybdenum (Mo)	mg/kg	2.1	0.40	1.2	0.40	0.57	0.40	A342492
Total Nickel (Ni)	mg/kg	39	1.0	23	1.0	12	1.0	A342492
Total Selenium (Se)	mg/kg	<0.50	0.50	<0.50	0.50	<0.50	0.50	A342492
Total Silver (Ag)	mg/kg	<0.20	0.20	<0.20	0.20	<0.20	0.20	A342492
Total Thallium (Tl)	mg/kg	<0.10	0.10	<0.10	0.10	<0.10	0.10	A342492
Total Tin (Sn)	mg/kg	<1.0	1.0	<1.0	1.0	<1.0	1.0	A342492
Total Uranium (U)	mg/kg	0.52	0.20	0.45	0.20	0.38	0.20	A342492
Total Vanadium (V)	mg/kg	18	1.0	15	1.0	15	1.0	A342492
Total Zinc (Zn)	mg/kg	35	10	29	10	24	10	A342492
RDL = Reportable Detection Limit N/A = Not Applicable								



**RESULTS OF CHEMICAL ANALYSES OF SOIL**

<b>Bureau Veritas ID</b>		AFA003		AFA004		AFA005		
<b>Sampling Date</b>		2021/08/28 09:29		2021/08/28 09:30		2021/08/28 09:39		
<b>COC Number</b>		644511-65-01		644511-65-01		644511-65-01		
	<b>UNITS</b>	<b>TP21-66-01</b>	<b>RDL</b>	<b>TP21-66-03</b>	<b>RDL</b>	<b>TP21-66-06</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>								
Calculated Sulphate (SO4)	mg/kg	180	1.9	38	3.1	15	1.6	A340250
Calculated Nitrate (N)	mg/kg	<0.078	0.078	<0.12	0.12	<0.064	0.064	A340250
<b>Soluble Parameters</b>								
Soluble Nitrate (N)	mg/L	0.30	0.20	<0.20	0.20	0.38	0.20	A343137
RDL = Reportable Detection Limit								



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Sampler Initials: AB

**PETROLEUM HYDROCARBONS (CCME)**

<b>Bureau Veritas ID</b>		AFA026		
<b>Sampling Date</b>		2021/08/28 14:34		
<b>COC Number</b>		644511-63-01		
	<b>UNITS</b>	<b>TP21-83-05</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Ext. Pet. Hydrocarbon</b>				
F3 (C16-C34 Hydrocarbons)	mg/kg	590	71	A454259
F3A (C16-C22)	mg/kg	68	50	A457151
F3B (C22-C34)	mg/kg	520	50	A457151
F2% (BIC)	mg/kg	5.1	N/A	A454259
<b>Surrogate Recovery (%)</b>				
O-TERPHENYL (sur.)	%	107	N/A	A457151
RDL = Reportable Detection Limit N/A = Not Applicable				



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### ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

<b>Bureau Veritas ID</b>		AFA003	AFA004	AFA005		
<b>Sampling Date</b>		2021/08/28 09:29	2021/08/28 09:30	2021/08/28 09:39		
<b>COC Number</b>		644511-65-01	644511-65-01	644511-65-01		
	<b>UNITS</b>	<b>TP21-66-01</b>	<b>TP21-66-03</b>	<b>TP21-66-06</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Elements</b>						
Total Fusion Barium (Ba)	mg/kg	2100	2000	760	50	A352608
RDL = Reportable Detection Limit						



### GENERAL COMMENTS

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

Package 1	4.7°C
Package 2	9.3°C
Package 3	5.7°C
Package 4	4.7°C
Package 5	6.0°C
Package 6	5.7°C
Package 7	5.7°C
Package 8	5.7°C
Package 9	5.3°C

Version #3: Report reissued to include results for F3A/F3B/Chromatogram on sample TP21-83-05/AFA026 as per client request received 2021/12/16.

#### HYDROCARBON RESEMBLANCE

The reported hydrocarbon resemblance was obtained by visual comparison of the sample chromatogram with a library of reference product chromatograms. Since variables such as the degree and type of weathering and the presence of non-petrogenic hydrocarbons cannot be duplicated in reference spectra, the resemblance information must be regarded as approximate and qualitative and as such, Bureau Veritas Laboratories can assume no liability for any conclusions drawn from these data.

Sample AFA026 [TP21-83-05] : 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 C18 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.

**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	
A341576	DO1	Matrix Spike [AFA000-02]	1,4-Difluorobenzene (sur.)	2021/09/07	91	%	50 - 140			
			4-Bromofluorobenzene (sur.)	2021/09/07	100	%	50 - 140			
			D10-o-Xylene (sur.)	2021/09/07	93	%	50 - 140			
			D4-1,2-Dichloroethane (sur.)	2021/09/07	103	%	50 - 140			
			Benzene	2021/09/07	88	%	50 - 140			
			Toluene	2021/09/07	88	%	50 - 140			
			Ethylbenzene	2021/09/07	97	%	50 - 140			
			m & p-Xylene	2021/09/07	91	%	50 - 140			
			o-Xylene	2021/09/07	95	%	50 - 140			
			F1 (C6-C10)	2021/09/07	93	%	60 - 140			
			A341576	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/07	86	%	50 - 140
						4-Bromofluorobenzene (sur.)	2021/09/07	91	%	50 - 140
						D10-o-Xylene (sur.)	2021/09/07	79	%	50 - 140
D4-1,2-Dichloroethane (sur.)	2021/09/07	100				%	50 - 140			
Benzene	2021/09/07	74				%	60 - 130			
Toluene	2021/09/07	79				%	60 - 130			
Ethylbenzene	2021/09/07	82				%	60 - 130			
m & p-Xylene	2021/09/07	80				%	60 - 130			
o-Xylene	2021/09/07	73				%	60 - 130			
F1 (C6-C10)	2021/09/07	81				%	60 - 140			
A341576	DO1	Method Blank				1,4-Difluorobenzene (sur.)	2021/09/07	96	%	50 - 140
						4-Bromofluorobenzene (sur.)	2021/09/07	102	%	50 - 140
						D10-o-Xylene (sur.)	2021/09/07	86	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/07	107	%	50 - 140			
			Benzene	2021/09/07	<0.0050		mg/kg			
			Toluene	2021/09/07	<0.050		mg/kg			
			Ethylbenzene	2021/09/07	<0.010		mg/kg			
			m & p-Xylene	2021/09/07	<0.040		mg/kg			
			o-Xylene	2021/09/07	<0.020		mg/kg			
			F1 (C6-C10)	2021/09/07	<10		mg/kg			
			A341576	DO1	RPD [AFA000-02]	Benzene	2021/09/07	NC	%	50
						Toluene	2021/09/07	NC	%	50
						Ethylbenzene	2021/09/07	NC	%	50
m & p-Xylene	2021/09/07	NC				%	50			
o-Xylene	2021/09/07	NC				%	50			
F1 (C6-C10)	2021/09/07	NC				%	30			
A341580	DO1	Matrix Spike [AFA020-02]	1,4-Difluorobenzene (sur.)	2021/09/07	97	%	50 - 140			
			4-Bromofluorobenzene (sur.)	2021/09/07	104	%	50 - 140			
			D10-o-Xylene (sur.)	2021/09/07	111	%	50 - 140			
			D4-1,2-Dichloroethane (sur.)	2021/09/07	106	%	50 - 140			
			Benzene	2021/09/07	99	%	N/A			
			Toluene	2021/09/07	103	%	N/A			
			Ethylbenzene	2021/09/07	107	%	N/A			
			m & p-Xylene	2021/09/07	102	%	N/A			
			o-Xylene	2021/09/07	103	%	N/A			
			F1 (C6-C10)	2021/09/07	107	%	N/A			
A341580	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/07	86	%	50 - 140			
			4-Bromofluorobenzene (sur.)	2021/09/07	92	%	50 - 140			
			D10-o-Xylene (sur.)	2021/09/07	85	%	50 - 140			
			D4-1,2-Dichloroethane (sur.)	2021/09/07	97	%	50 - 140			
			Benzene	2021/09/07	77	%	60 - 130			



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### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A341580	DO1	Method Blank	Toluene	2021/09/07		83	%	60 - 130
			Ethylbenzene	2021/09/07		85	%	60 - 130
			m & p-Xylene	2021/09/07		82	%	60 - 130
			o-Xylene	2021/09/07		77	%	60 - 130
			F1 (C6-C10)	2021/09/07		104	%	60 - 140
			1,4-Difluorobenzene (sur.)	2021/09/07		98	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/07		103	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/07		89	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/07		104	%	50 - 140
						Benzene	2021/09/07	<0.0050
			Toluene	2021/09/07	<0.050		mg/kg	
			Ethylbenzene	2021/09/07	<0.010		mg/kg	
			m & p-Xylene	2021/09/07	<0.040		mg/kg	
			o-Xylene	2021/09/07	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/07	<10		mg/kg	
A341580	DO1	RPD [AFA020-02]	Benzene	2021/09/07	NC		%	50
			Toluene	2021/09/07	NC		%	50
			Ethylbenzene	2021/09/07	NC		%	50
			m & p-Xylene	2021/09/07	NC		%	50
			o-Xylene	2021/09/07	NC		%	50
			F1 (C6-C10)	2021/09/07	NC		%	30
A341981	KLK	Method Blank	Moisture	2021/09/04	<0.30		%	
A341981	KLK	RPD [AFA006-01]	Moisture	2021/09/04	2.4		%	20
A341987	GG3	Matrix Spike [AFA016-01]	O-TERPHENYL (sur.)	2021/09/07		106	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/07		93	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/07		97	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/07		97	%	60 - 140
A341987	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/09/07		108	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/07		98	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/07		101	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/07		100	%	60 - 140
A341987	GG3	Method Blank	O-TERPHENYL (sur.)	2021/09/07		111	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/07	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/07	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/07	<50		mg/kg	
A341987	GG3	RPD [AFA016-01]	F2 (C10-C16 Hydrocarbons)	2021/09/07	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/07	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/07	NC		%	40
A342449	KKC	QC Standard	Saturation %	2021/09/05		102	%	75 - 125
A342449	KKC	RPD	Saturation %	2021/09/05	2.4		%	12
A342492	KH2	Matrix Spike	Total Antimony (Sb)	2021/09/06		99	%	75 - 125
			Total Arsenic (As)	2021/09/06		NC	%	75 - 125
			Total Barium (Ba)	2021/09/06		125	%	75 - 125
			Total Beryllium (Be)	2021/09/06		98	%	75 - 125
			Total Cadmium (Cd)	2021/09/06		109	%	75 - 125
			Total Chromium (Cr)	2021/09/06		NC	%	75 - 125
			Total Cobalt (Co)	2021/09/06		109	%	75 - 125
			Total Copper (Cu)	2021/09/06		NC	%	75 - 125
			Total Lead (Pb)	2021/09/06		NC	%	75 - 125
			Total Mercury (Hg)	2021/09/06		110	%	75 - 125
			Total Molybdenum (Mo)	2021/09/06		NC	%	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 Nickel (Ni)	2021/09/06		NC	%	75 - 125
				Total Selenium (Se)	2021/09/06		111	%	75 - 125
				Total Silver (Ag)	2021/09/06		123	%	75 - 125
				Total Thallium (Tl)	2021/09/06		103	%	75 - 125
				Total Tin (Sn)	2021/09/06		103	%	75 - 125
				Total Uranium (U)	2021/09/06		104	%	75 - 125
				Total Vanadium (V)	2021/09/06		108	%	75 - 125
				Total Zinc (Zn)	2021/09/06		NC	%	75 - 125
A342492		KH2	QC Standard	Total Antimony (Sb)	2021/09/07		109	%	15 - 182
				Total Arsenic (As)	2021/09/07		110	%	53 - 147
				Total Barium (Ba)	2021/09/07		108	%	80 - 119
				Total Cadmium (Cd)	2021/09/07		103	%	72 - 128
				Total Chromium (Cr)	2021/09/07		105	%	59 - 141
				Total Cobalt (Co)	2021/09/07		101	%	58 - 142
				Total Copper (Cu)	2021/09/07		109	%	83 - 117
				Total Lead (Pb)	2021/09/07		115	%	79 - 121
				Total Molybdenum (Mo)	2021/09/07		109	%	67 - 133
				Total Nickel (Ni)	2021/09/07		109	%	79 - 121
				Total Silver (Ag)	2021/09/07		107	%	47 - 153
				Total Tin (Sn)	2021/09/07		111	%	67 - 133
				Total Uranium (U)	2021/09/07		102	%	77 - 123
				Total Vanadium (V)	2021/09/07		109	%	79 - 121
				Total Zinc (Zn)	2021/09/07		106	%	79 - 121
A342492		KH2	Spiked Blank	Total Antimony (Sb)	2021/09/06		105	%	80 - 120
				Total Arsenic (As)	2021/09/06		105	%	80 - 120
				Total Barium (Ba)	2021/09/06		109	%	80 - 120
				Total Beryllium (Be)	2021/09/06		105	%	80 - 120
				Total Cadmium (Cd)	2021/09/06		107	%	80 - 120
				Total Chromium (Cr)	2021/09/06		105	%	80 - 120
				Total Cobalt (Co)	2021/09/06		106	%	80 - 120
				Total Copper (Cu)	2021/09/06		108	%	80 - 120
				Total Lead (Pb)	2021/09/06		107	%	80 - 120
				Total Mercury (Hg)	2021/09/06		114	%	80 - 120
				Total Molybdenum (Mo)	2021/09/06		111	%	80 - 120
				Total Nickel (Ni)	2021/09/06		106	%	80 - 120
				Total Selenium (Se)	2021/09/06		107	%	80 - 120
				Total Silver (Ag)	2021/09/06		109	%	80 - 120
				Total Thallium (Tl)	2021/09/06		105	%	80 - 120
				Total Tin (Sn)	2021/09/06		110	%	80 - 120
				Total Uranium (U)	2021/09/06		106	%	80 - 120
				Total Vanadium (V)	2021/09/06		106	%	80 - 120
				Total Zinc (Zn)	2021/09/06		105	%	80 - 120
A342492		KH2	Method Blank	Total Antimony (Sb)	2021/09/06	<0.50		mg/kg	
				Total Arsenic (As)	2021/09/06	<1.0		mg/kg	
				Total Barium (Ba)	2021/09/06	<1.0		mg/kg	
				Total Beryllium (Be)	2021/09/06	<0.40		mg/kg	
				Total Cadmium (Cd)	2021/09/06	<0.050		mg/kg	
				Total Chromium (Cr)	2021/09/06	<1.0		mg/kg	
				Total Cobalt (Co)	2021/09/06	<0.50		mg/kg	
				Total Copper (Cu)	2021/09/06	<1.0		mg/kg	
				Total Lead (Pb)	2021/09/06	<0.50		mg/kg	





BUREAU VERITAS

Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Mercury (Hg)	2021/09/06	<0.050		mg/kg	
			Total Molybdenum (Mo)	2021/09/06	<0.40		mg/kg	
			Total Nickel (Ni)	2021/09/06	<1.0		mg/kg	
			Total Selenium (Se)	2021/09/06	<0.50		mg/kg	
			Total Silver (Ag)	2021/09/06	<0.20		mg/kg	
			Total Thallium (Tl)	2021/09/06	<0.10		mg/kg	
			Total Tin (Sn)	2021/09/06	<1.0		mg/kg	
			Total Uranium (U)	2021/09/06	<0.20		mg/kg	
			Total Vanadium (V)	2021/09/06	<1.0		mg/kg	
			Total Zinc (Zn)	2021/09/06	<10		mg/kg	
A342492	KH2	RPD	Total Antimony (Sb)	2021/09/07	13		%	30
			Total Arsenic (As)	2021/09/07	4.1		%	30
			Total Barium (Ba)	2021/09/07	27		%	35
			Total Beryllium (Be)	2021/09/07	NC		%	30
			Total Cadmium (Cd)	2021/09/07	5.1		%	30
			Total Chromium (Cr)	2021/09/07	12		%	30
			Total Cobalt (Co)	2021/09/07	4.5		%	30
			Total Copper (Cu)	2021/09/07	2.8		%	30
			Total Lead (Pb)	2021/09/07	22		%	35
			Total Molybdenum (Mo)	2021/09/07	2.6		%	35
			Total Nickel (Ni)	2021/09/07	12		%	30
			Total Selenium (Se)	2021/09/07	NC		%	30
			Total Silver (Ag)	2021/09/07	2.2		%	35
			Total Thallium (Tl)	2021/09/07	29		%	30
			Total Tin (Sn)	2021/09/07	27		%	35
			Total Uranium (U)	2021/09/07	28		%	30
			Total Vanadium (V)	2021/09/07	4.6		%	30
			Total Zinc (Zn)	2021/09/07	3.9		%	30
A342517	ARV	Method Blank	Moisture	2021/09/05	<0.30		%	
A342517	ARV	RPD [AFA038-01]	Moisture	2021/09/05	7.8		%	20
A342518	GG3	Matrix Spike [AFA022-01]	O-TERPHENYL (sur.)	2021/09/08		115	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08		105	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/08		115	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/08		111	%	60 - 140
A342518	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/09/08		112	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08		106	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/08		111	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/08		107	%	60 - 140
A342518	GG3	Method Blank	O-TERPHENYL (sur.)	2021/09/08		128	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/08	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/08	<50		mg/kg	
A342518	GG3	RPD [AFA022-01]	F2 (C10-C16 Hydrocarbons)	2021/09/08	36		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/08	8.7		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/08	NC		%	40
A343137	KD9	Matrix Spike	Soluble Nitrate (N)	2021/09/07		100	%	75 - 125
A343137	KD9	QC Standard	Soluble Nitrate (N)	2021/09/07		107	%	75 - 125
A343137	KD9	Spiked Blank	Soluble Nitrate (N)	2021/09/07		101	%	80 - 120
A343137	KD9	Method Blank	Soluble Nitrate (N)	2021/09/07	<0.20		mg/L	
A343137	KD9	RPD	Soluble Nitrate (N)	2021/09/07	4.6		%	30
A343760	NR	Matrix Spike	Hex. Chromium (Cr 6+)	2021/09/07		92	%	75 - 125



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A343760	NR	Spiked Blank	Hex. Chromium (Cr 6+)	2021/09/07		101	%	80 - 120
A343760	NR	Method Blank	Hex. Chromium (Cr 6+)	2021/09/07	<0.080		mg/kg	
A343760	NR	RPD	Hex. Chromium (Cr 6+)	2021/09/07	NC		%	35
A343801	MAP	Matrix Spike	Soluble Boron (B)	2021/09/07		101	%	75 - 125
A343801	MAP	QC Standard	Soluble Sulphate (SO4)	2021/09/07		110	%	75 - 125
A343801	MAP	Spiked Blank	Soluble Boron (B)	2021/09/09		105	%	80 - 120
A343801	MAP	Method Blank	Soluble Boron (B)	2021/09/07	<0.10		mg/L	
			Soluble Sulphate (SO4)	2021/09/07	<5.0		mg/L	
A343801	MAP	RPD	Soluble Boron (B)	2021/09/07	NC		%	30
			Soluble Sulphate (SO4)	2021/09/07	5.4		%	30
A352608	MAP	QC Standard	Total Fusion Barium (Ba)	2021/09/16		85	%	75 - 125
A352608	MAP	Spiked Blank	Total Fusion Barium (Ba)	2021/09/16		93	%	75 - 125
A352608	MAP	Method Blank	Total Fusion Barium (Ba)	2021/09/16	<50		mg/kg	
A352608	MAP	RPD	Total Fusion Barium (Ba)	2021/09/16	12		%	35
A457151	MHF	Spiked Blank	O-TERPHENYL (sur.)	2021/08/24		106	%	60 - 140
			F3A (C16-C22)	2021/08/24		109	%	60 - 140
			F3B (C22-C34)	2021/08/24		112	%	60 - 140
A457151	MHF	Method Blank	O-TERPHENYL (sur.)	2021/08/24		103	%	60 - 140
			F3A (C16-C22)	2021/08/24	<50		mg/kg	
			F3B (C22-C34)	2021/08/24	<50		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.

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).



BUREAU  
VERITAS

Bureau Veritas Job #: C164643  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: AB

### VALIDATION SIGNATURE PAGE

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

Gita Pokhrel, Laboratory Supervisor



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

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

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BV Labs 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.



<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #254 GOLDER ASSOCIATES LTD.	Company Name: #6340 GOLDER ASSOCIATES LTD.	Quotation #: C00480	BV Labs Job #: <b>c164643</b>		Bottle Order #: 		
Attention: ACCOUNTS PAYABLE	Attention: Aurelie Belavance	P.O. #: 20368099-7000-1001	COC #: 		Project Manager: Carmen McKay		
Address: 2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address: 2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project: 20368099-6000-1001	Site #: _____		C#644511-65-01		
Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel: (403) 299-5600 Fax: _____	Project Name: _____	Sampled By: _____				
Email: canadaaccounts payableinvoices@golder.com	Email: abellavance@golder.com						

<b>Regulatory Criteria:</b> <input type="checkbox"/> ATI <input checked="" type="checkbox"/> CCME <input type="checkbox"/> Other	<b>Special Instructions:</b> email shell@golder.com facility code 41259544	<b>ANALYSIS REQUESTED (PLEASE BE SPECIFIC)</b> Metals Field Filtered? (Y/N) _____ AT1 - Regulated Metals - Soils _____ AT1, BTEX and F1-F4 in Soil (Vials) _____ BIC SCALE Analysis (F2/F2+F3B) in soil _____ Sulphate / nitrate <i>AccuVantage Cr</i> _____ Barium on ICP using Fusion Extraction (True Barium) _____ CCME BTEX and F1-F2 in Water _____ Routine Water _____ Regulated Metals (CCME/AT1) - Dissolved _____ PAH in Water by GC/MS _____ Limited Sample _____	<b>Turnaround Time (TAT) Required:</b> Please provide advance notice for rush projects <b>Regular (Standard) TAT:</b> (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details. <input checked="" type="checkbox"/> <b>Job Specific Rush TAT (if applies to entire submission)</b> Date Required: _____ <input type="checkbox"/> Rush Confirmation Number: _____ (call lab for #)
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SAMPLES MUST BE KEPT COOL (<-10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered? (Y/N)	AT1 - Regulated Metals - Soils	AT1, BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate <i>AccuVantage Cr</i>	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample	# of Bottles	Comments
1 N/A	TP21-65-01	28 Aug/21	9:09	SOIL			✓									3	
2	TP21-65-03		9:10				✓									3	
3	TP21-65-06		9:15				✓									3	
4	TP21-66-01		9:29			X	✓		X	X						3	+1 bag
5	TP21-66-03		9:30			X	✓		X	X						3	+1 bag
6	TP21-66-06		9:39			X	✓		X	X						3	+1 bag
7	TP21-67-02		9:49				✓									3	Temp:
8	TP21-67-04		9:50				✓									3	
9	TP21-67-06		9:57				✓									3	
10	TP21-DUP-JJ		9:57				✓									3	

RELINQUISHED BY: (Signature/Print) <i>A. Bellavance</i>	Date: (YY/MM/DD) 21/8/28	Time 16:30	RECEIVED BY: (Signature/Print) <i>Du Dawit Kibreab</i>	Date: (YY/MM/DD) 2021/09/01	Time 15:20	# jars used and not submitted	Laboratory Use Only		
							Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt <i>see ACTR</i>	Custody Seal Intact on Cooler? <input type="checkbox"/> Yes <input type="checkbox"/> No

\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.  
 \* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.  
 \*\* ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT. FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER





INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name: #254 GOLDER ASSOCIATES LTD.	Company Name: #6340 GOLDER ASSOCIATES LTD.	Quotation #: C00480	BV Labs Job #: C164643		Bottle Order #: 644511		
Attention: ACCOUNTS PAYABLE	Attention: Aurelie Belavance	P.O. #: 20368099-7000-1001	COC #: [Barcode]		Project Manager: Carmen McKay		
Address: 2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address: 2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project: 20368099-6000-1001	Site #: [Barcode]		C#644511-66-01		
Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel: (403) 299-5600 Fax: [Blank]	Project Name:	Sampled By:				
Email: canadaaccounts payableinvoices@golder.com	Email: abellavance@golder.com						

Regulatory Criteria: <input type="checkbox"/> ATI <input checked="" type="checkbox"/> CCME <input type="checkbox"/> Other	Special Instructions: email: shell@golder.com facility code 41259544	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)	Turnaround Time (TAT) Required: Please provide advance notice for rush projects
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS		Metals Field Filtered? (Y/N)	Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details
		AT1 Regulated Metals - Soils	Job Specific Rush TAT (if applies to entire submission)
		AT1 BTEX and F1-F4 in Soil (Vials)	Date Required: [Blank]
		BIC SCALE Analysis (F2/F2+F3B) in soil	Rush Confirmation Number: [Blank]
		Sulphate / nitrate	(call lab for #)
		Barium on ICP using Fusion Extraction (True Barium)	
		CCME BTEX and F1-F2 in Water	
		Routine Water	
		Regulated Metals (CCME/AT1) - Dissolved	
		PAH in Water by GC/MS	
		Limited Sample	

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered? (Y/N)	AT1 Regulated Metals - Soils	AT1 BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample	# of Bottles	Comments
N/A	TP21-68-04	28 Aug 21	10:07	SOIL		✓										3	
	TP21-68-05		10:20			✓										3	
	TP21-68-06		10:21			✓										3	
	TP21-69-03		10:30			✓										3	
	TP21-69-06		10:40			✓										3	
	TP21-70-03		10:51			✓										3	
	TP21-70-06		11:00			✓										3	
	<del>TP21</del> DUP-KK		11:00			✓										3	Received in Yellowknife By: J. Merrett @ 8:35 AM AUG 31 2021 See ActR Temp: /
	<del>TP21</del> TP21-70-04		10:52			✓										3	
	<del>TP21</del>					✓										3	

RELINQUISHED BY: (Signature/Print) Aurelie Belavance	Date: (YY/MM/DD) 21/08/28	Time 16:30	RECEIVED BY: (Signature/Print) Dan Dawit Kibreab	Date: (YY/MM/DD) 2021/09/10	Time 15:20	# jars used and not submitted	Laboratory Use Only
							Time Sensitive <input type="checkbox"/>
							Temperature (°C) on Receipt See ActR
							Custody Seal Intact on Cooler? <input type="checkbox"/> Yes <input type="checkbox"/> No

\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.  
 \* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.  
 \*\* ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT. FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER



INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name: #254 GOLDER ASSOCIATES LTD.		Company Name: #6340 GOLDER ASSOCIATES LTD.		Quotation #: C00480		BV Labs Job #: C 164643	
Attention: ACCOUNTS PAYABLE		Attention: Aurelie Belavance		P.O #: 20368099-7000-1001		Bottle Order #: 644511	
Address: 2800, 700 -2nd Street SW		Address: 2800, 700 -2nd Street SW		Project: 20368099-6000-1001		COC #: [Barcode]	
CALGARY AB T2P 2W2		CALGARY AB T2P 2W2		Project Name:		Project Manager: Carmen McKay	
Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606		Tel: (403) 299-5600 Fax:		Site #:		C#644511-63-01	
Email: canadaaccounts payableinvoices@golder.com		Email: abellavance@golder.com		Sampled By:			

Regulatory Criteria:

ATI

CCME

Other

Special Instructions:

emuel  
shell@golder.com  
facility code  
41259544

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

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)											# of Bottles	Comments
					Metals Field Filtered ? (Y/N)	AT1 Regulated Metals - Soils	AT1 BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample		
1 NIA	TP21-71-02	Aug 28/21	13:42	Soil			✓									3	
2	TP21-71-04		13:43				✓									3	
3	TP21-71-06		13:55				✓									3	
4	TP21-72-03		14:05				✓									3	
5	TP21-72-05		14:16				✓									3	
6	TP21-72-06		14:17				✓									3	
7	TP21-83-04		14:26				✓									3	
8	TP21-83-05		14:34				✓									3	
9	TP21-83-06		14:35				✓									3	
10	TP21-84-03		14:44				✓									3	

\* RELINQUISHED BY: (Signature/Print) A. Belavance Date: (YY/MM/DD) 21/08/28 Time 16:30

RECEIVED BY: (Signature/Print) Du Dawit Kibreab Date: (YY/MM/DD) 2021/09/01 Time 15:20

# jars used and not submitted: \_\_\_\_\_

Time Sensitive:

Temperature (°C) on Receipt: See ACTR

Custody Seal Intact on Cooler?  Yes  No

\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

\*\* ALL SAMPLES ARE HELD FOR 90 DAYS AFTER SAMPLE RECEIPT; FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER.

White: BV Labs Yellow: Client





INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name: #254 GOLDER ASSOCIATES LTD.	Company Name: #6340 GOLDER ASSOCIATES LTD.	Quotation #: C00480	BV Labs Job #: C 164643	Bottle Order #: 644511	Barcode: C#644511-64-01		
Attention: ACCOUNTS PAYABLE	Attention: Aurelie Belavance	P.O. #: 20368099-7000-1001	COC #: [Barcode]		Project Manager: Carmen McKay		
Address: 2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address: 2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project: 20368099-6000-1001					
Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel: (403) 299-5600 Fax: [Blank]	Project Name:					
Email: canadaaccountspayableinvoices@golder.com	Email: abellavance@golder.com	Site #:					
		Sampled By:					

Regulatory Criteria: <input type="checkbox"/> ATI <input checked="" type="checkbox"/> CCME <input type="checkbox"/> Other	Special Instructions: email shell.dg@golder.com facility code: 41259544	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)						Turnaround Time (TAT) Required: Please provide advance notice for rush projects					
		Metals Field Filtered? (Y/N)	AT1 Regulated Metals - Soils	AT1 BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample	Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details
													Job Specific Rush TAT (if applies to entire submission) Date Required: [Blank] Rush Confirmation Number: [Blank] (call lab for #)

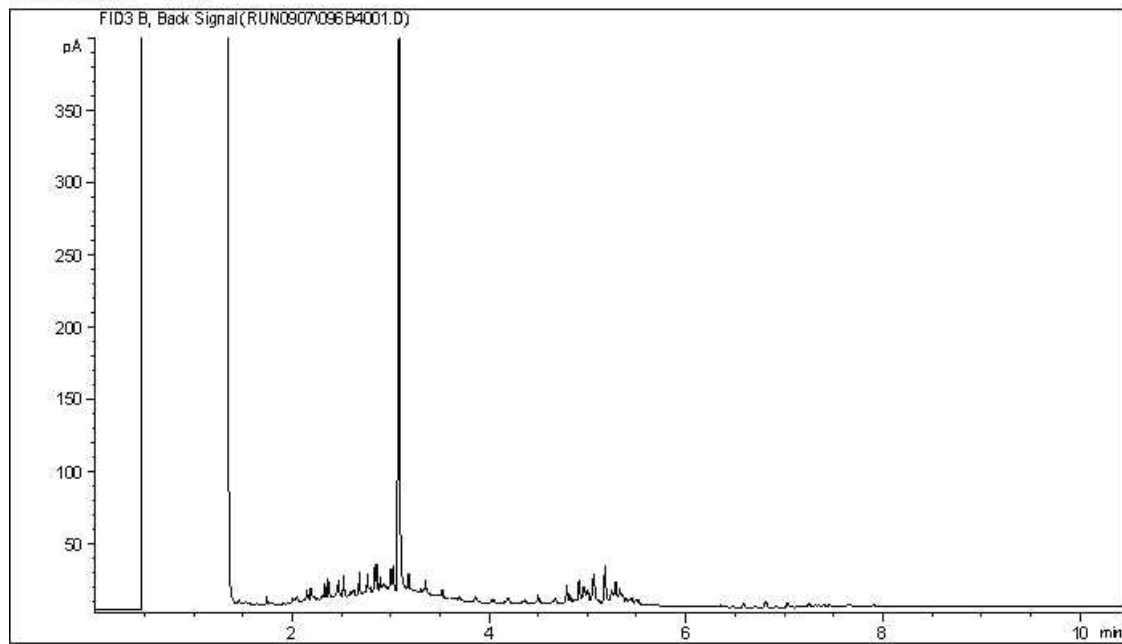
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS																	
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered? (Y/N)	AT1 Regulated Metals - Soils	AT1 BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample	# of Bottles	Comments
1 NA	TP21-84-04	28 Aug 21	14:45	Soil			✓									3	Received in Yellowknife By: J. Meron @ 5:35 AM AUG 31 2021 see ACTR Temp: / /
2	TP21-84-05		14:53				✓									3	
3	<del>TP21</del> DVP-LL		14:53				✓									3	
4	TP21-85-03		15:06				✓									3	
5	TP21-85-04		15:07				✓									3	
6	TP21-85-05		15:14				✓									3	
7	TP21-86-03		15:26				✓									3	
8	TP21-86-05		15:33				✓									3	
9	TP21-86-06		15:34				✓									3	
10	<del>TP21</del>						✓									3	

* RELINQUISHED BY: (Signature/Print) A. Bellavance	Date: (YY/MM/DD) 21/08/28	Time 16:30	RECEIVED BY: (Signature/Print) Du Dawit Kibreab	Date: (YY/MM/DD) 20/09/01	Time 15:00	# jars used and not submitted	Laboratory Use Only		
						Time Sensitive <input type="checkbox"/>		Temperature (°C) on Receipt See ACTR	Custody Seal Intact on Cooler <input type="checkbox"/> Yes <input type="checkbox"/> N.

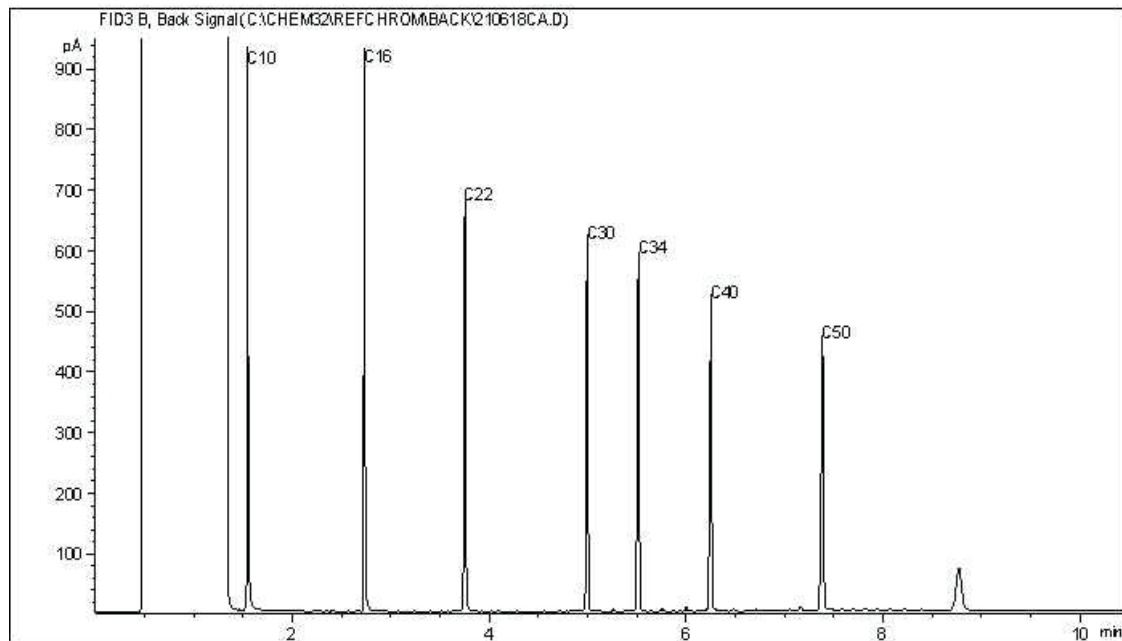
\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.  
 \*\* ALL SAMPLES ARE HELD FOR 90 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

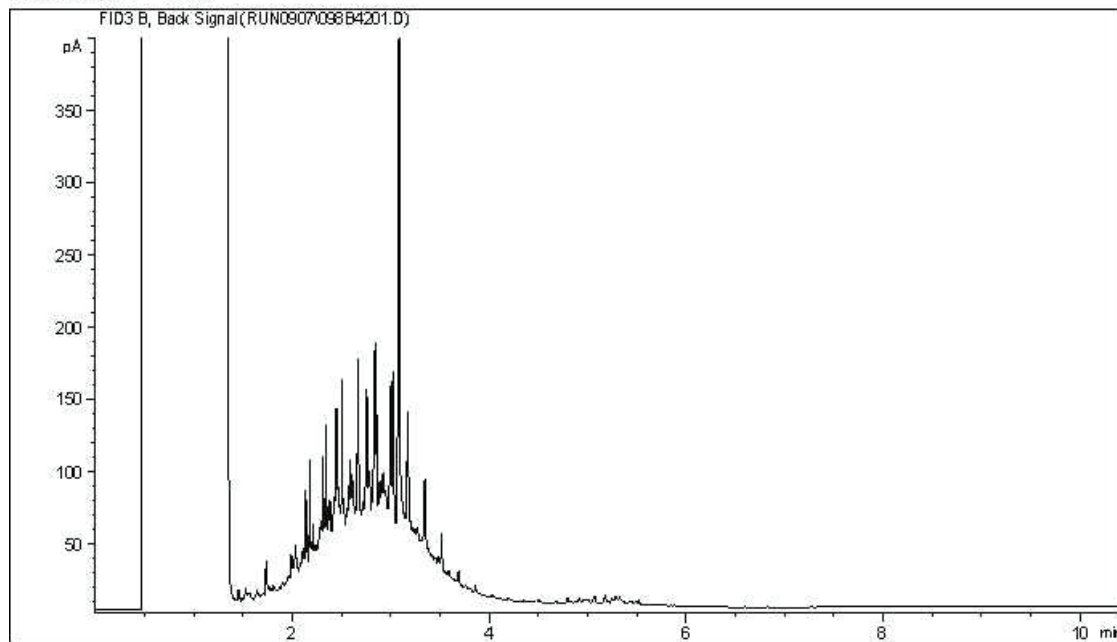
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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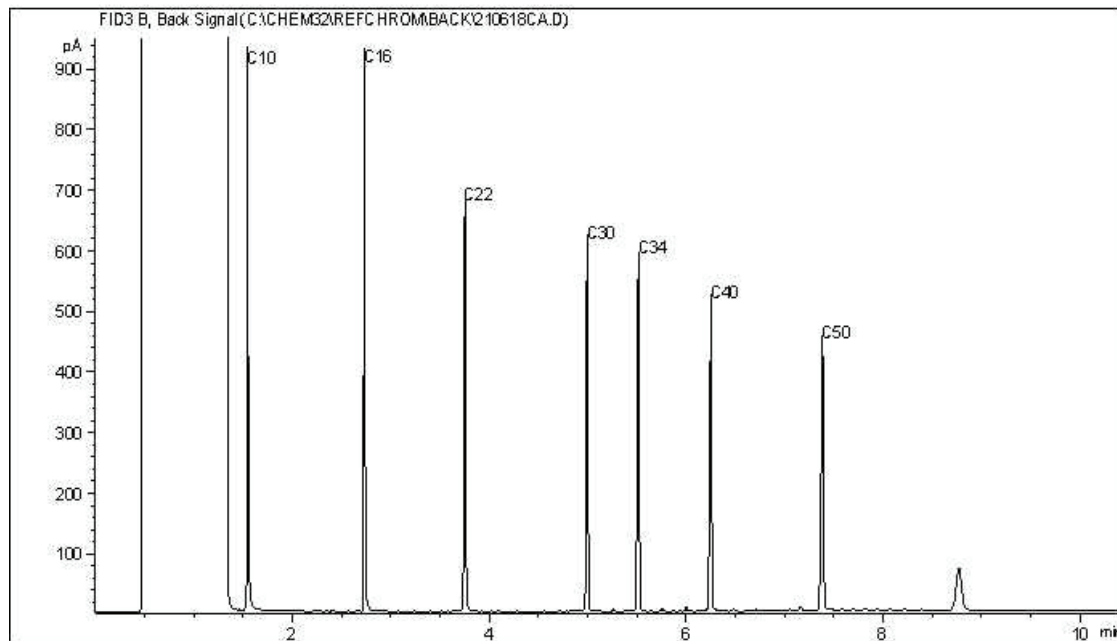


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



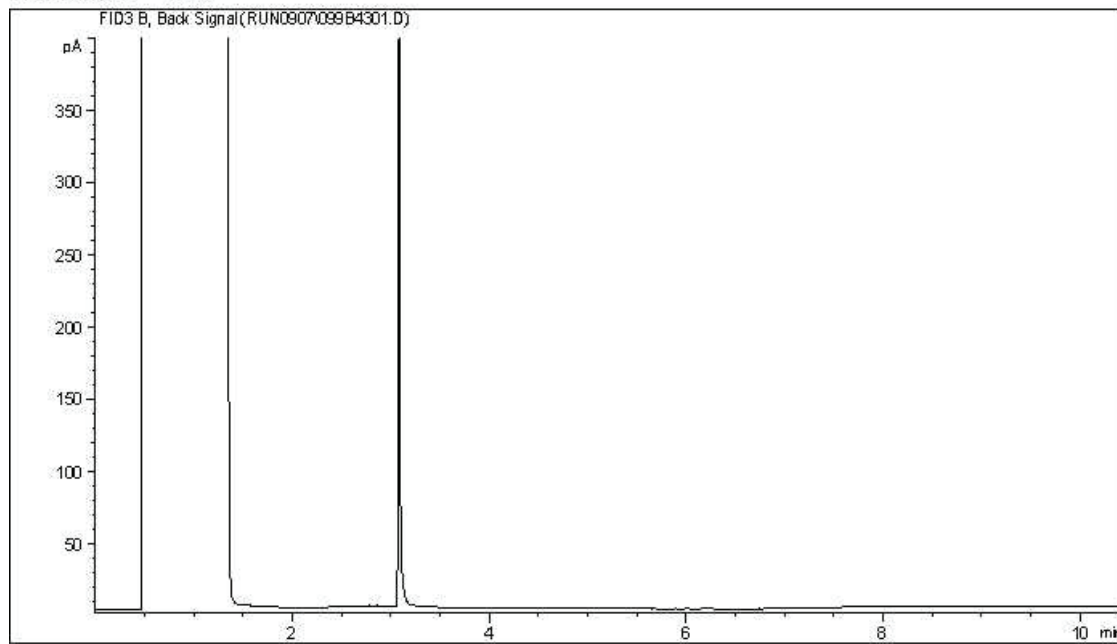
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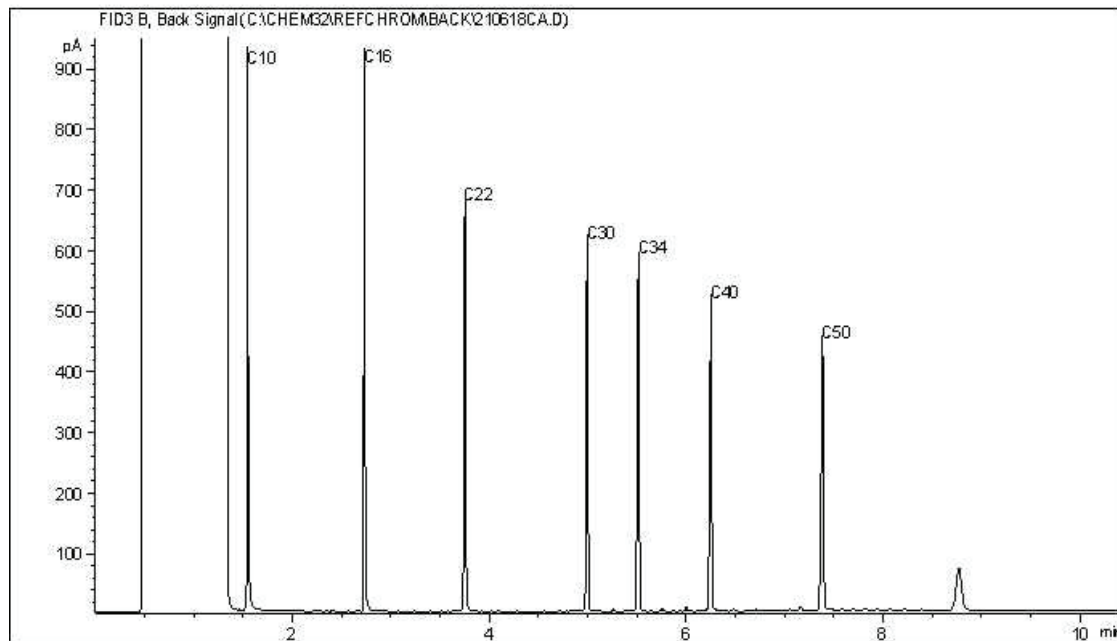
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Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



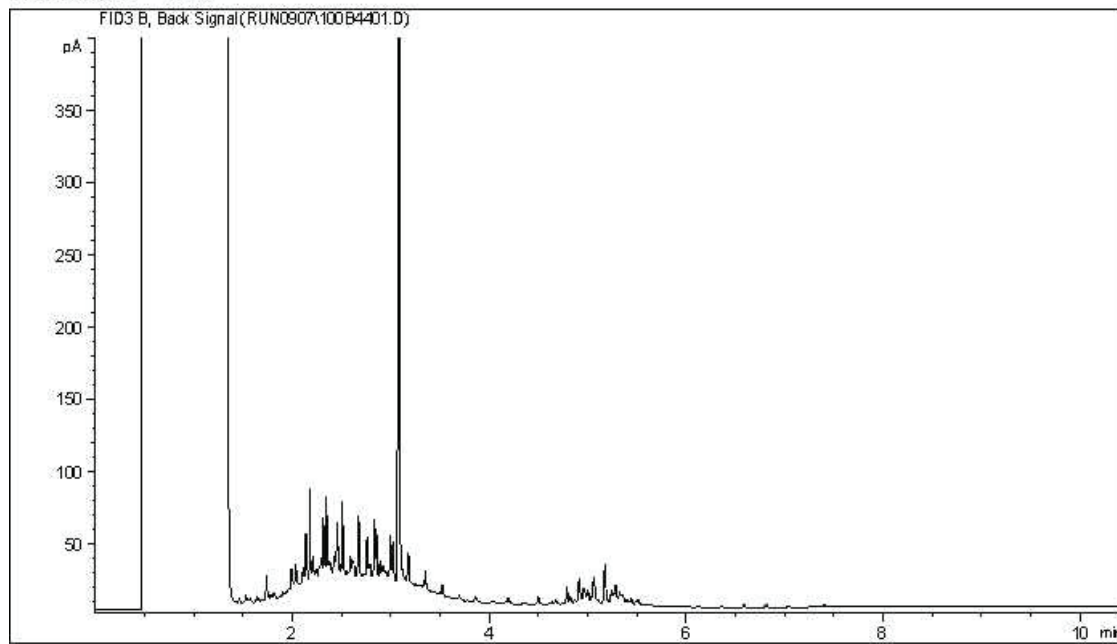
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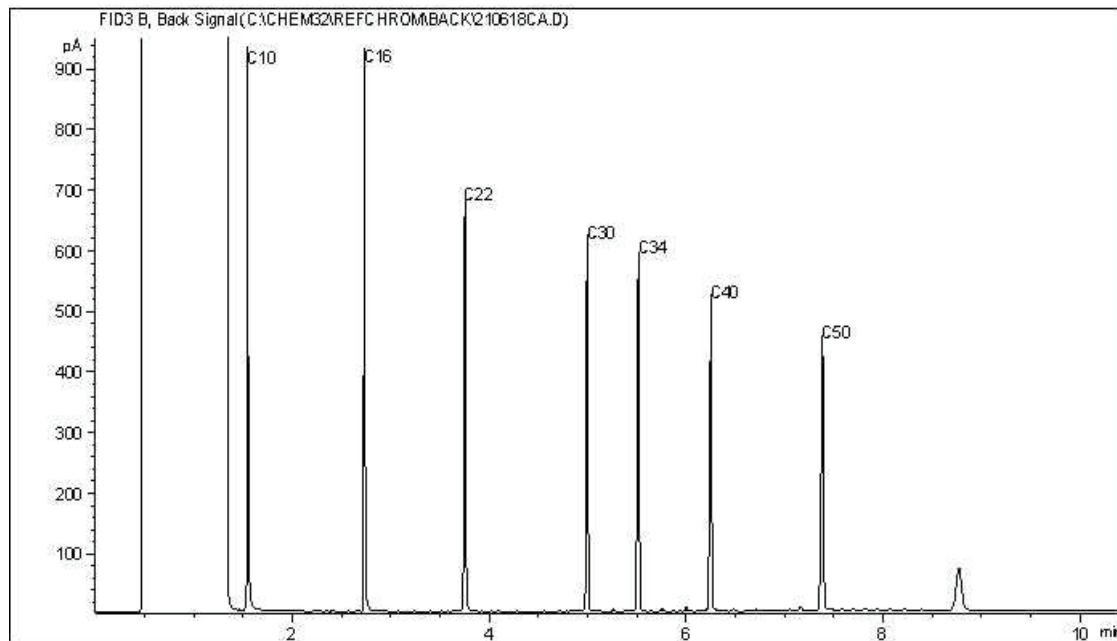
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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Carbon Range Distribution - Reference Chromatogram



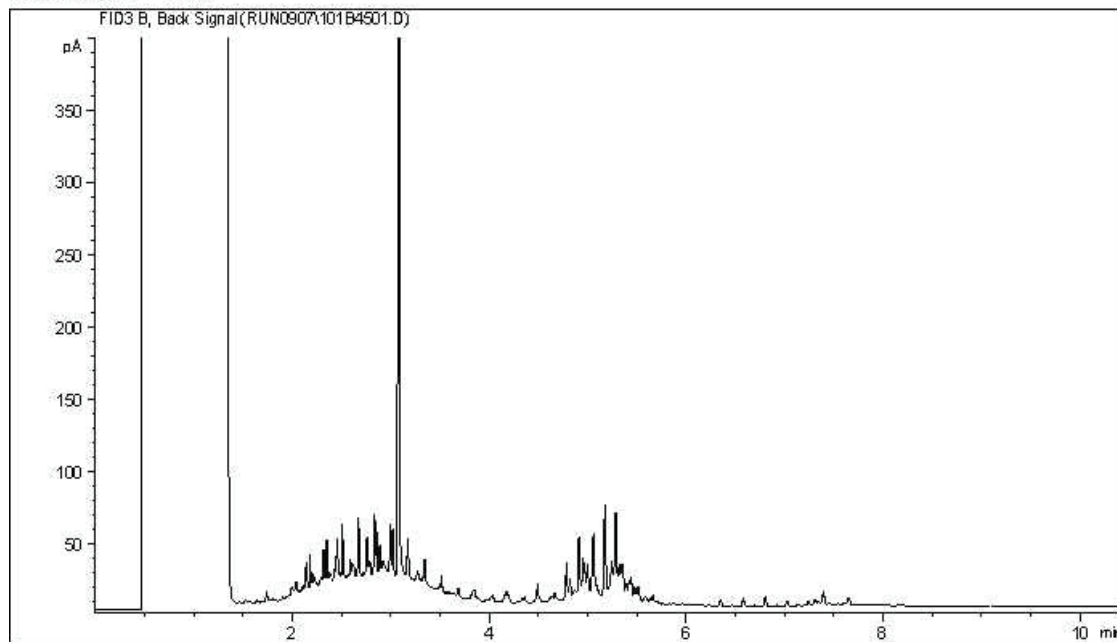
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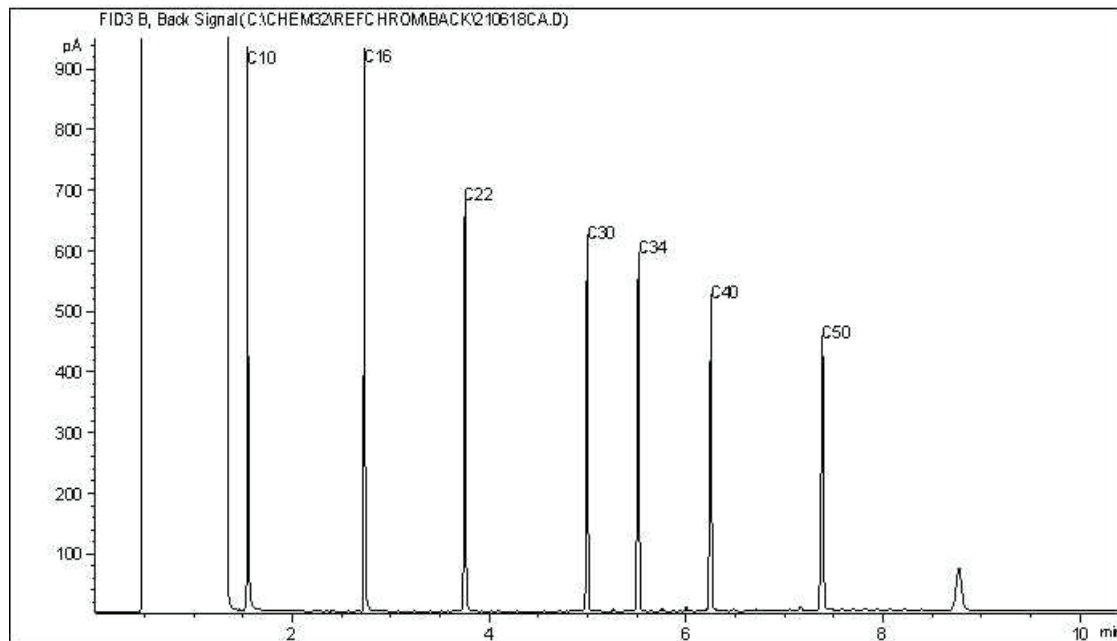
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Carbon Range Distribution - Reference Chromatogram



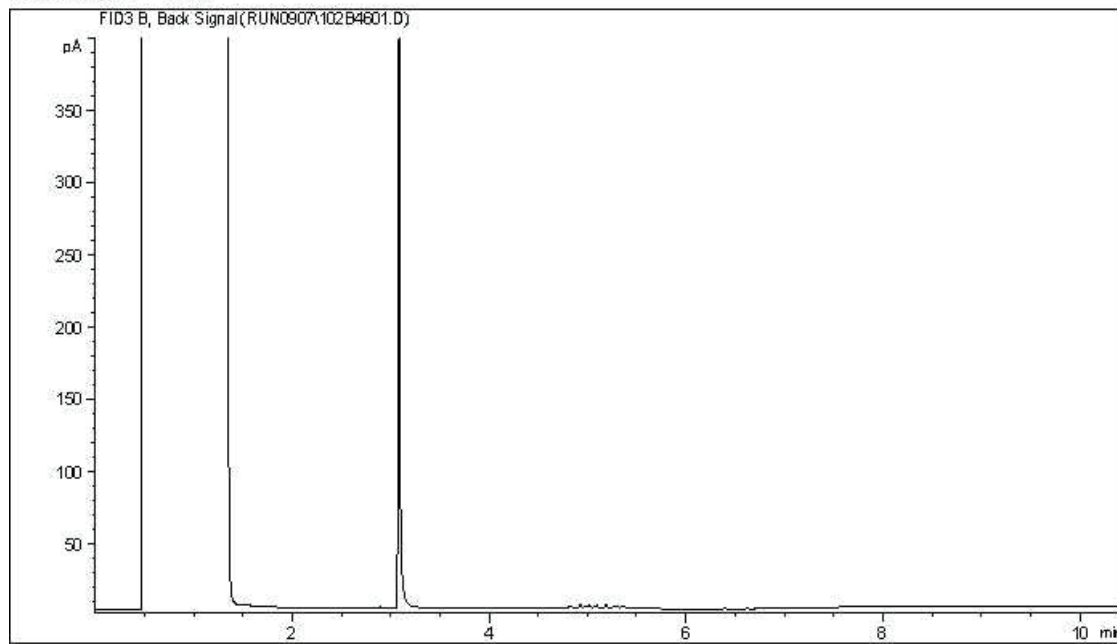
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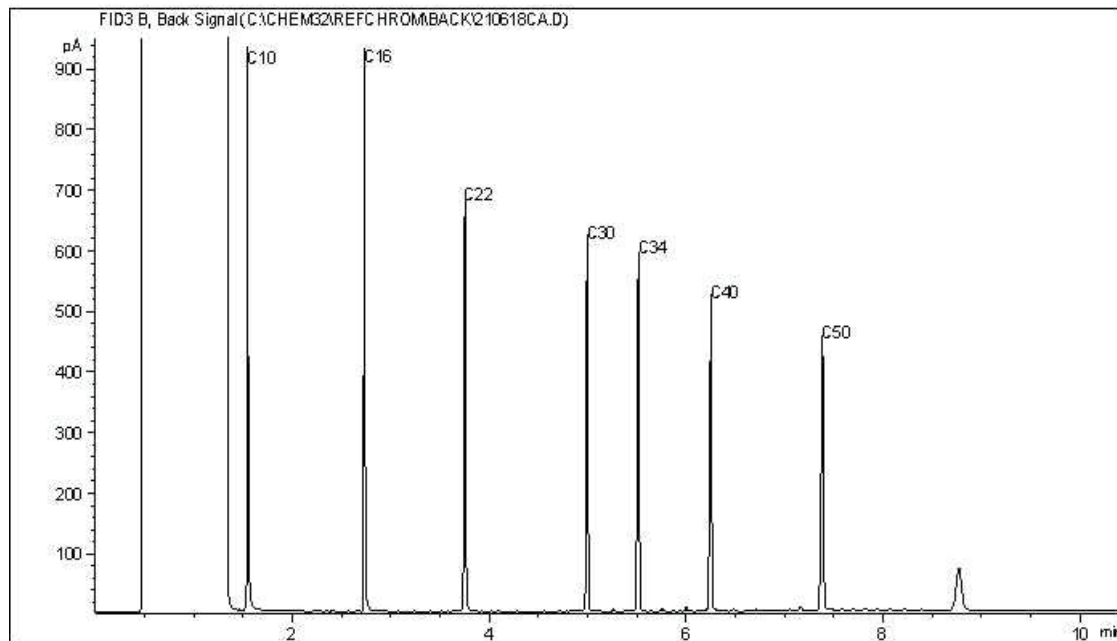
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Carbon Range Distribution - Reference Chromatogram



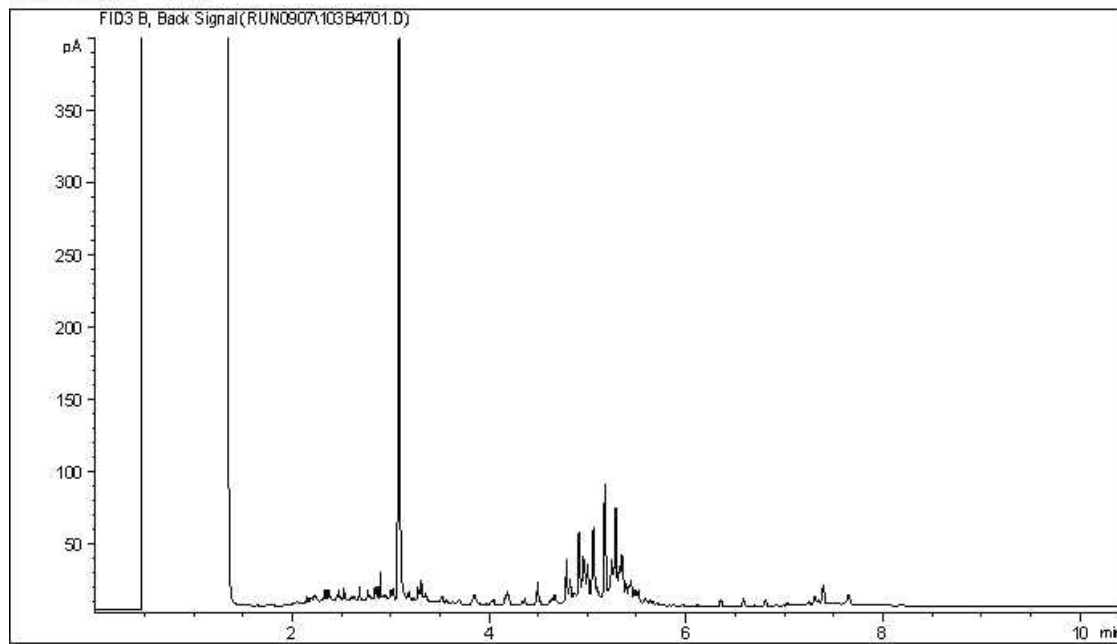
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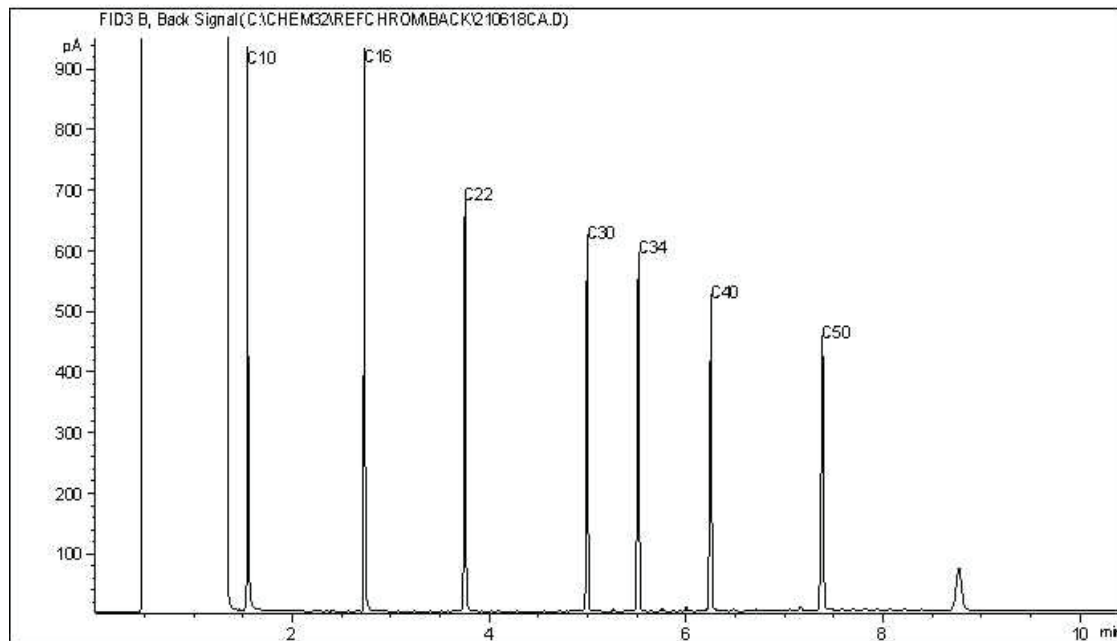
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Carbon Range Distribution - Reference Chromatogram



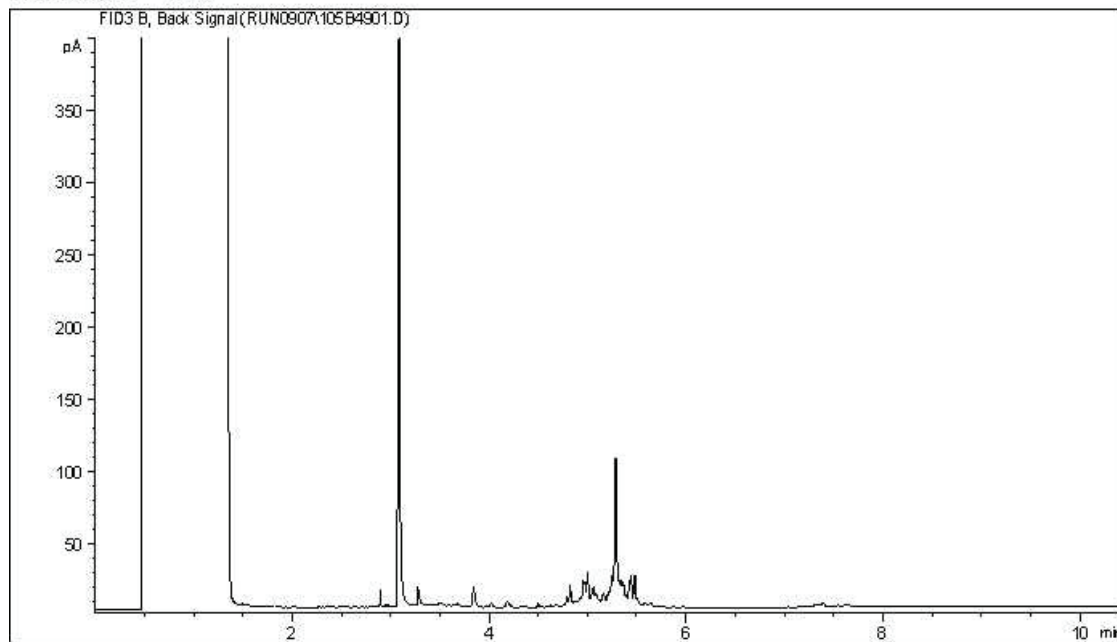
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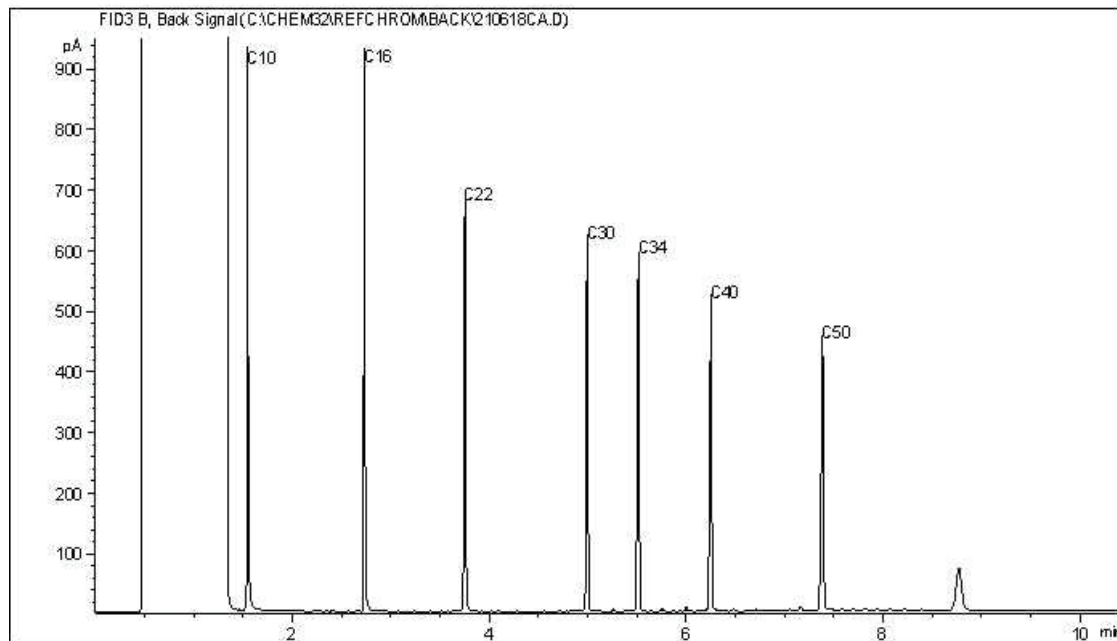
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Carbon Range Distribution - Reference Chromatogram



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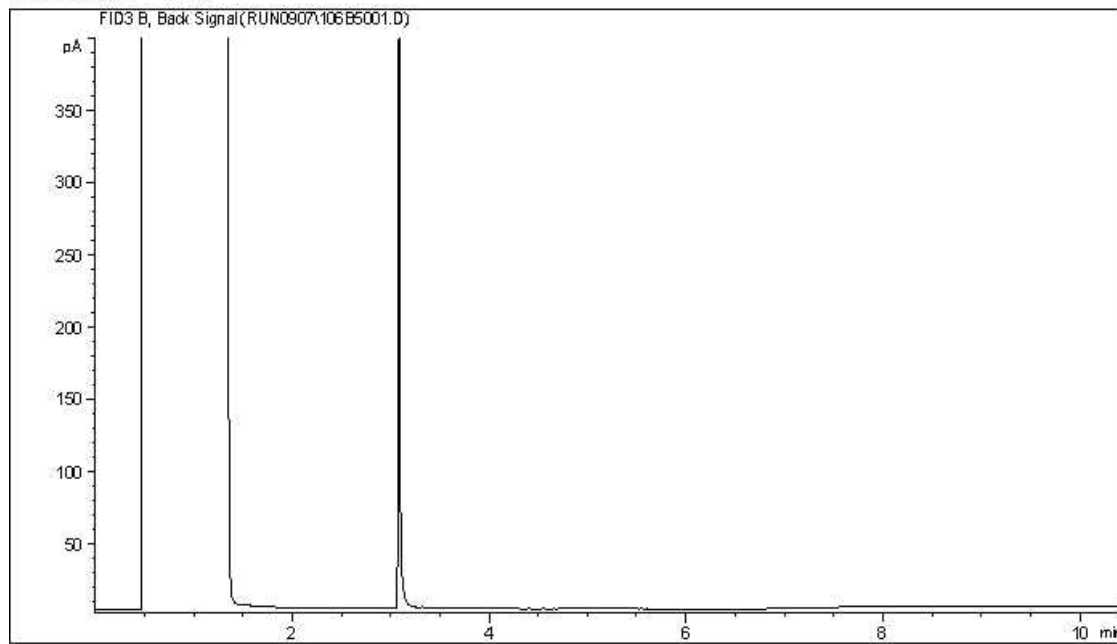
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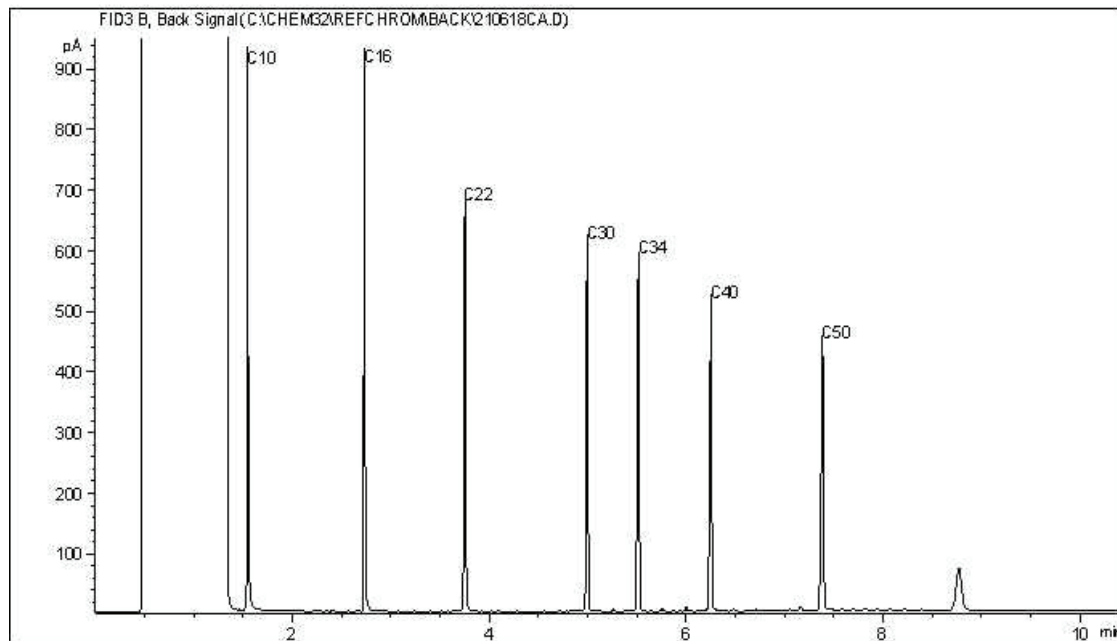


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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Carbon Range Distribution - Reference Chromatogram



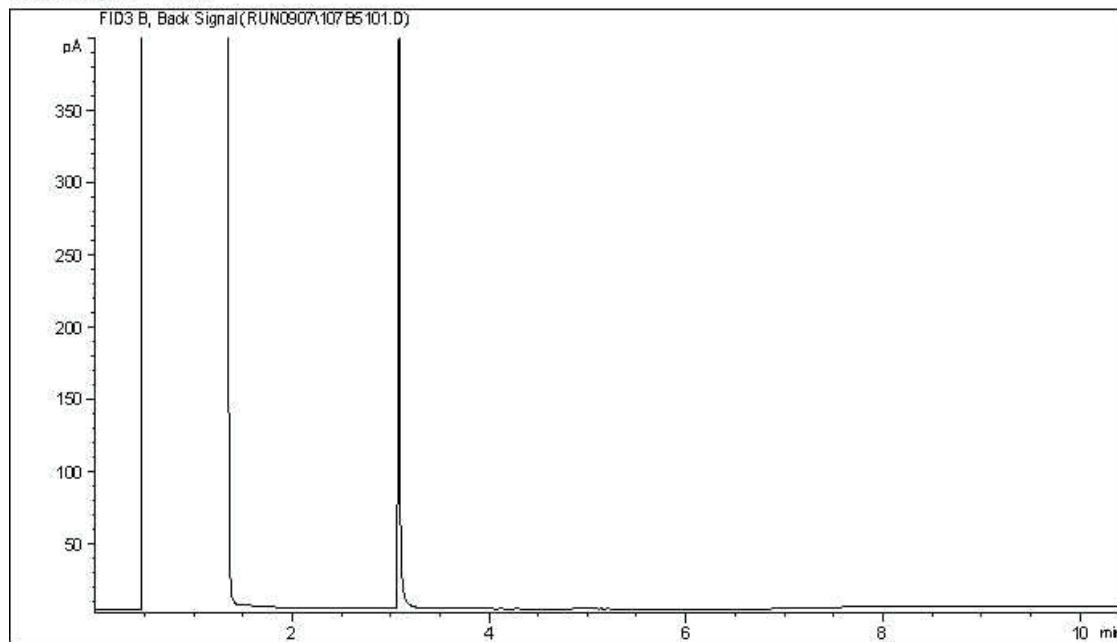
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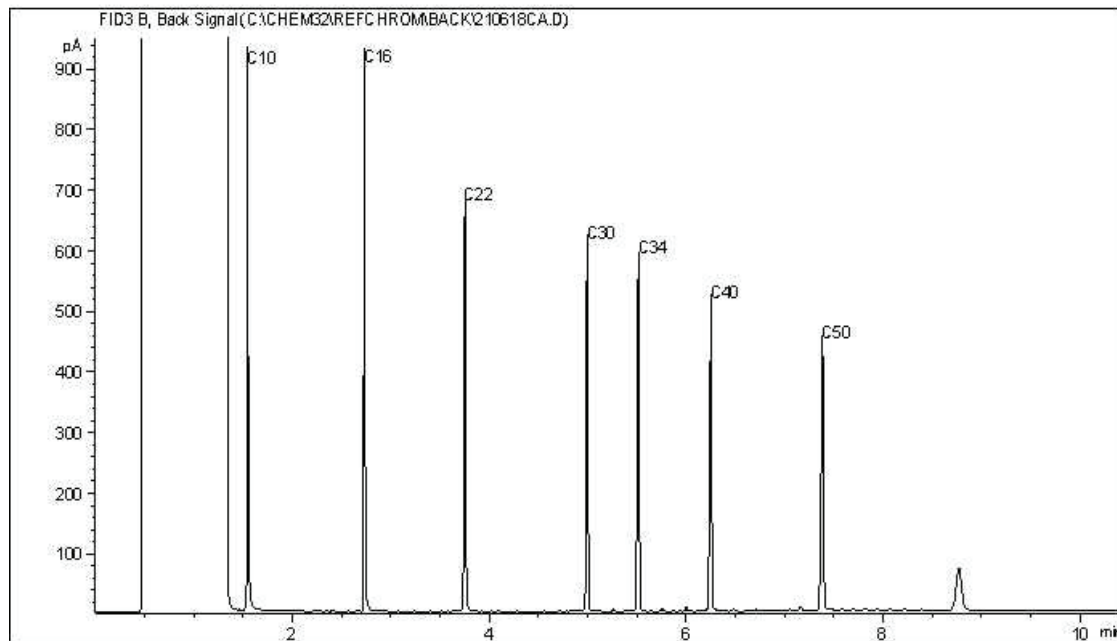
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Carbon Range Distribution - Reference Chromatogram



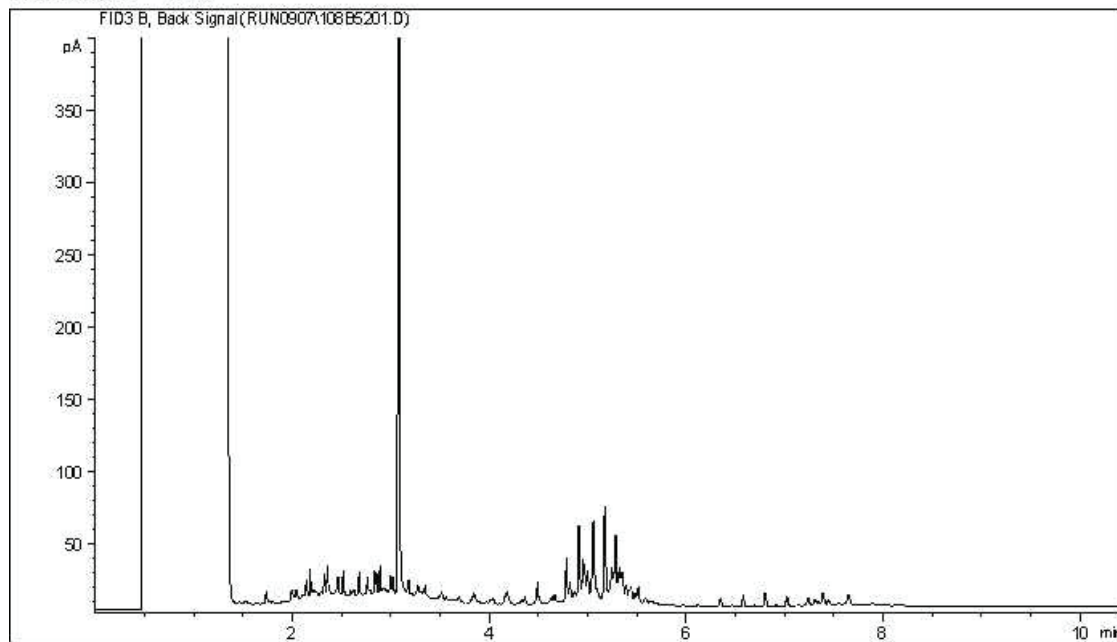
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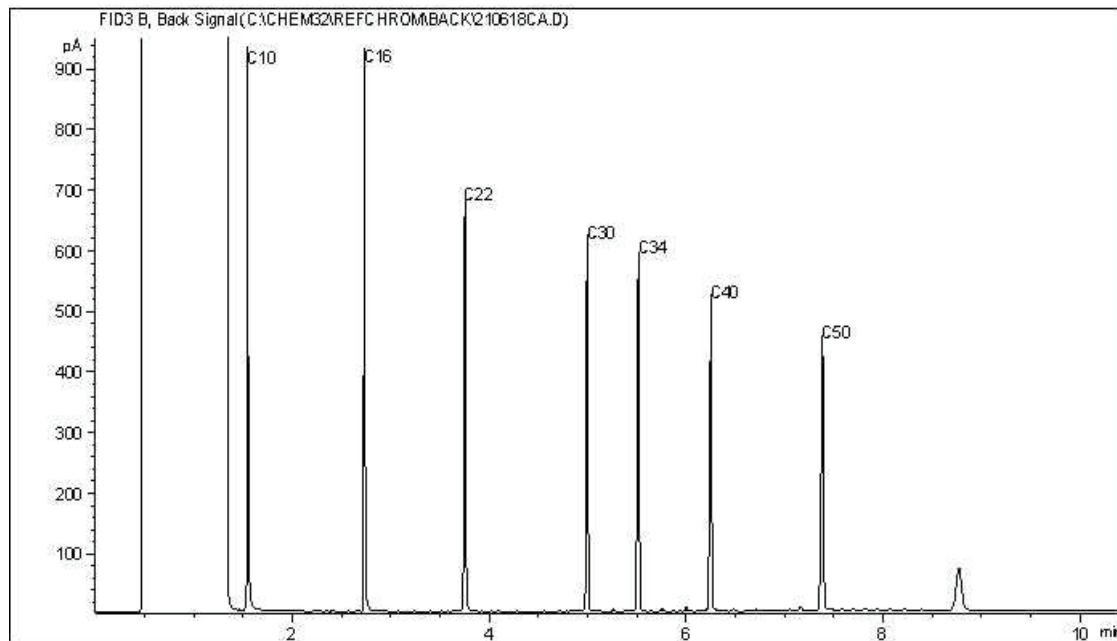
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Carbon Range Distribution - Reference Chromatogram



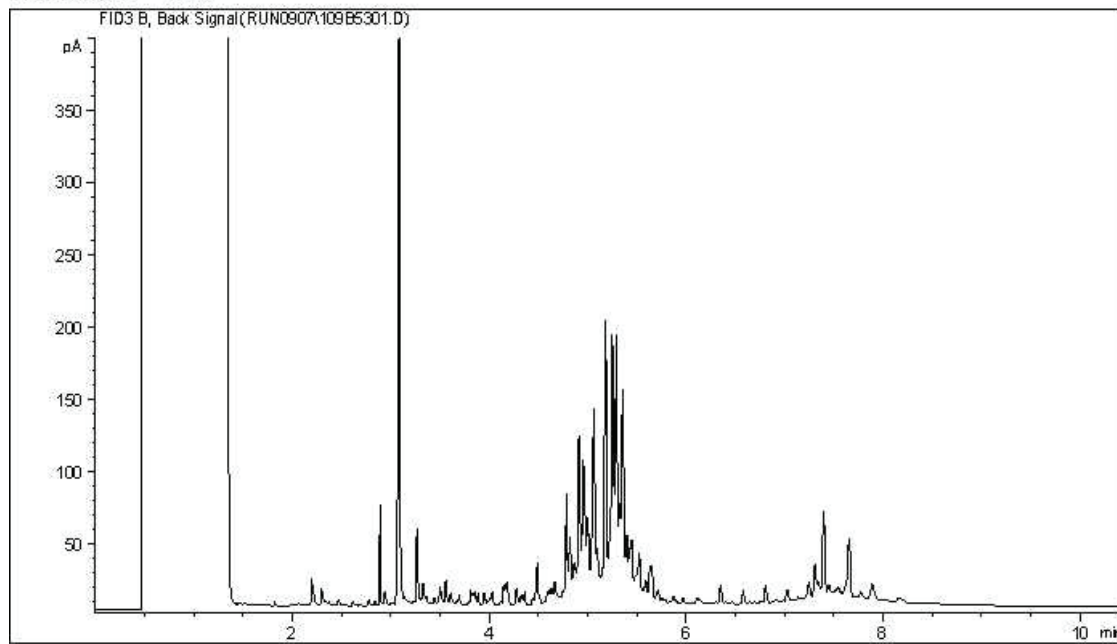
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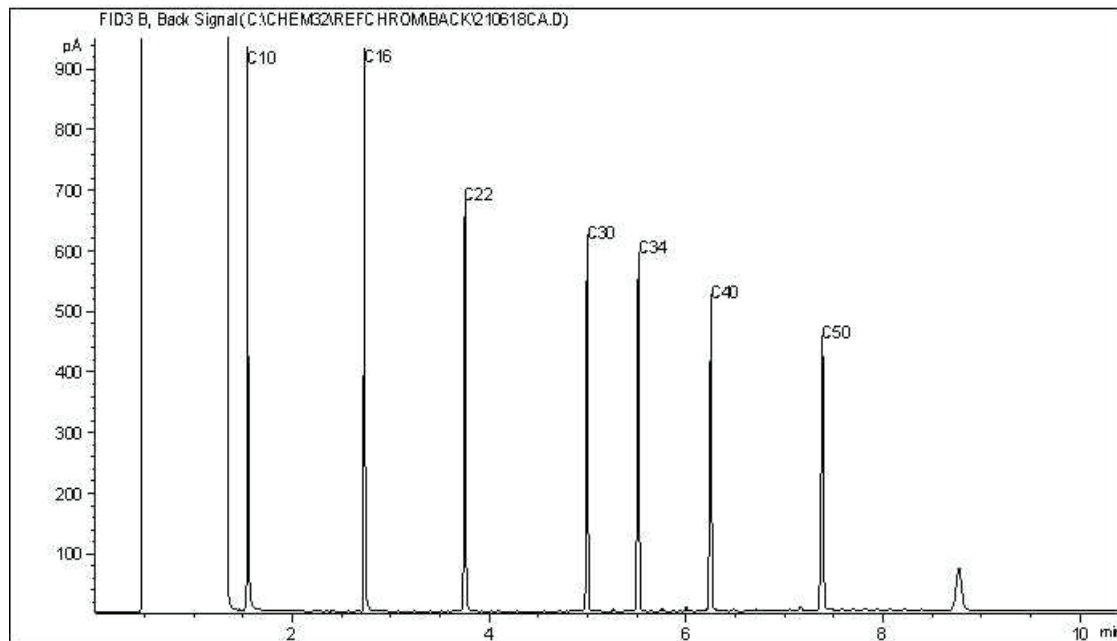
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Carbon Range Distribution - Reference Chromatogram



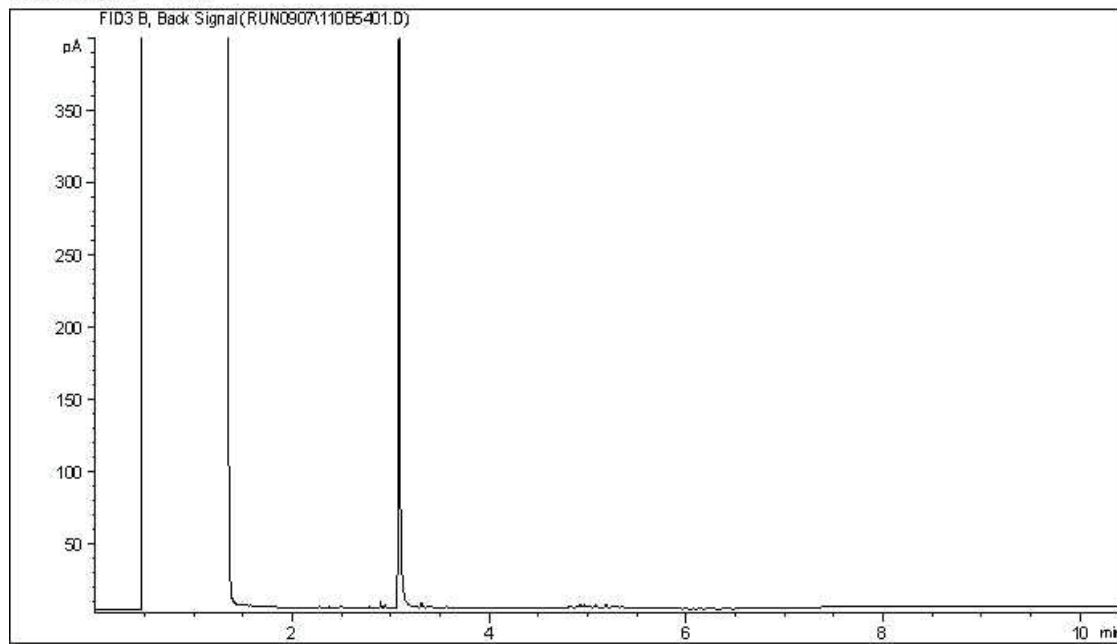
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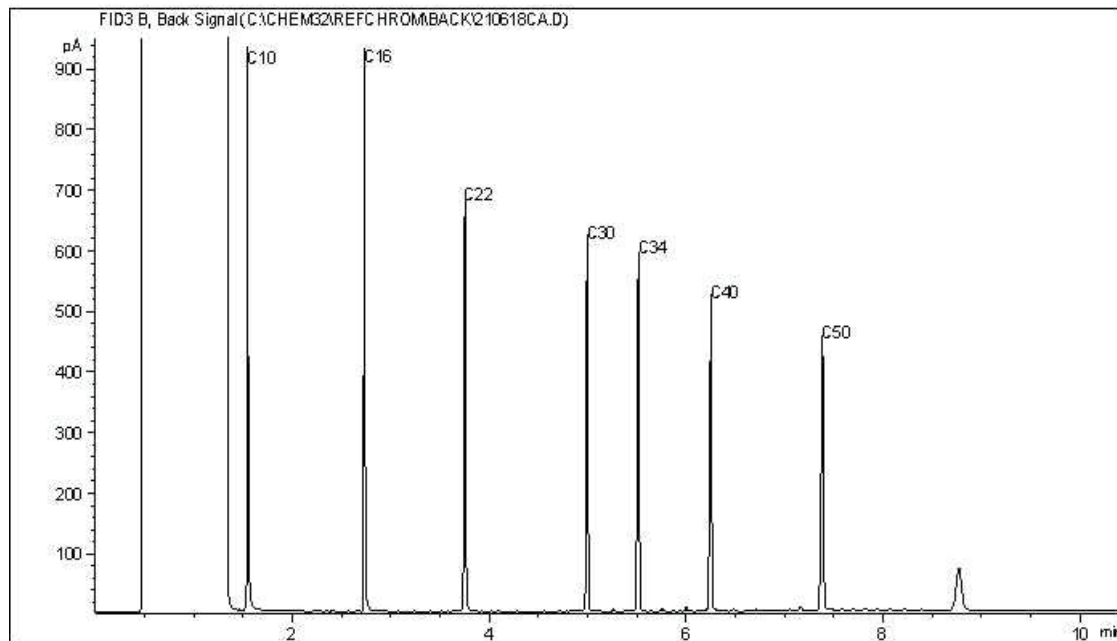
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Carbon Range Distribution - Reference Chromatogram



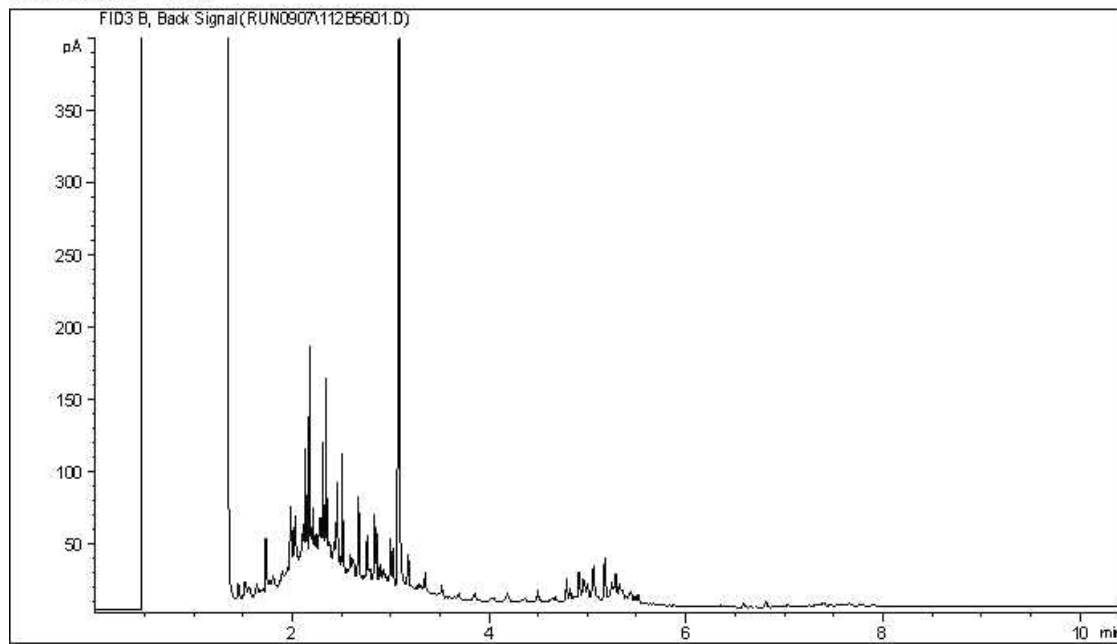
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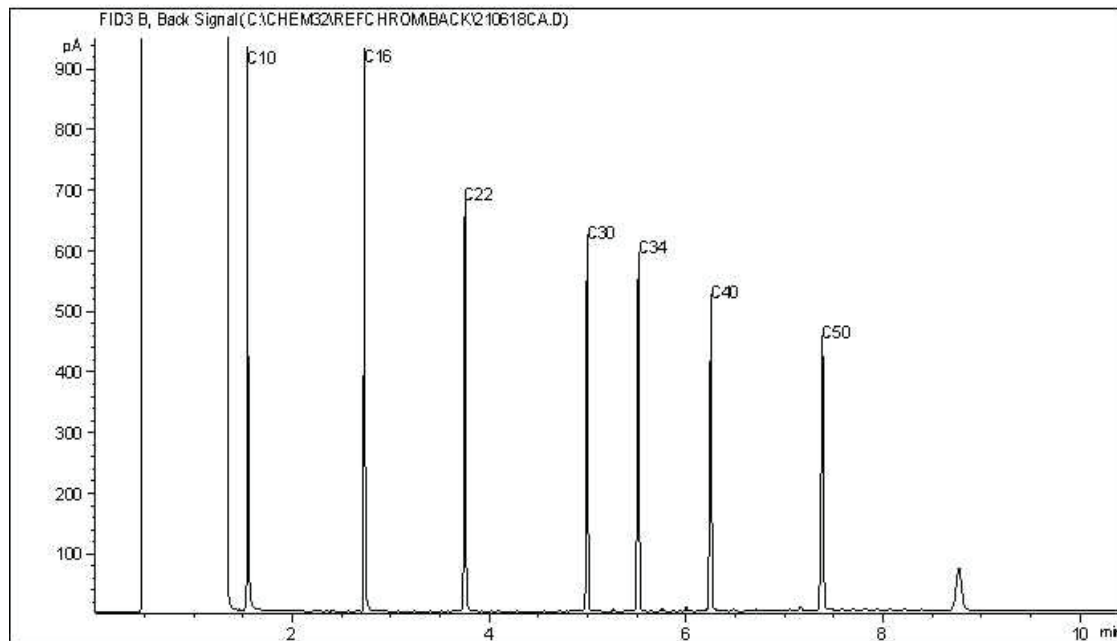
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Carbon Range Distribution - Reference Chromatogram



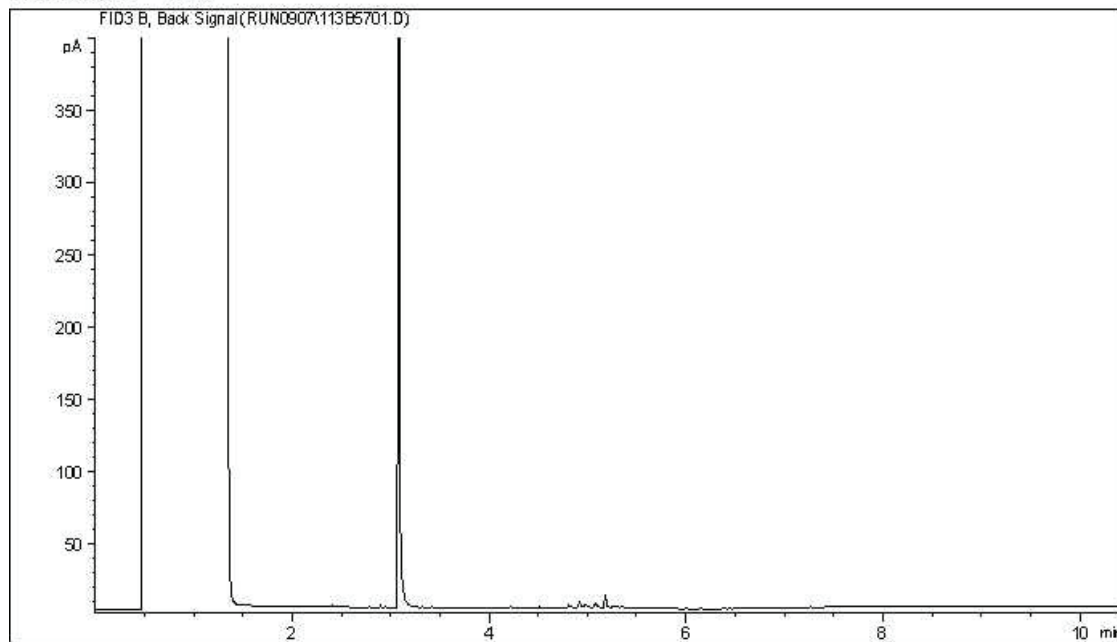
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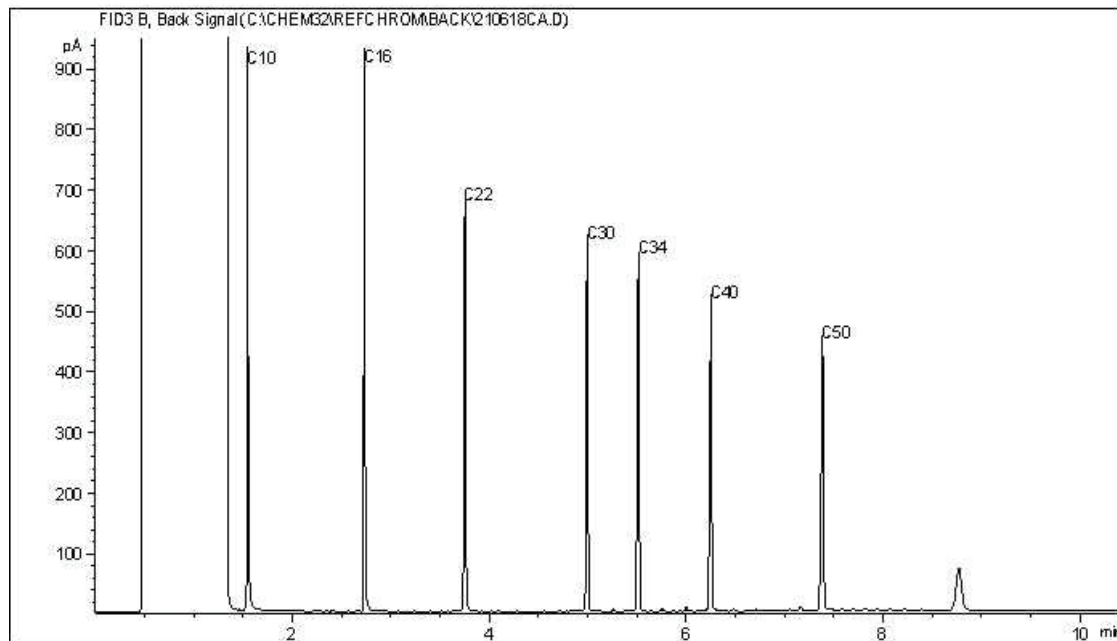
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Carbon Range Distribution - Reference Chromatogram



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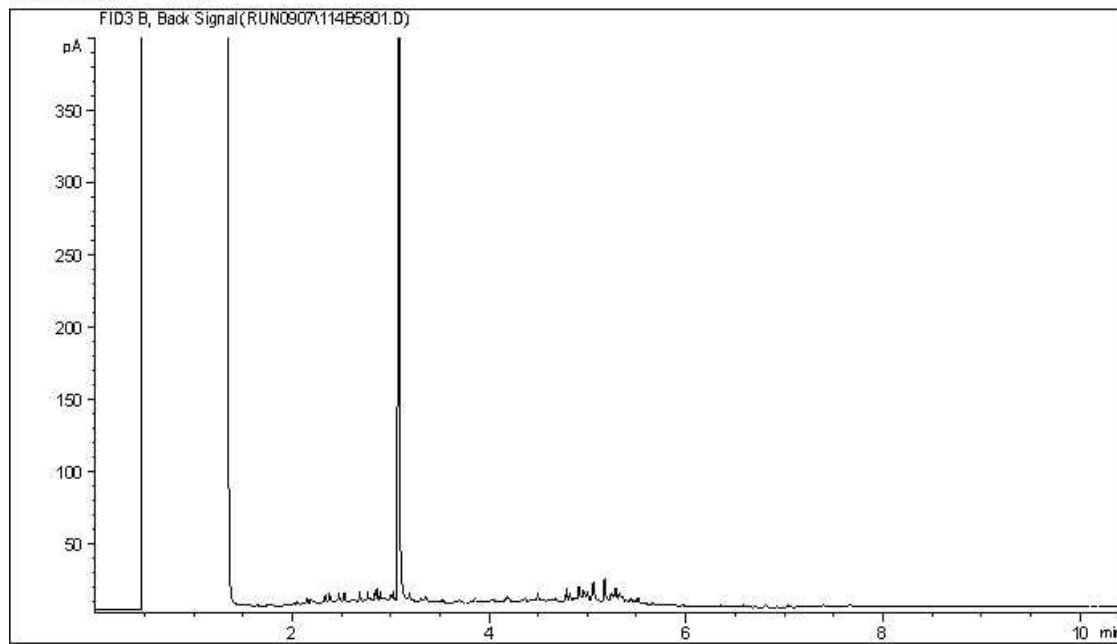
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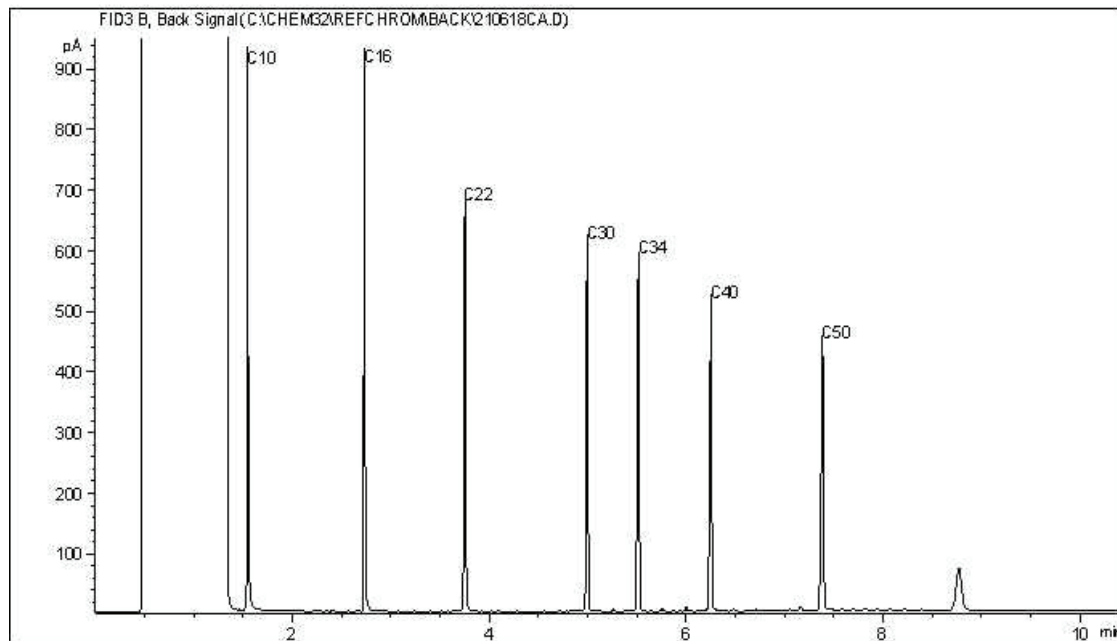


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Carbon Range Distribution - Reference Chromatogram



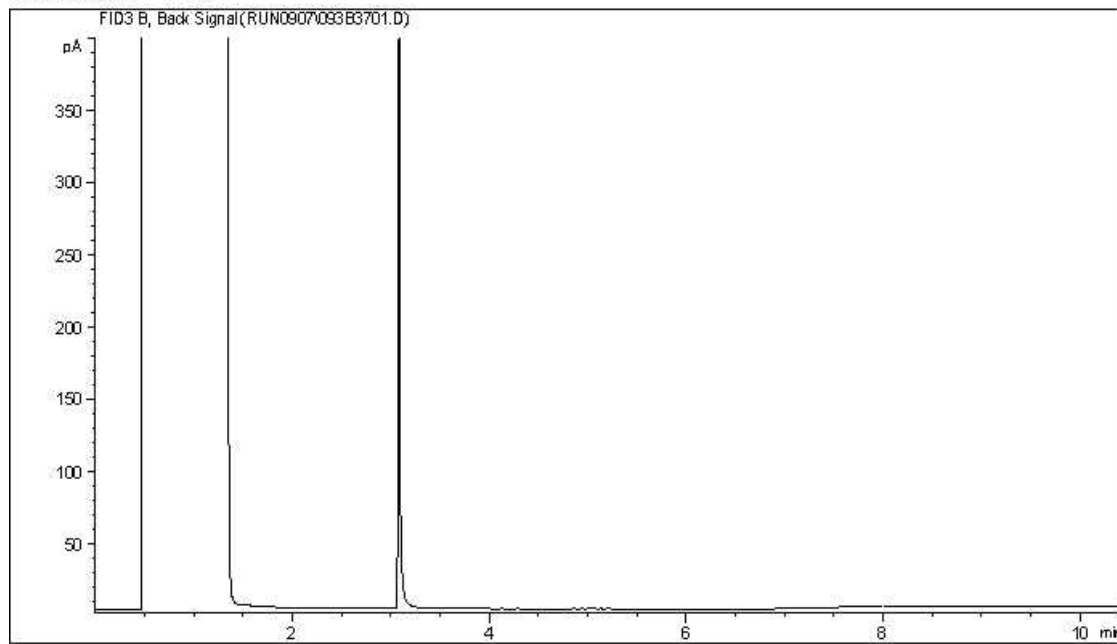
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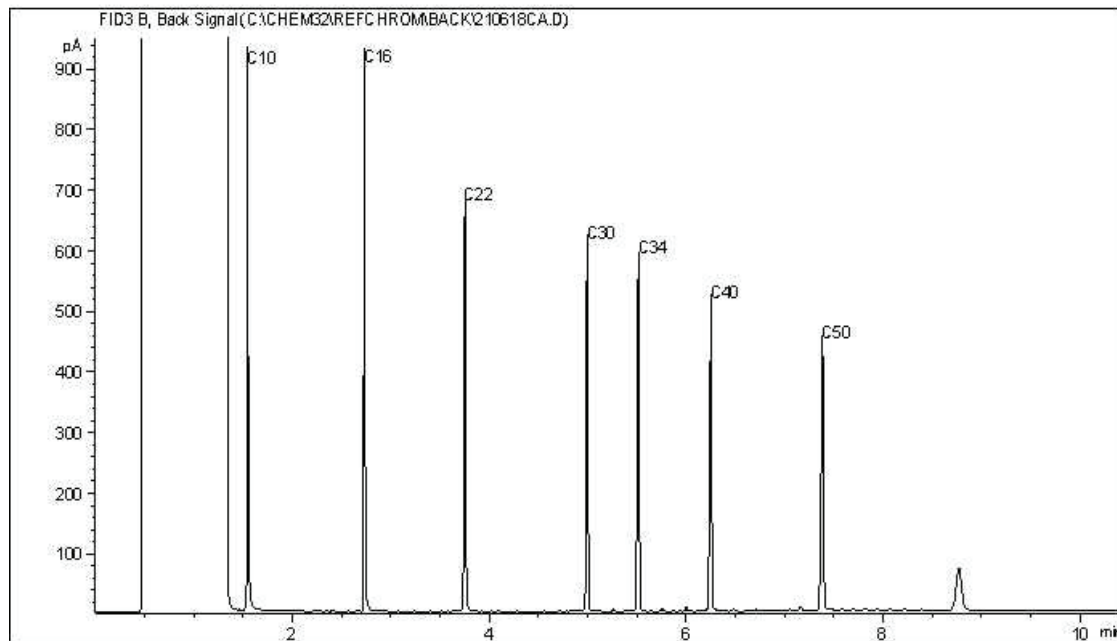
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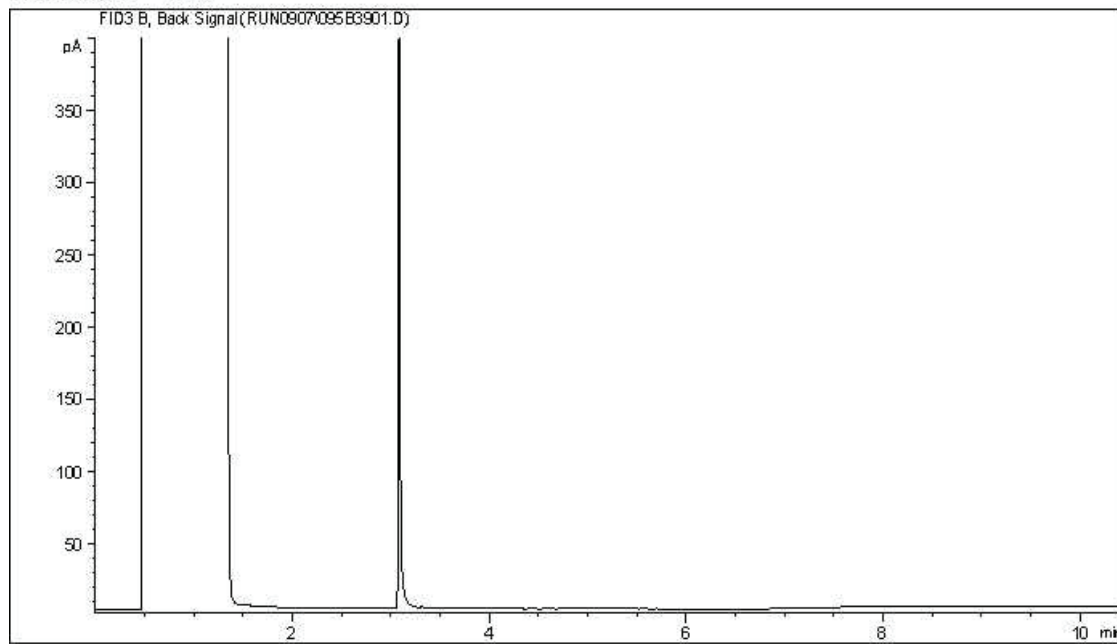
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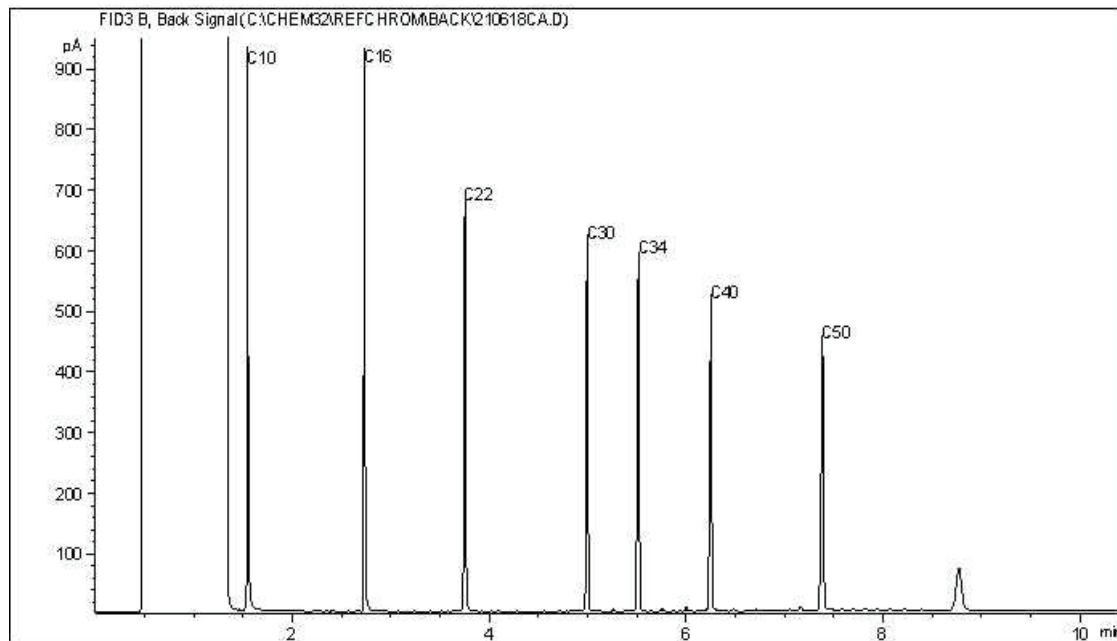
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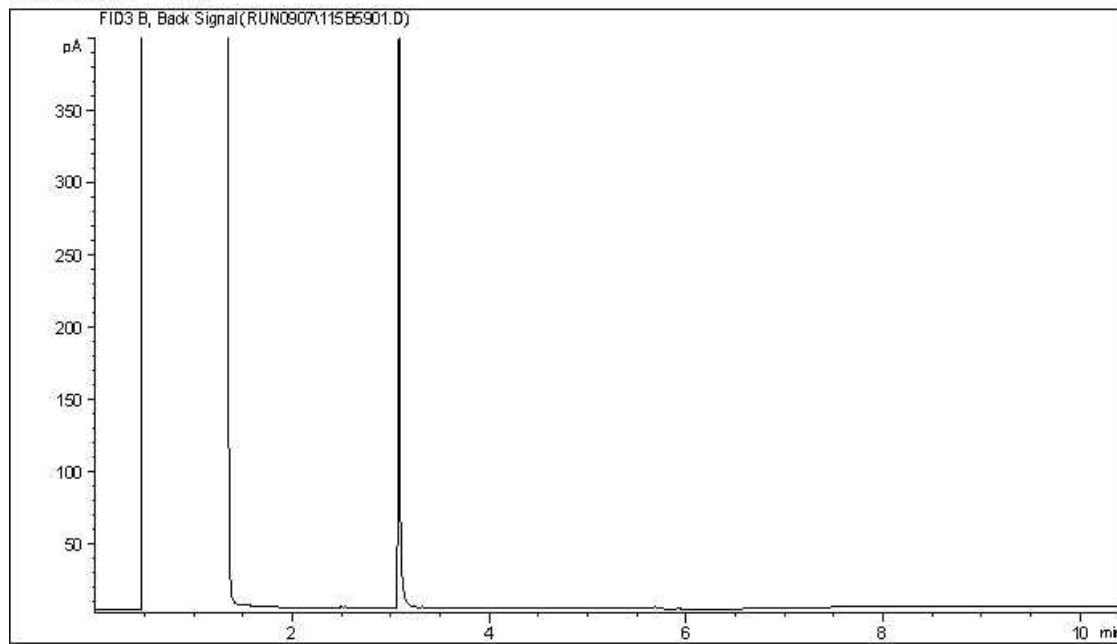
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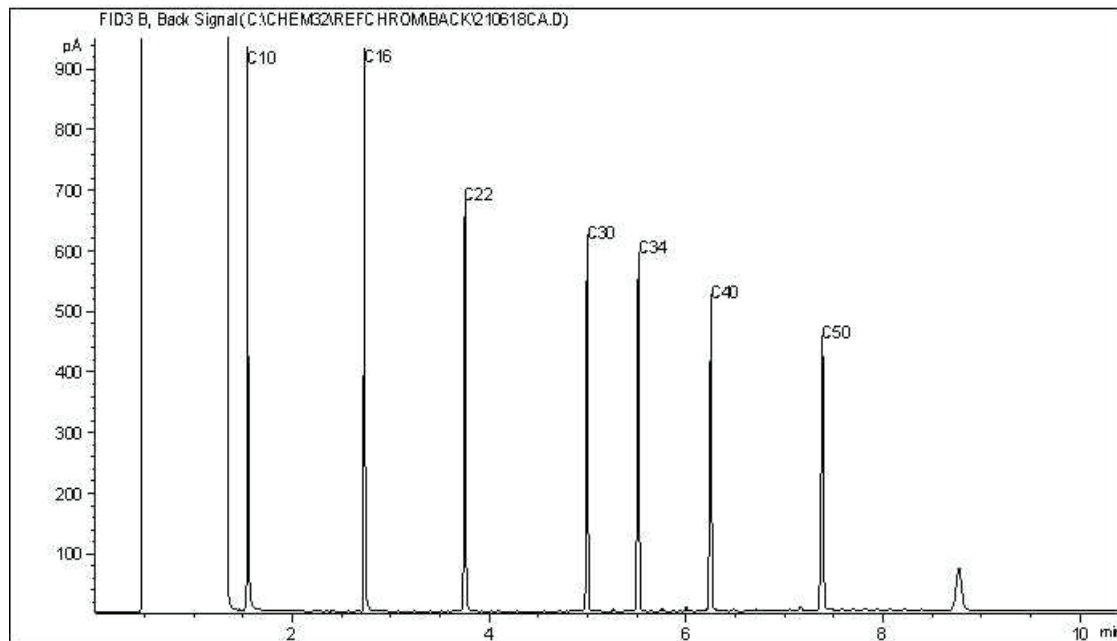
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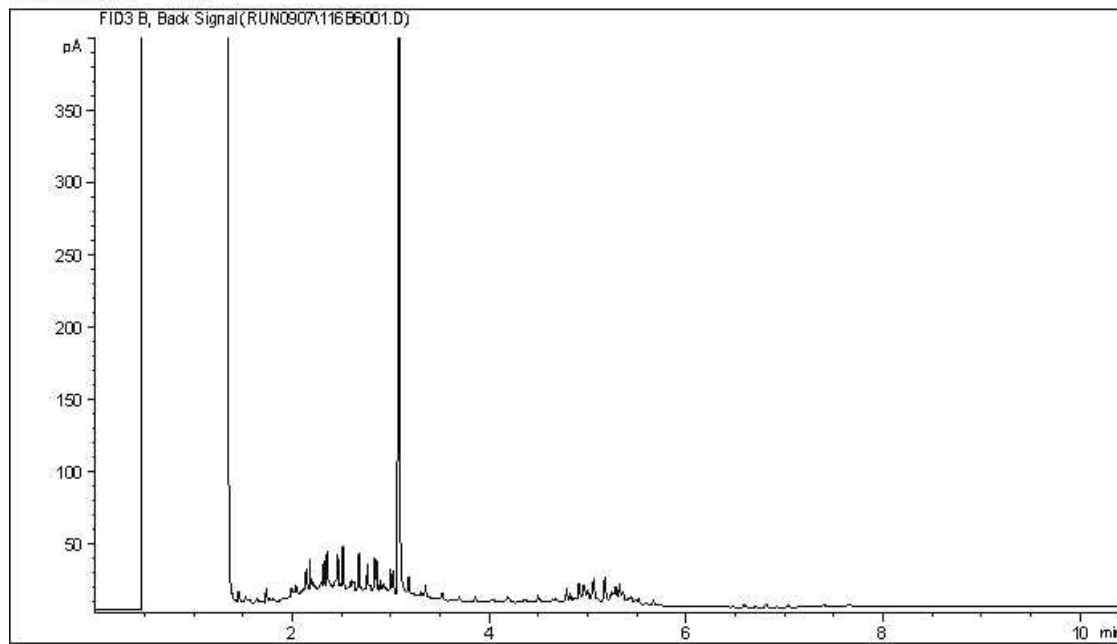
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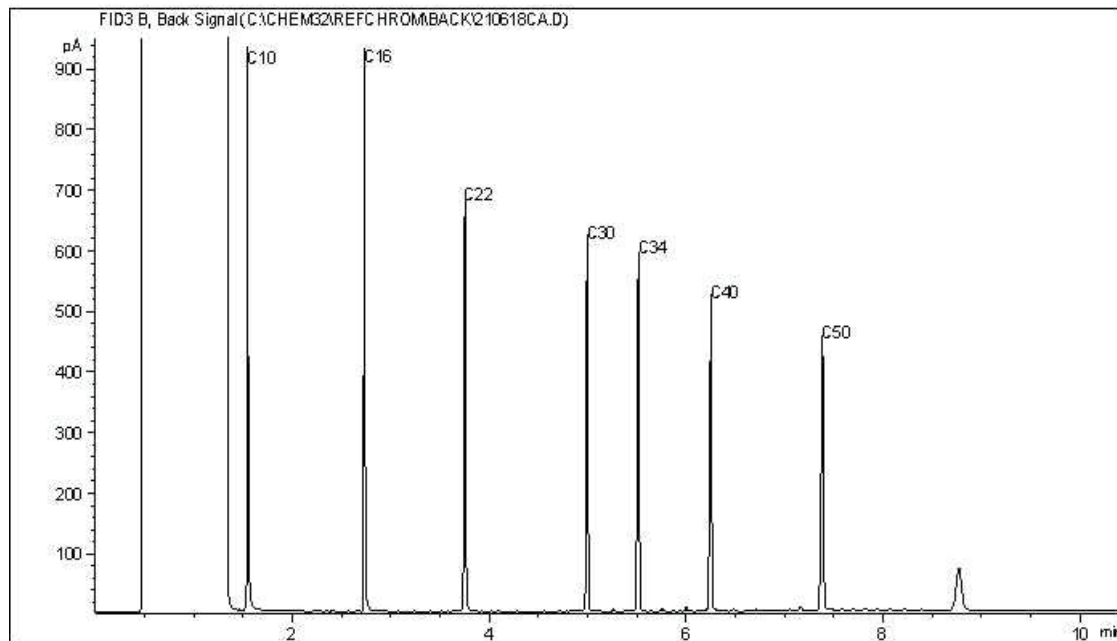
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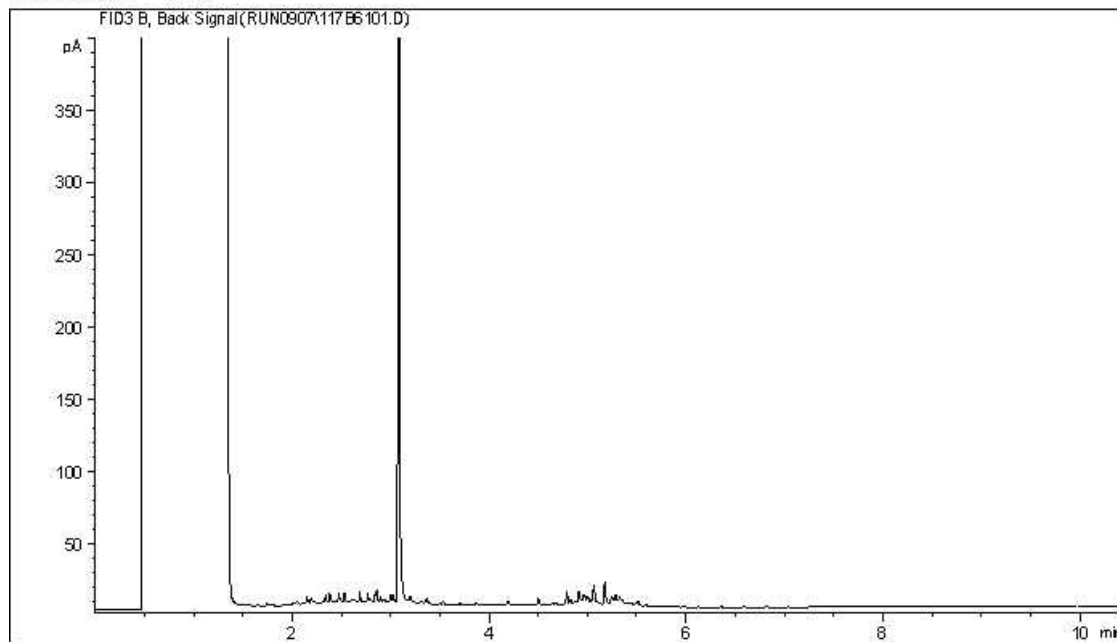
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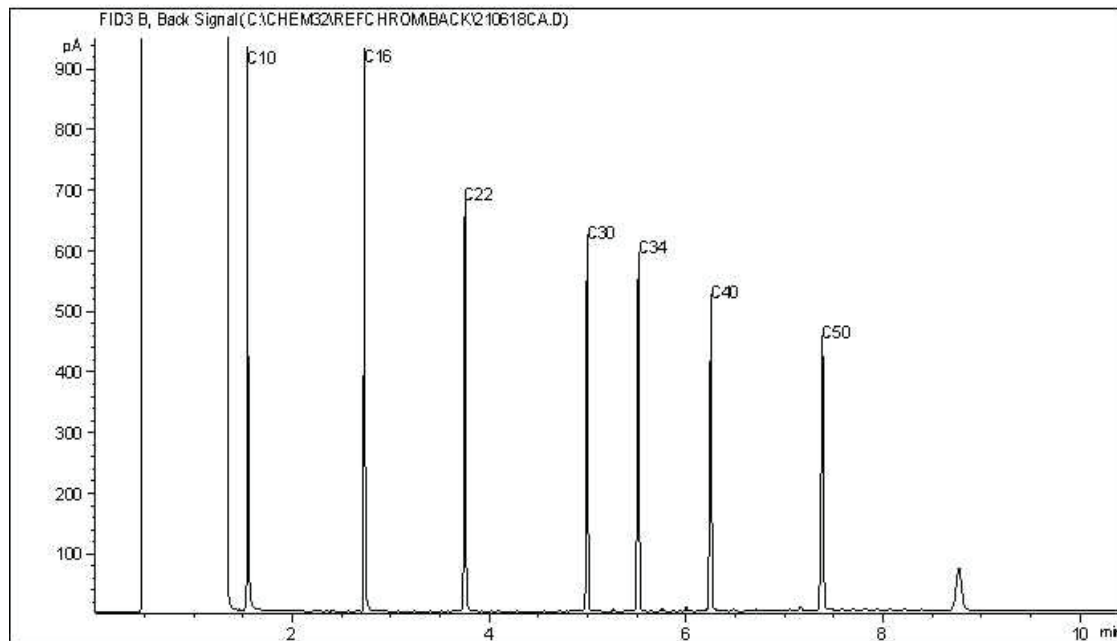
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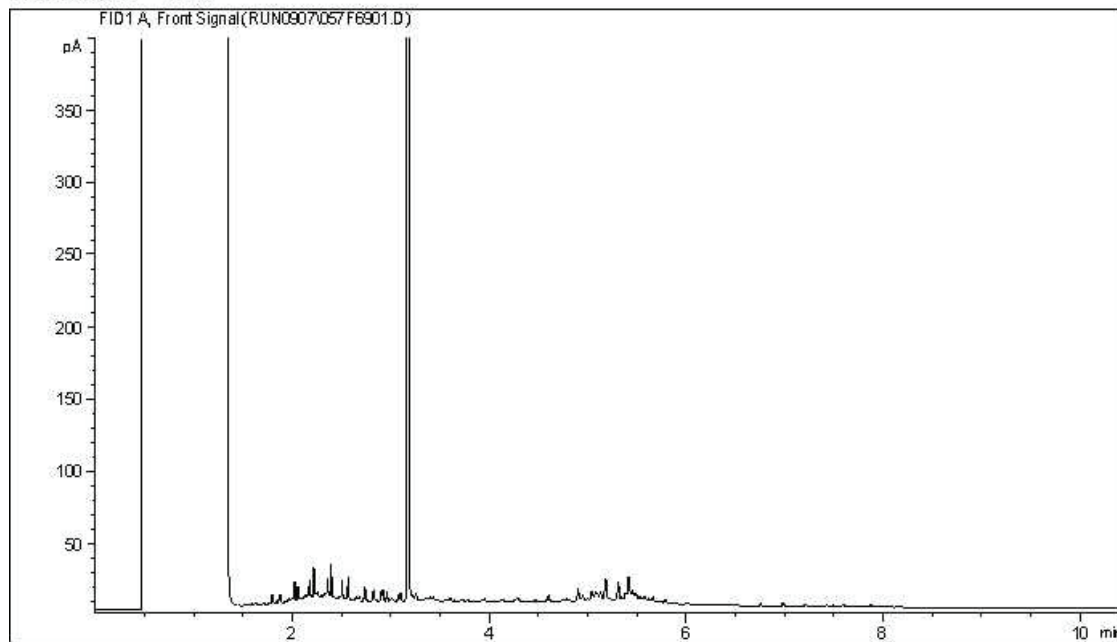
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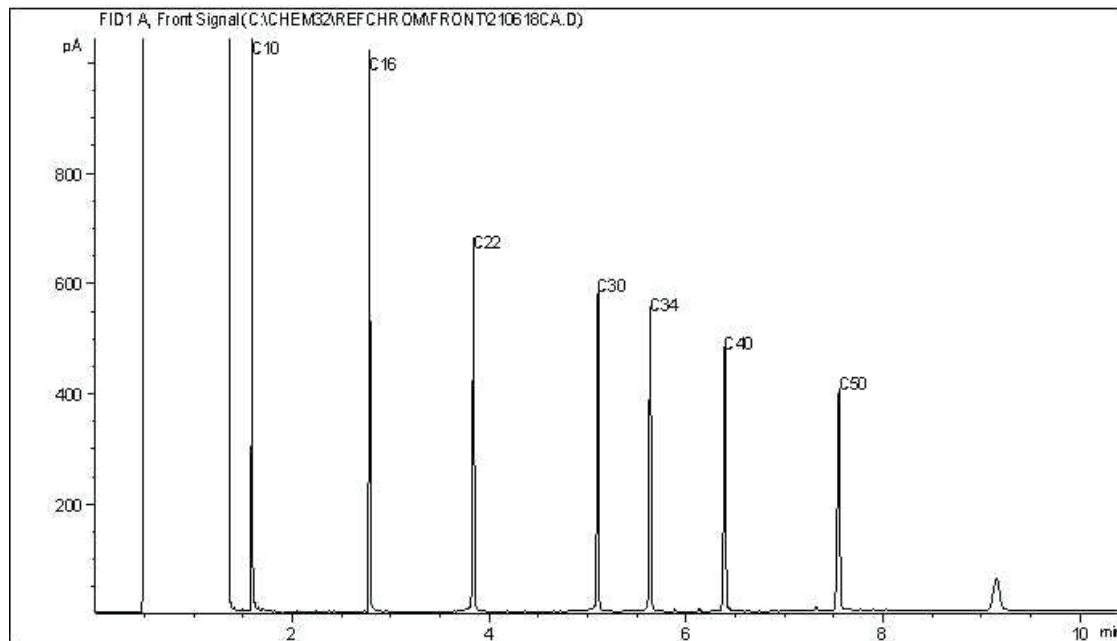
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Carbon Range Distribution - Reference Chromatogram



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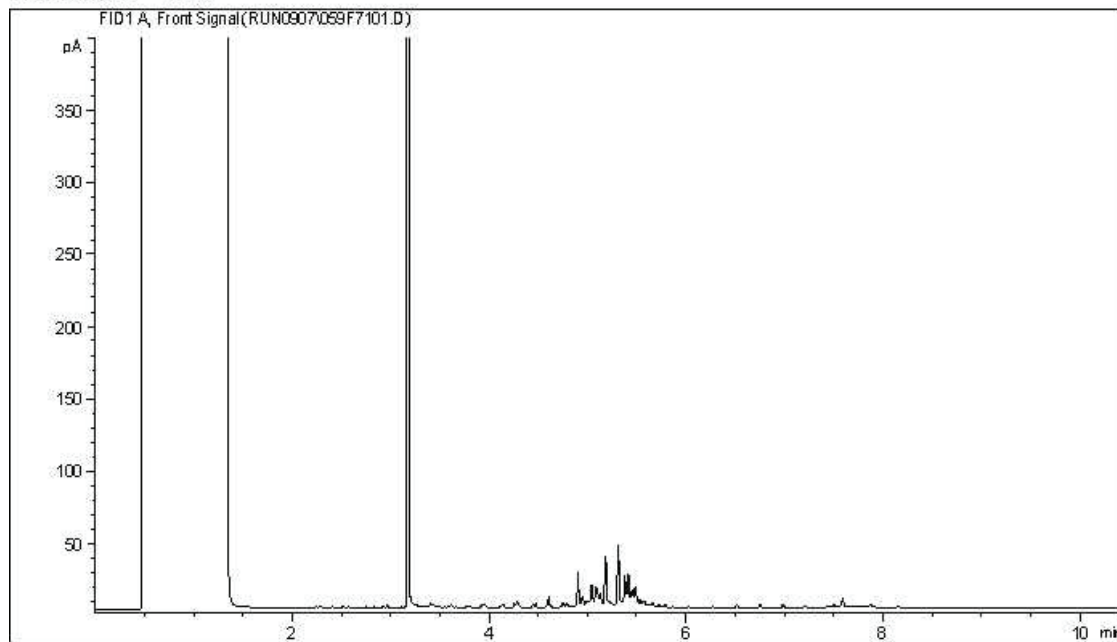
Gasoline:	C4 - C12	Diesel:	C8 - C22
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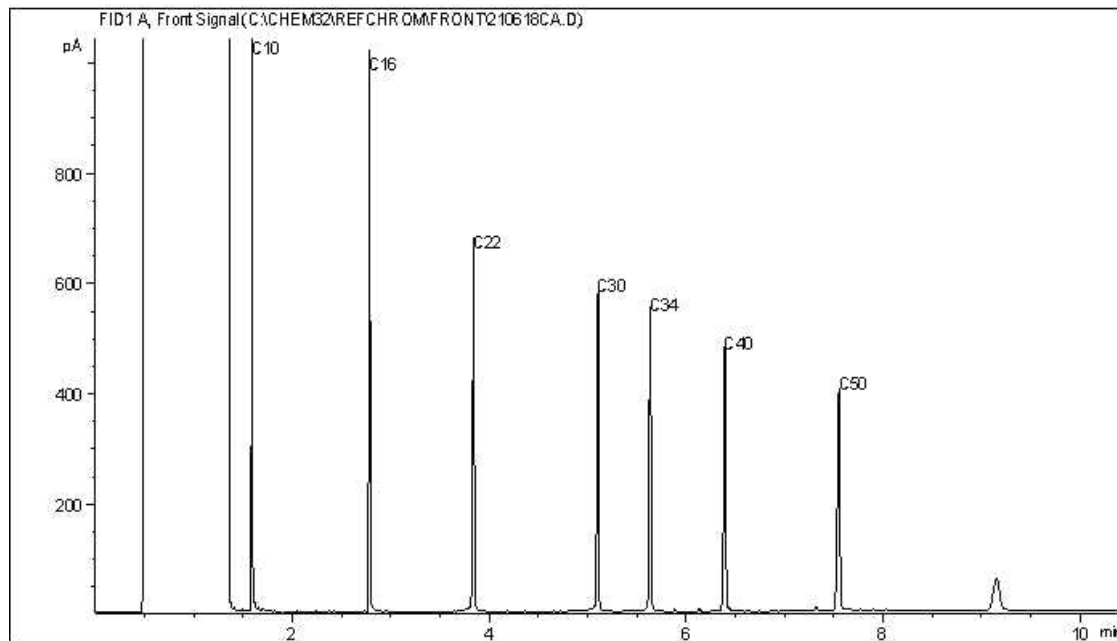


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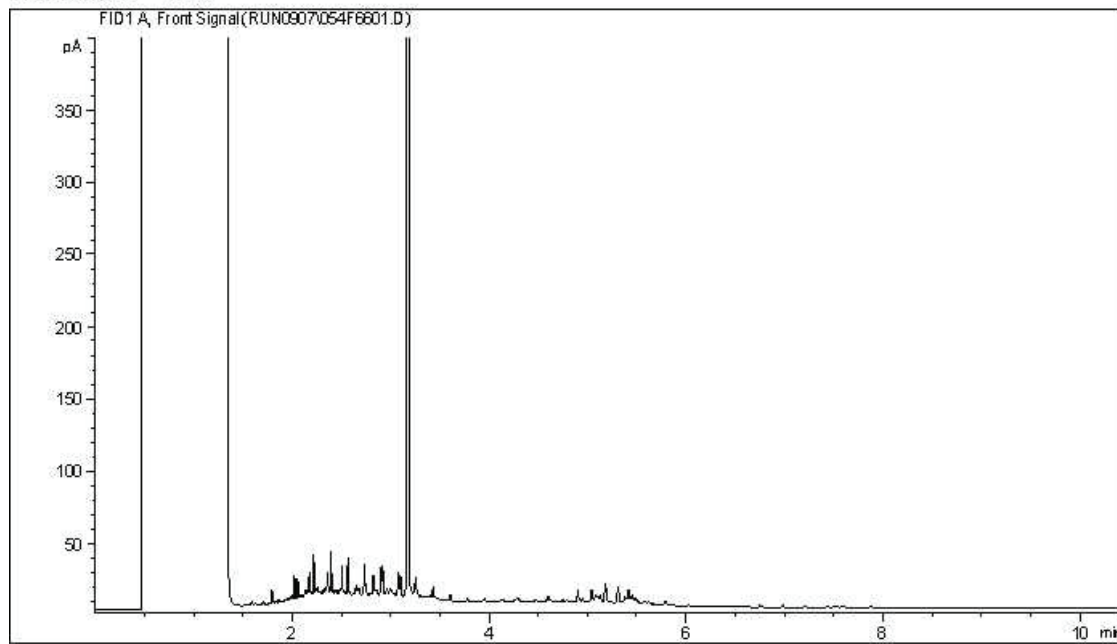
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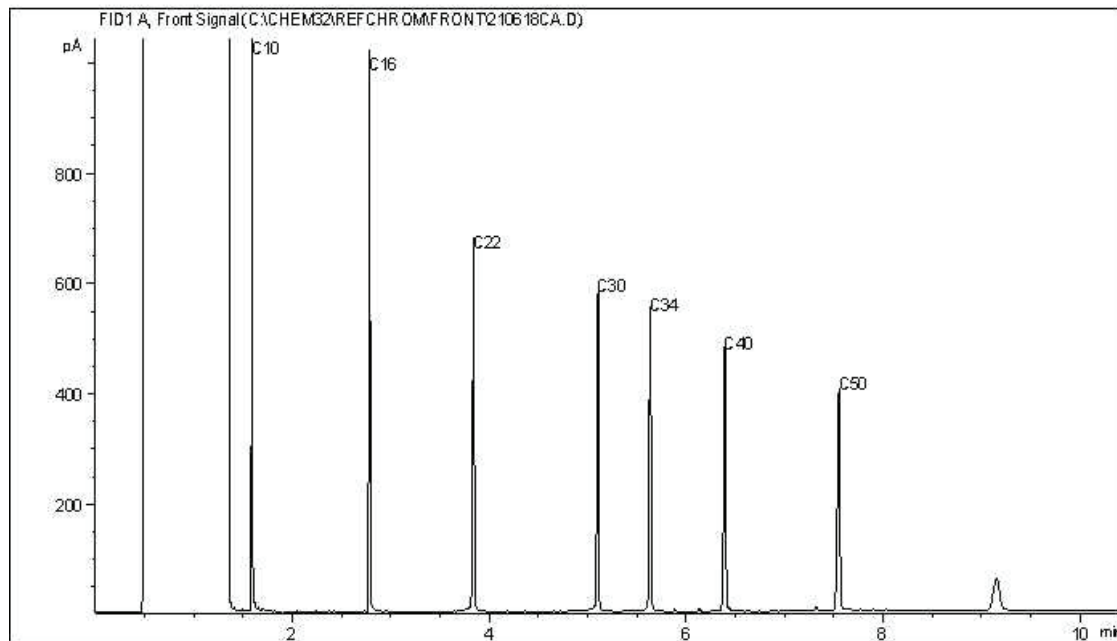
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



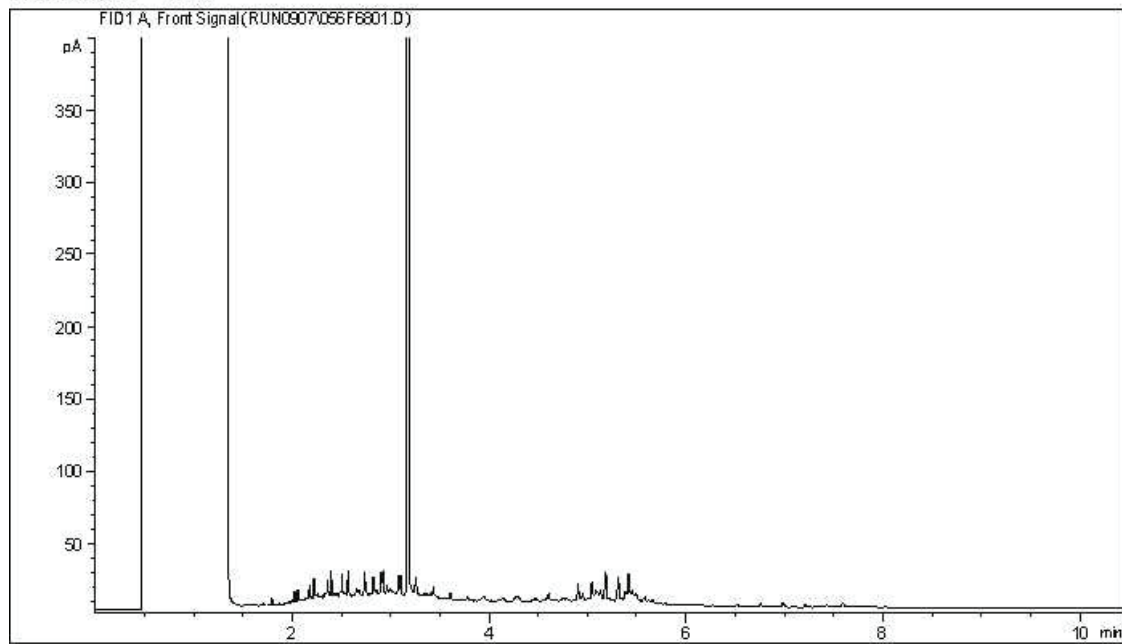
TYPICAL PRODUCT CARBON NUMBER RANGES

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

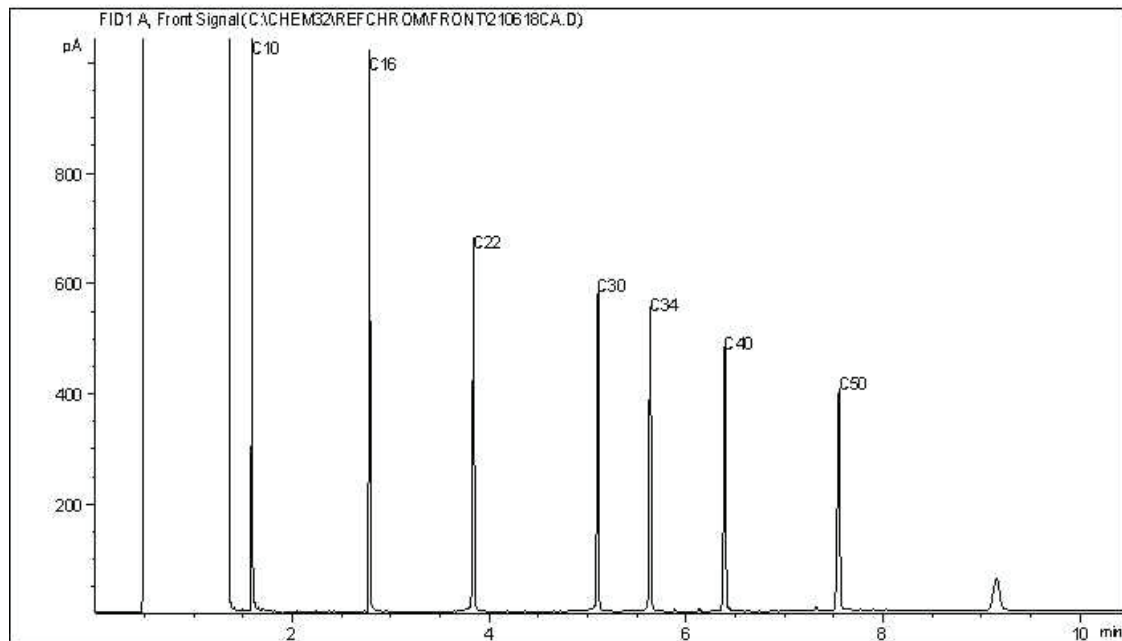
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



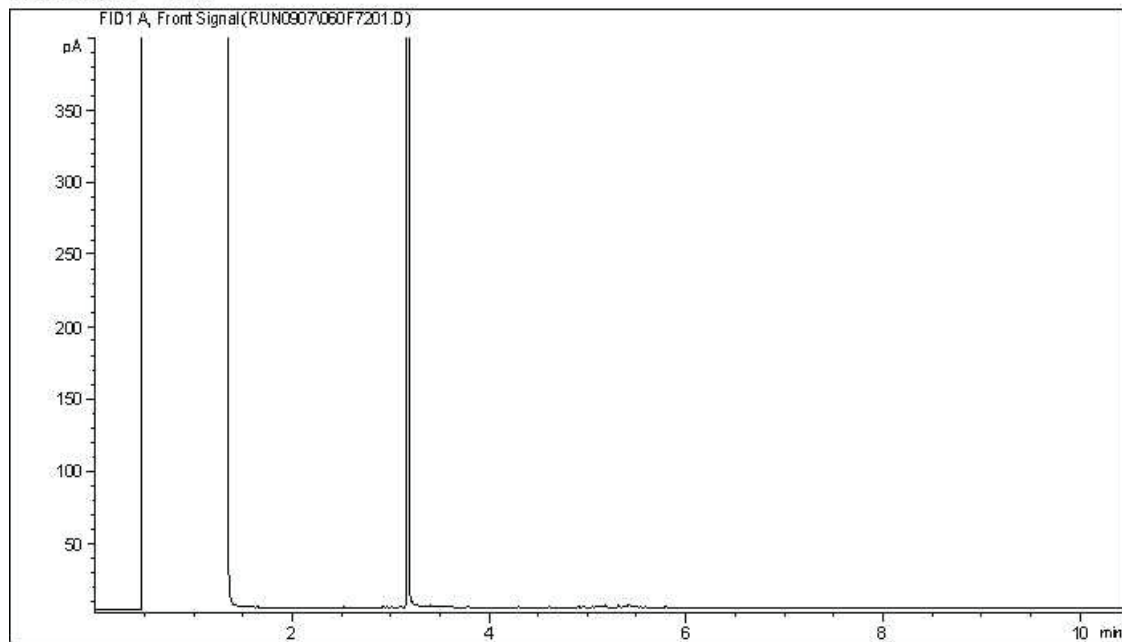
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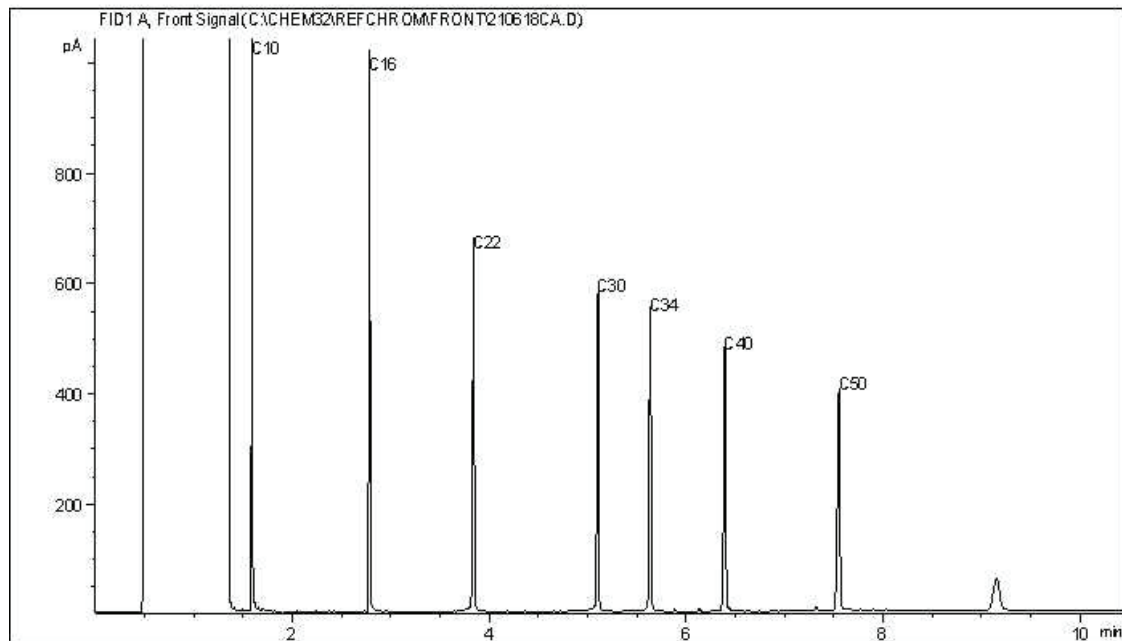
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram

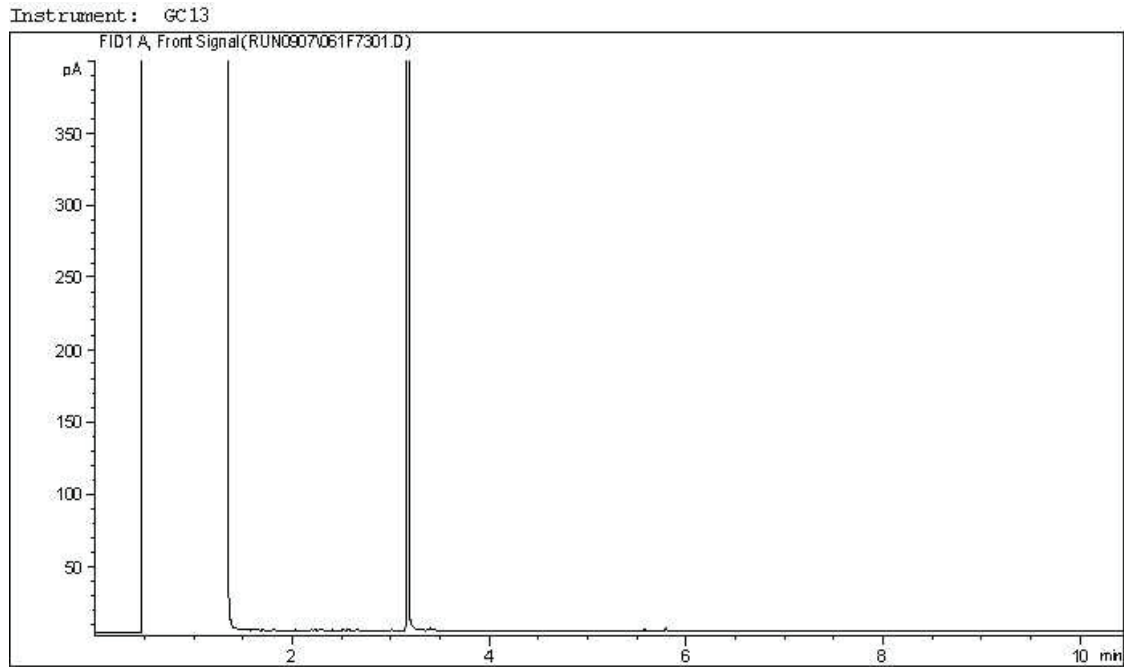


TYPICAL PRODUCT CARBON NUMBER RANGES

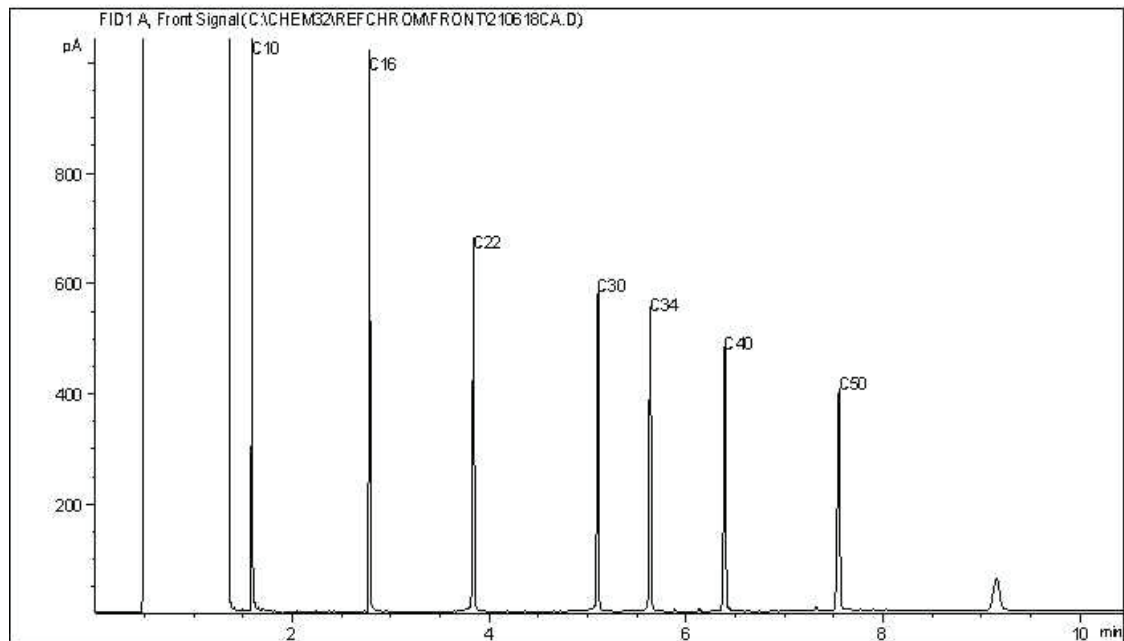
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



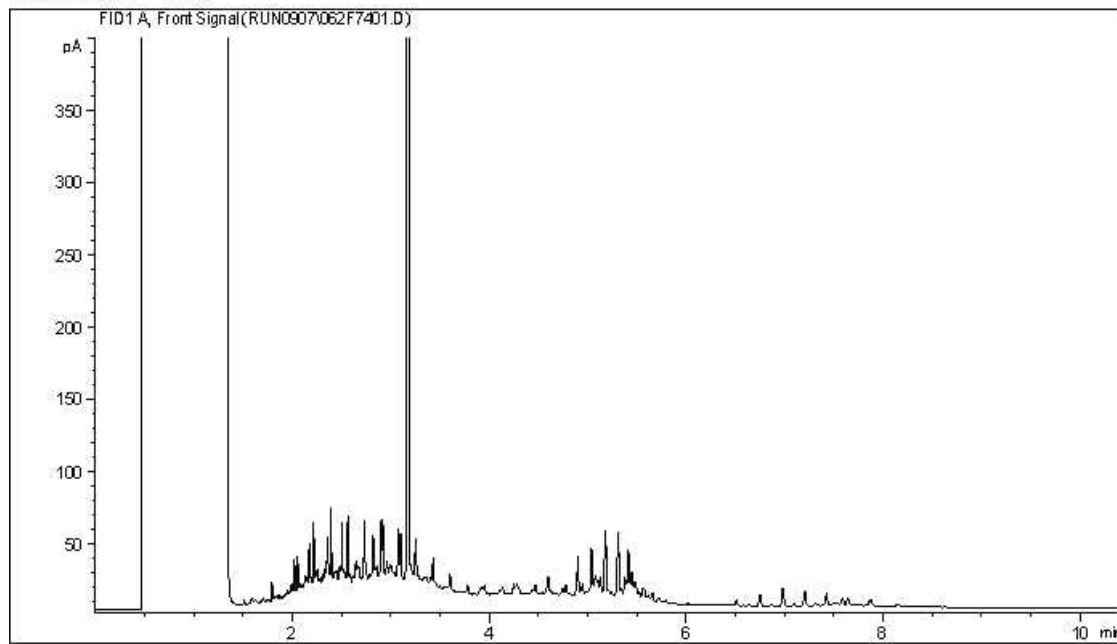
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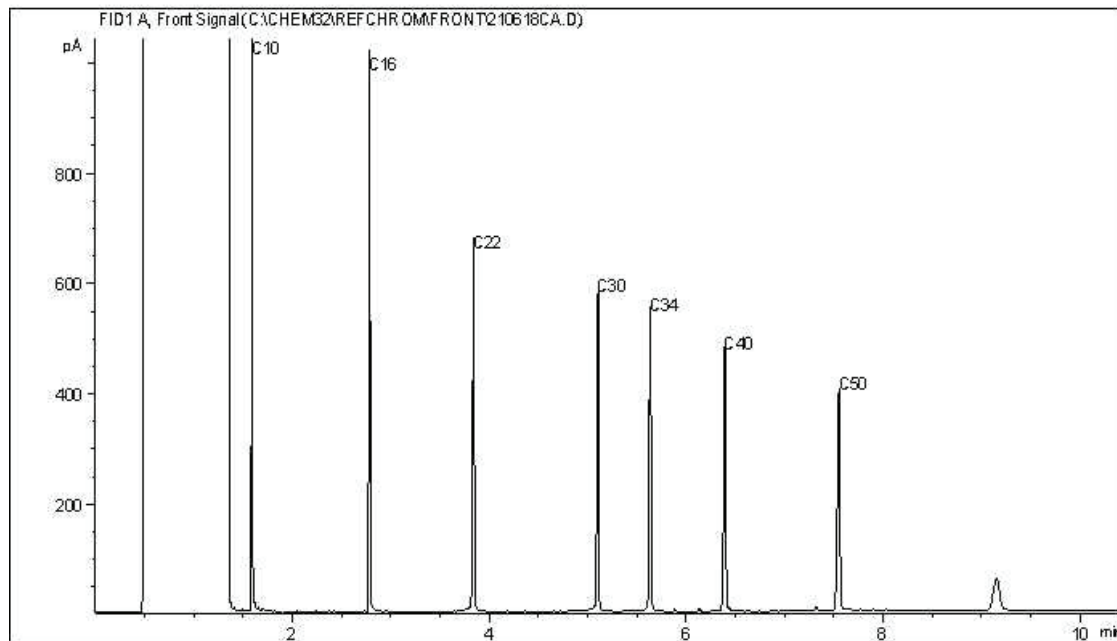
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



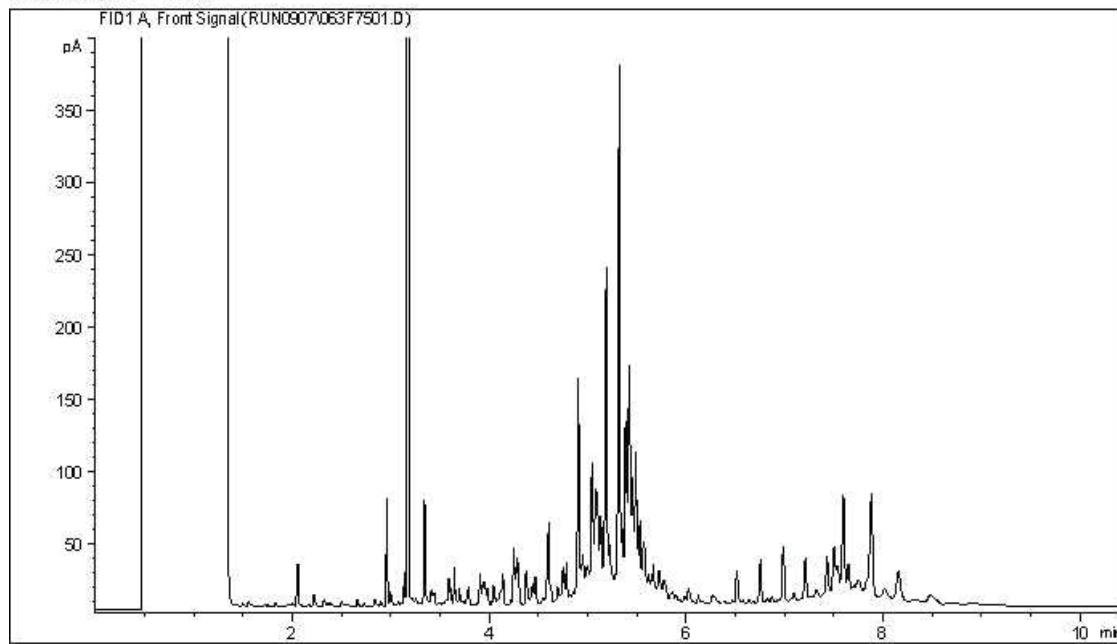
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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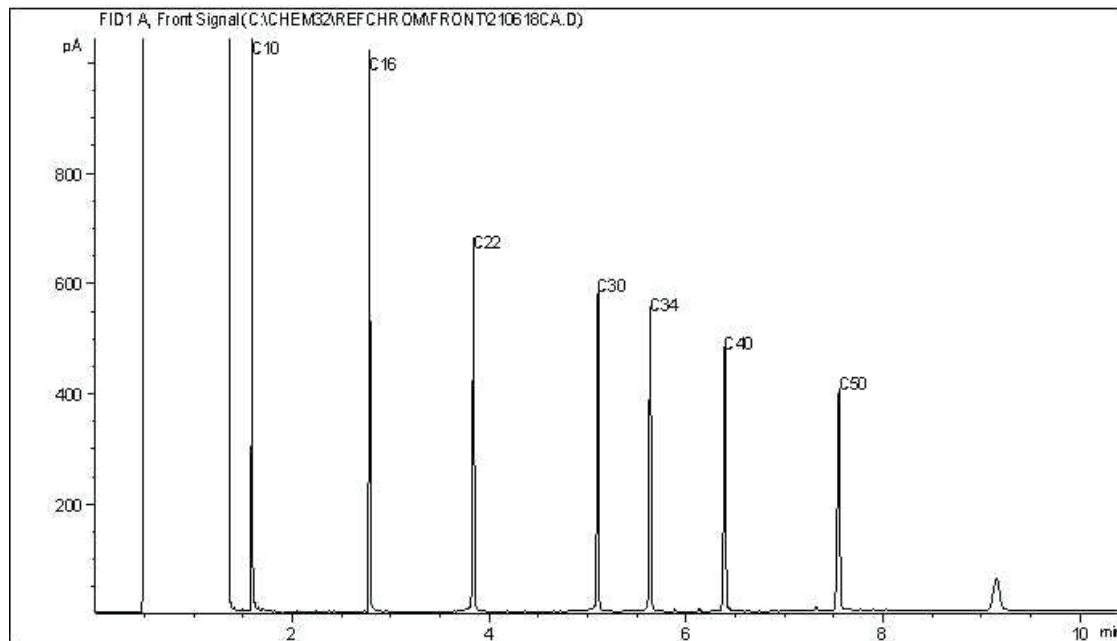
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**CCME Hydrocarbons (F2-F4 in soil) Chromatogram**

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram

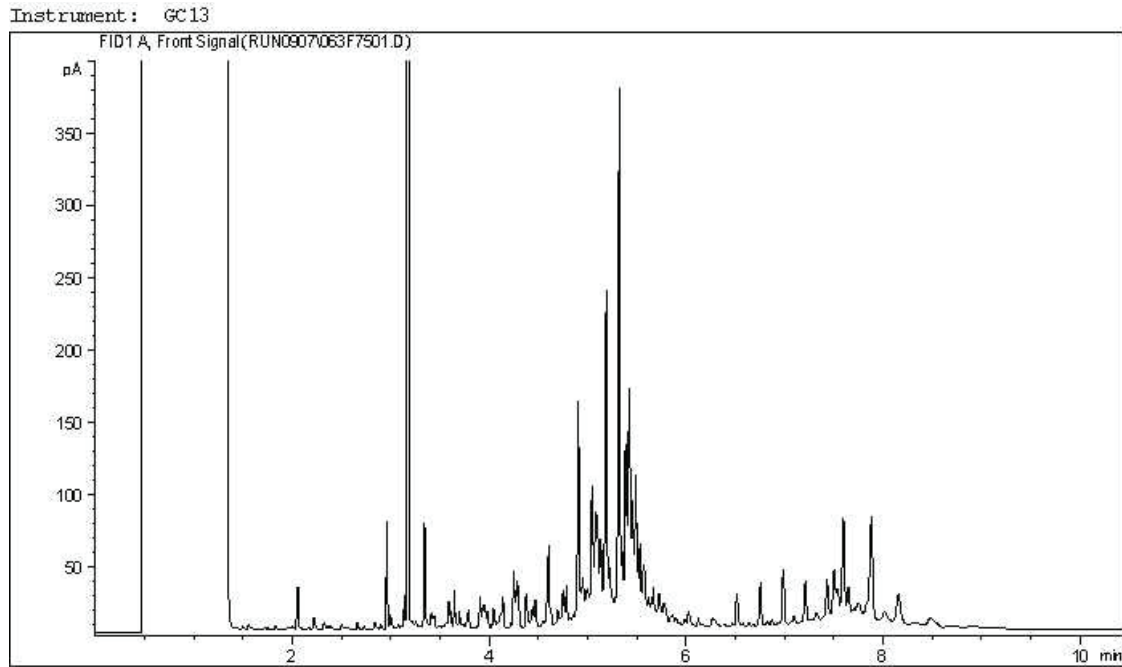


**TYPICAL PRODUCT CARBON NUMBER RANGES**

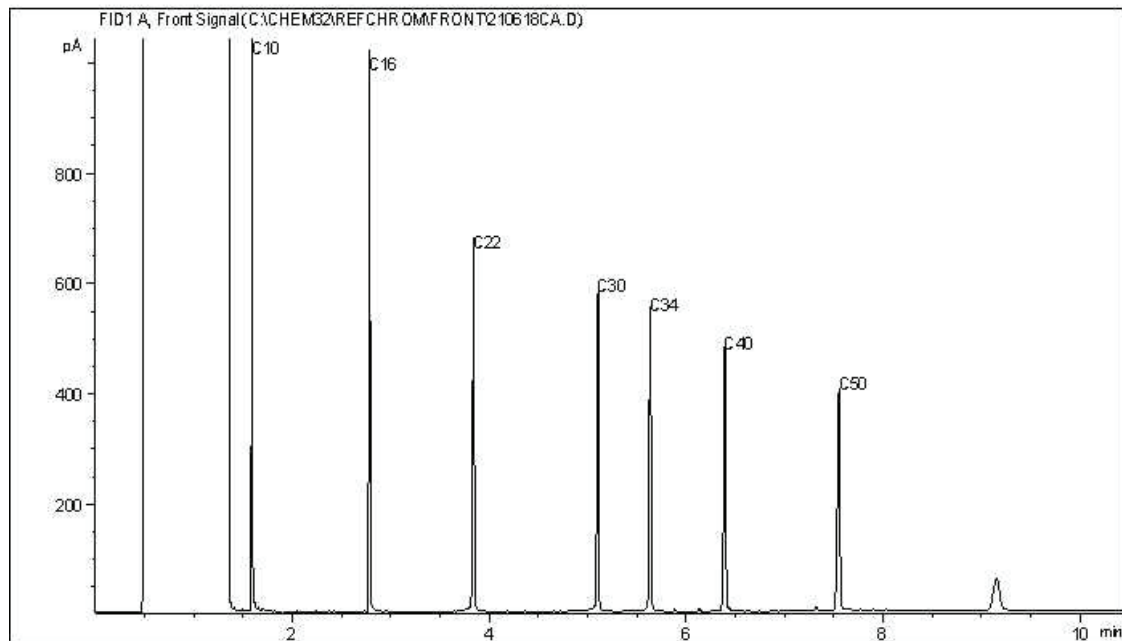
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**Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.**

**CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram**



Carbon Range Distribution - Reference Chromatogram



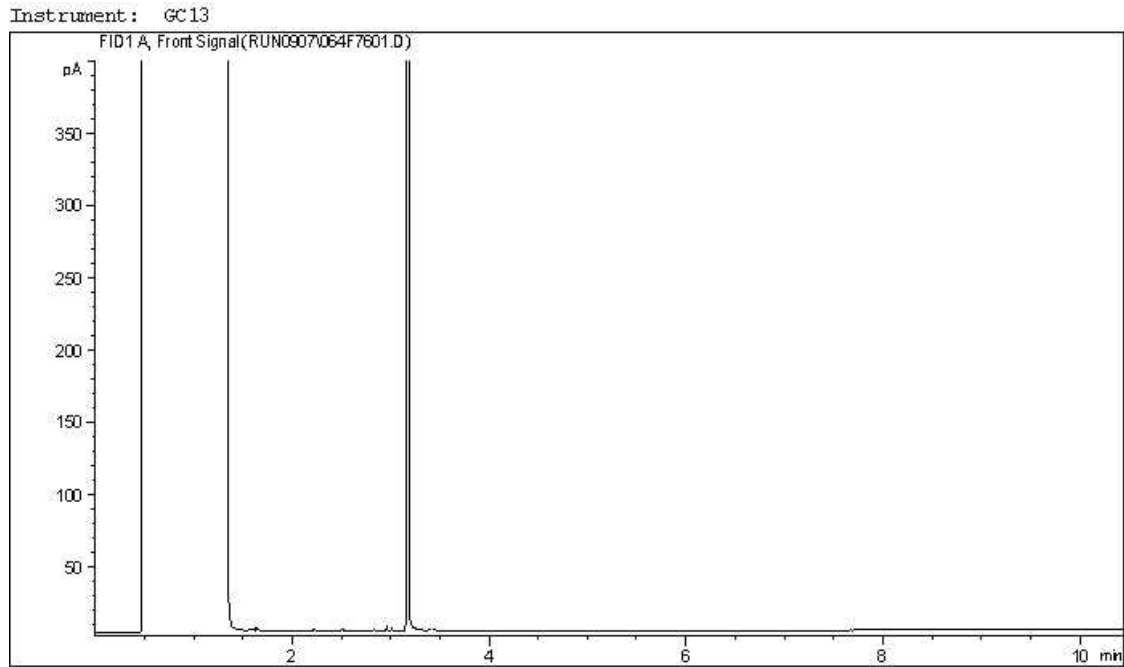
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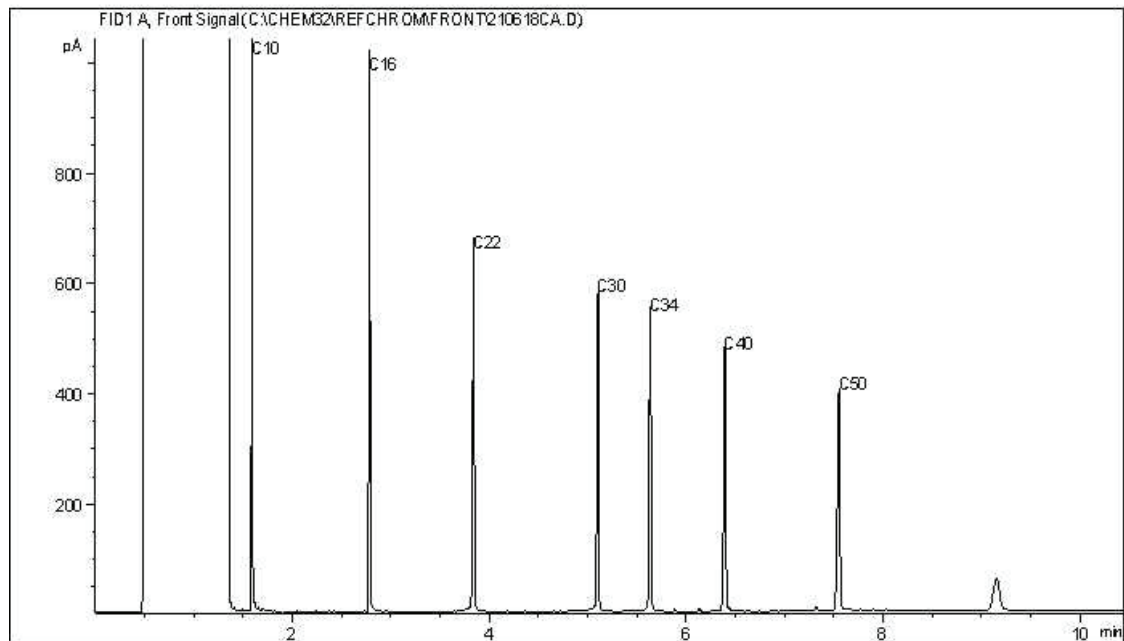
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



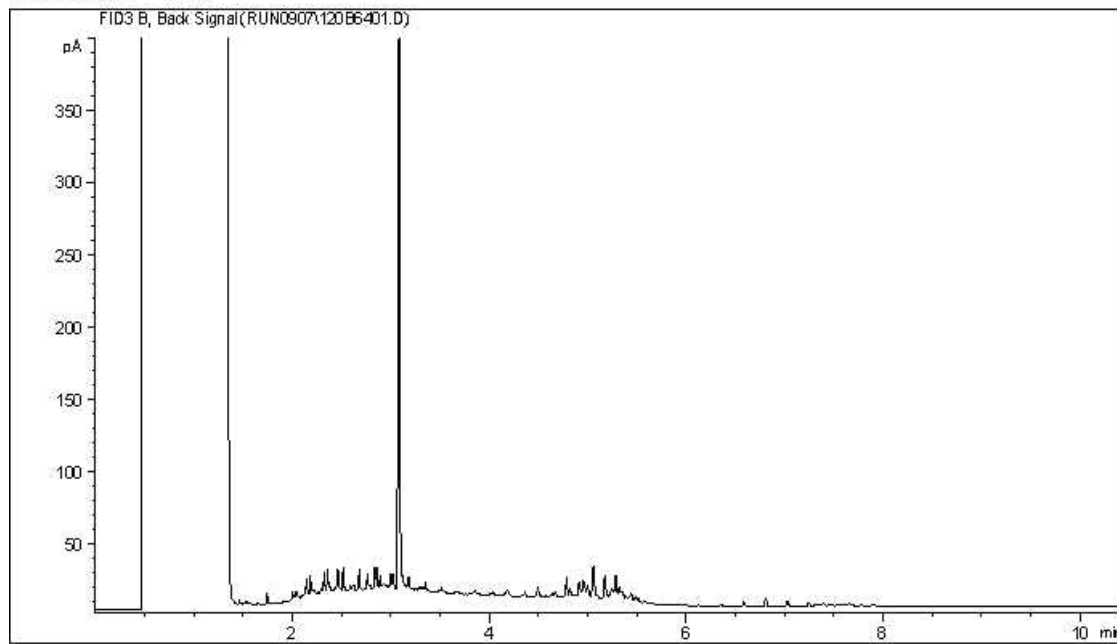
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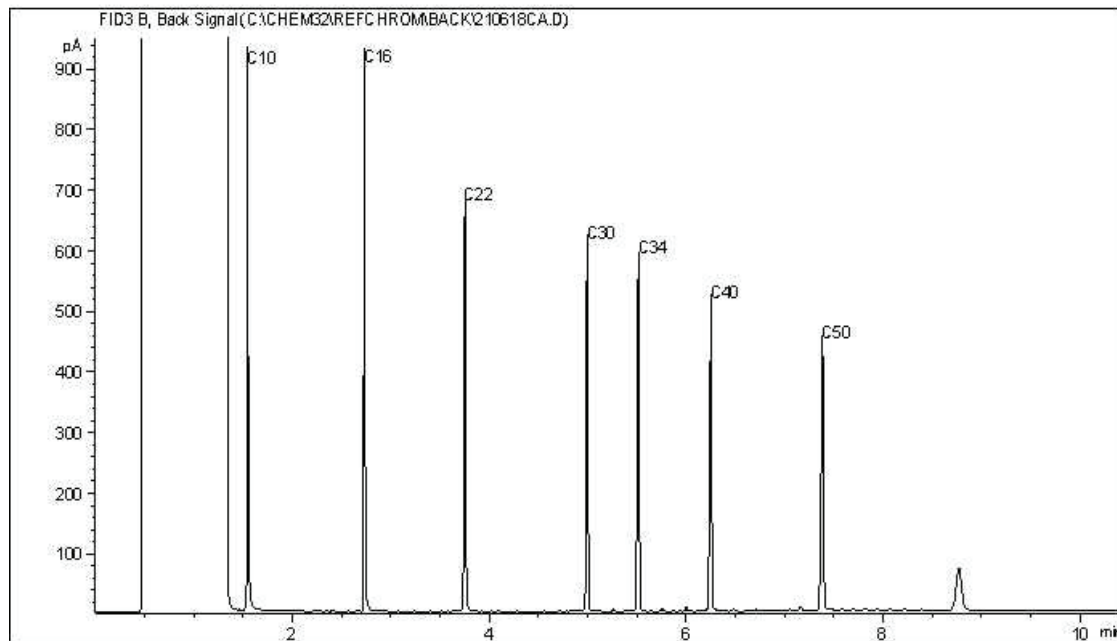
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



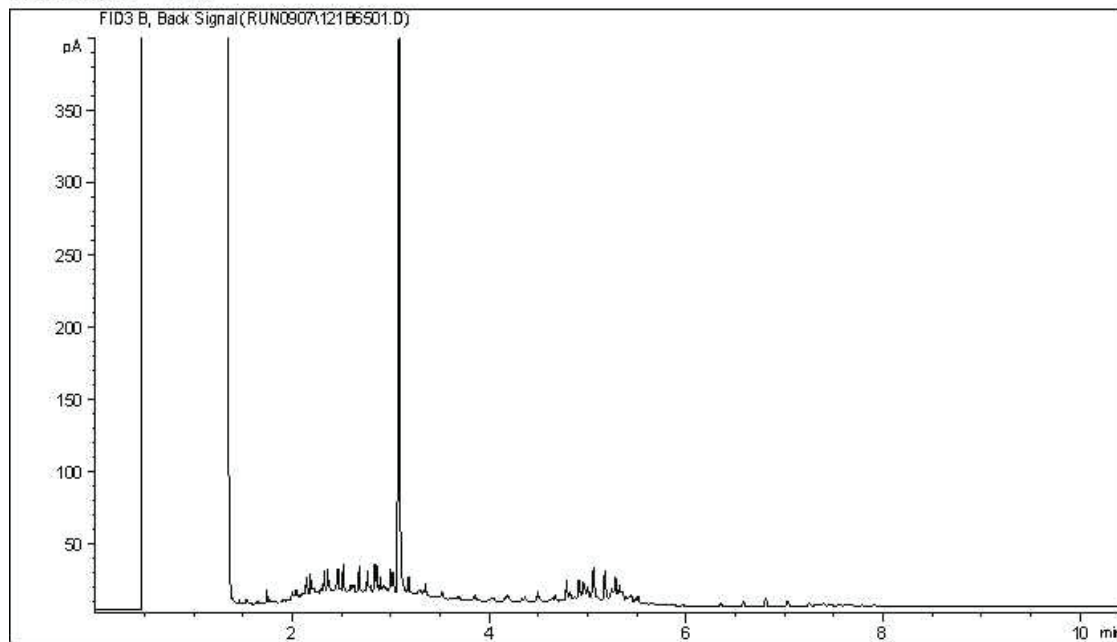
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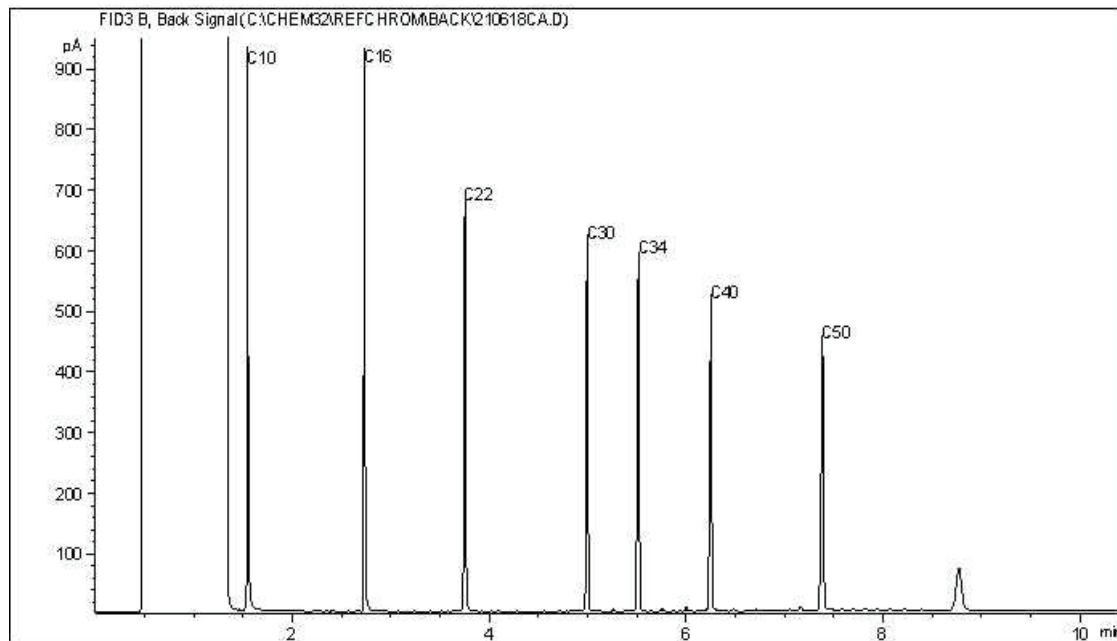
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



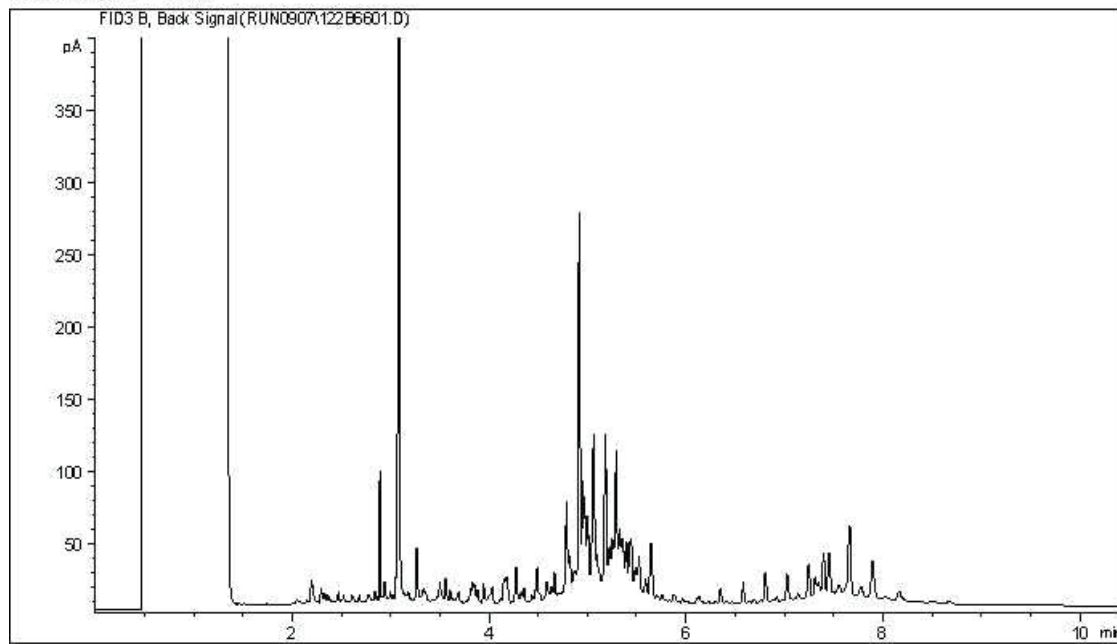
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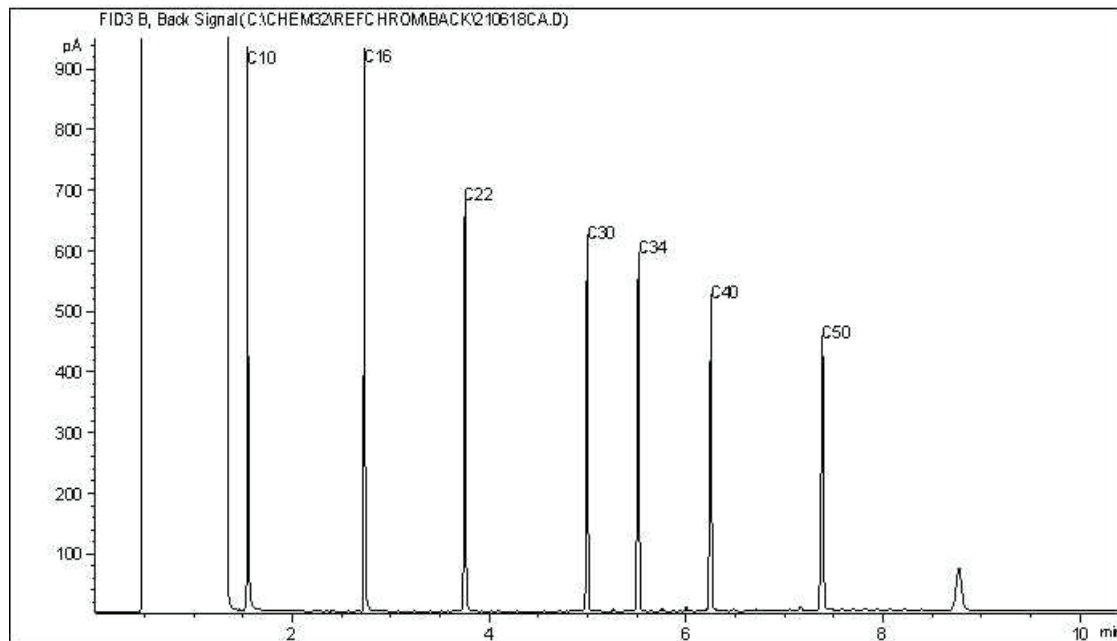
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



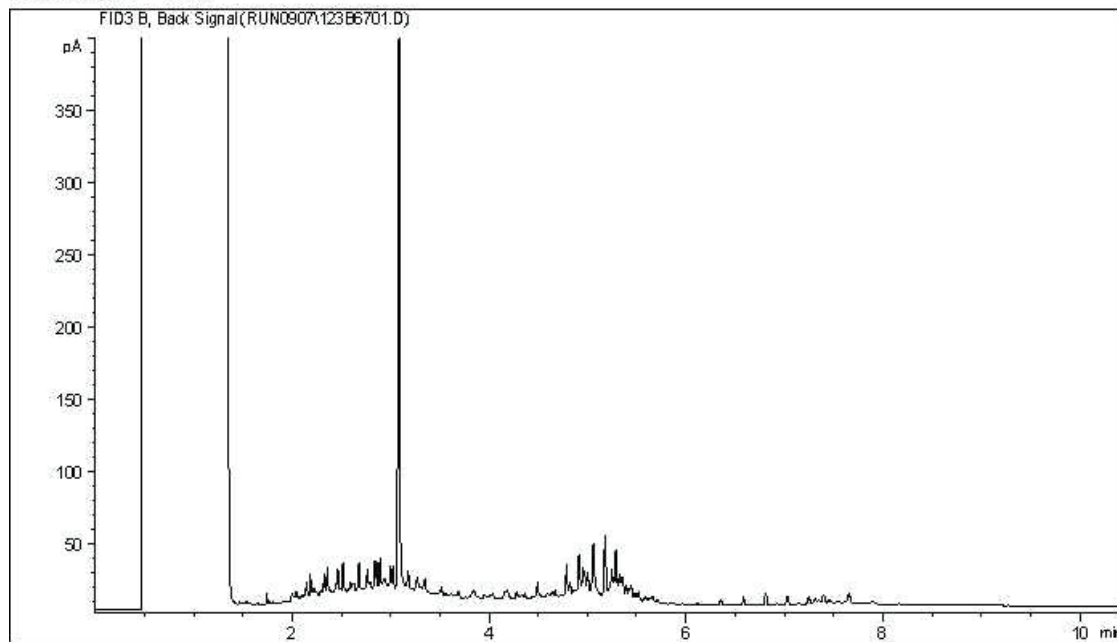
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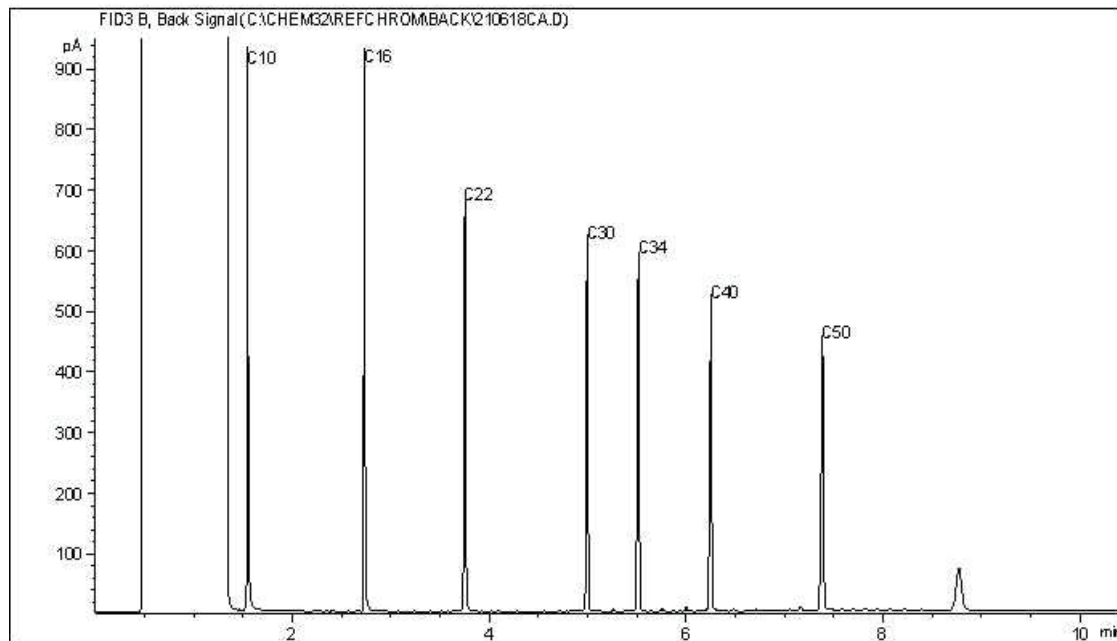
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Carbon Range Distribution - Reference Chromatogram



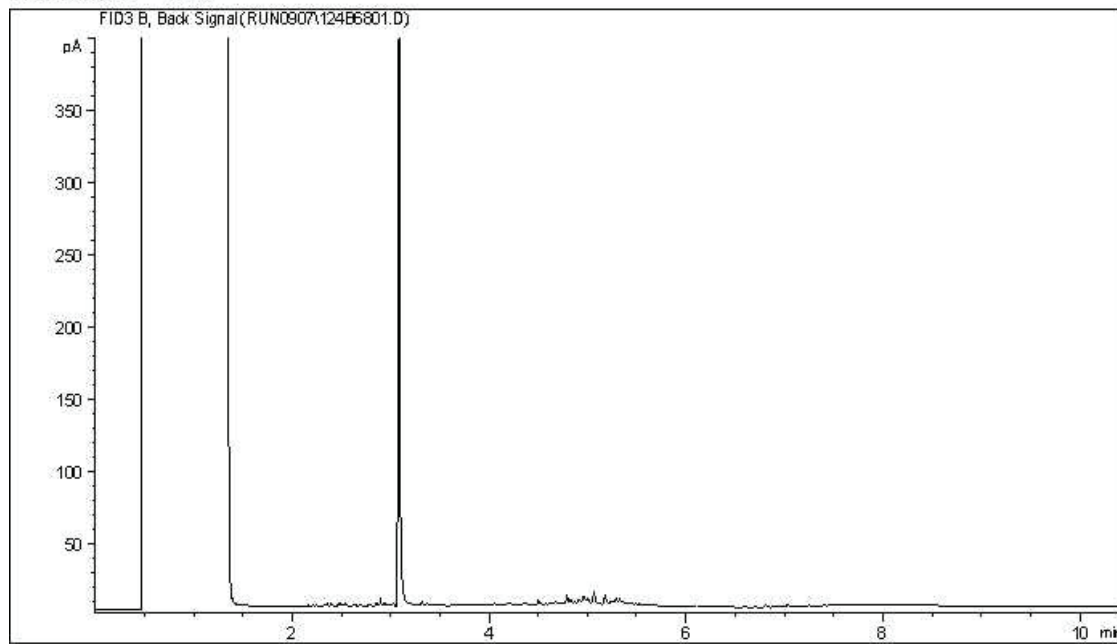
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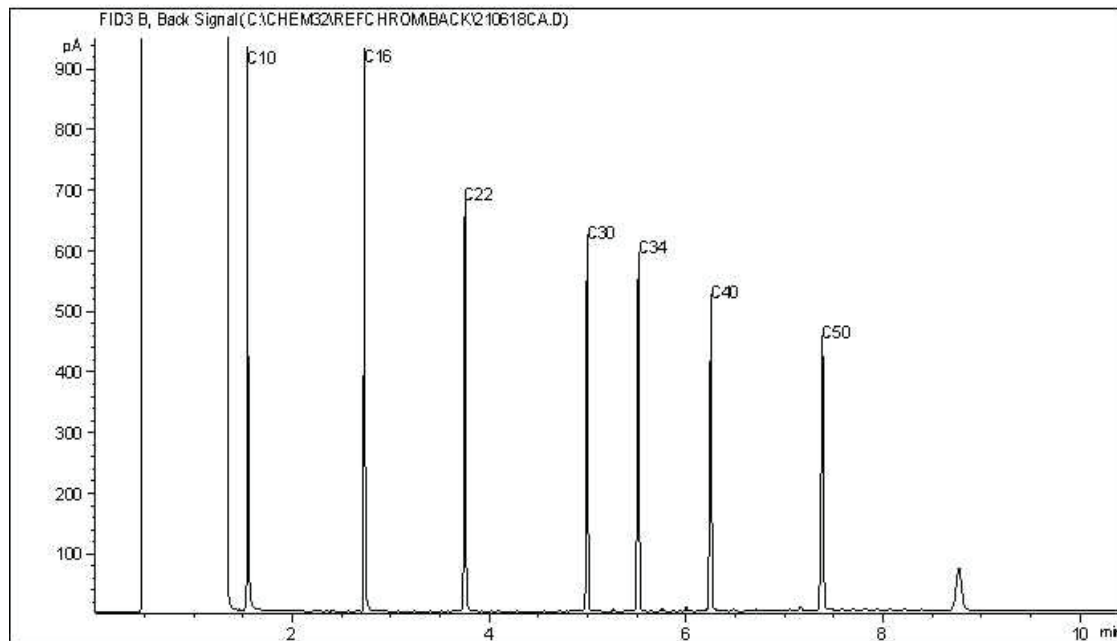
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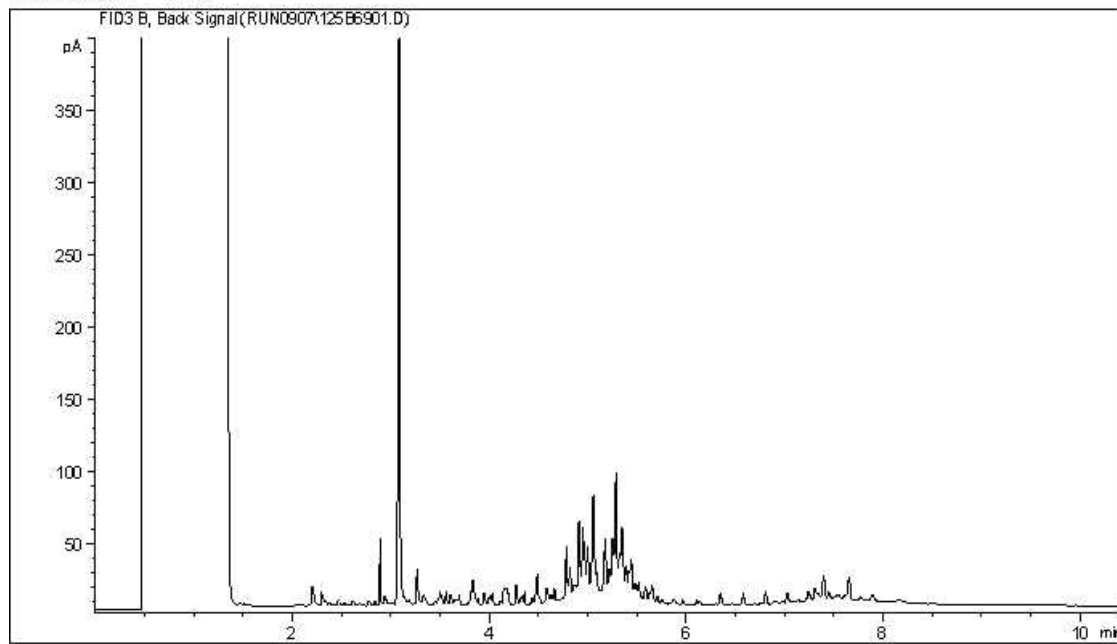
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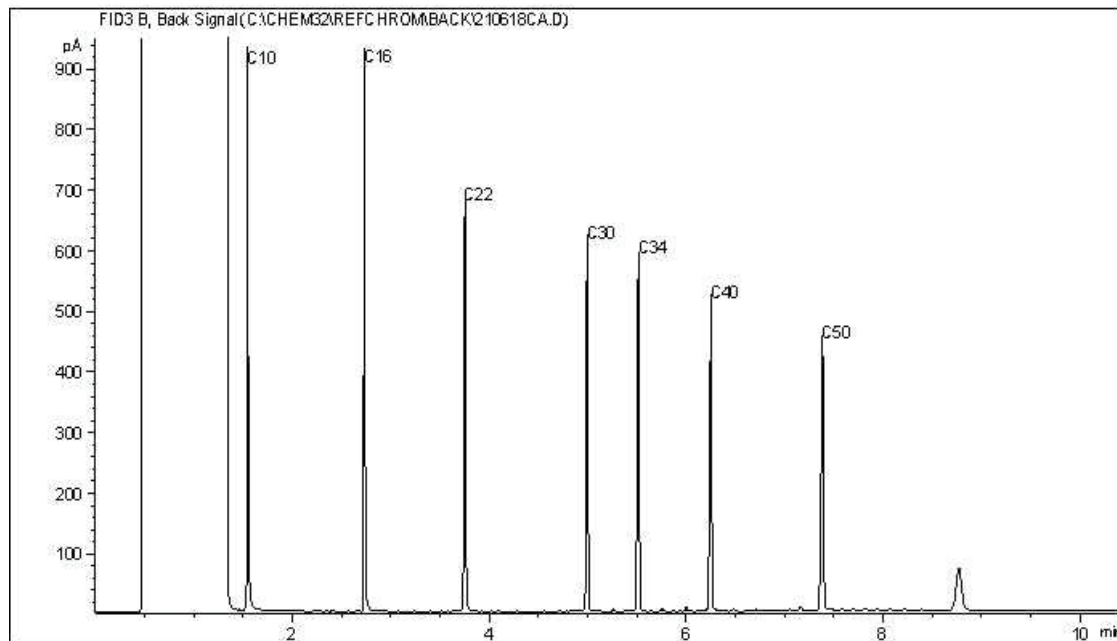
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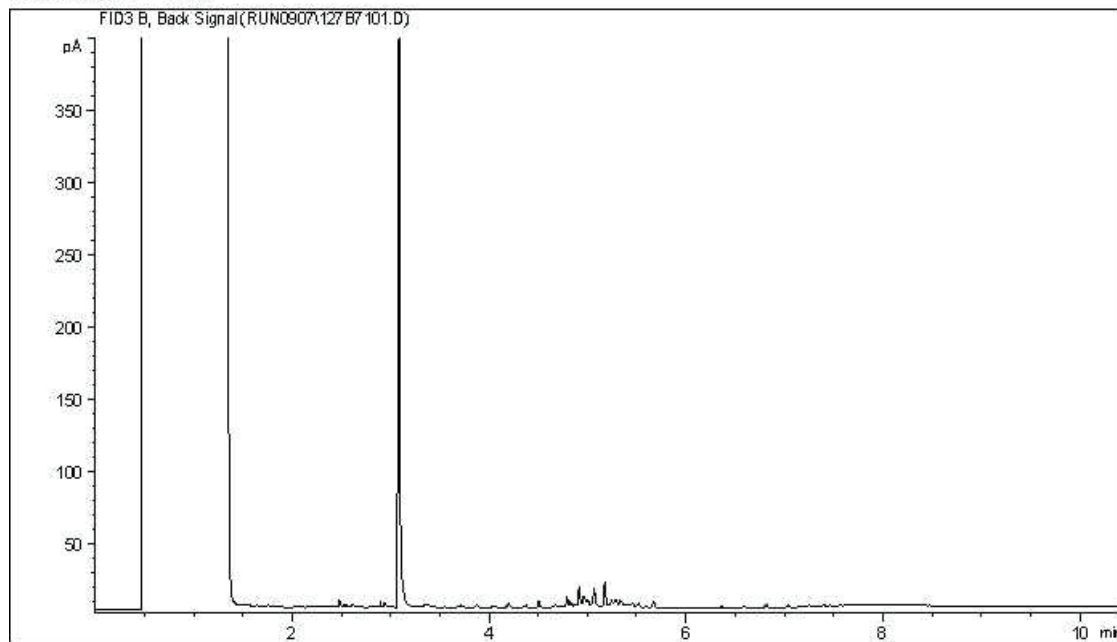
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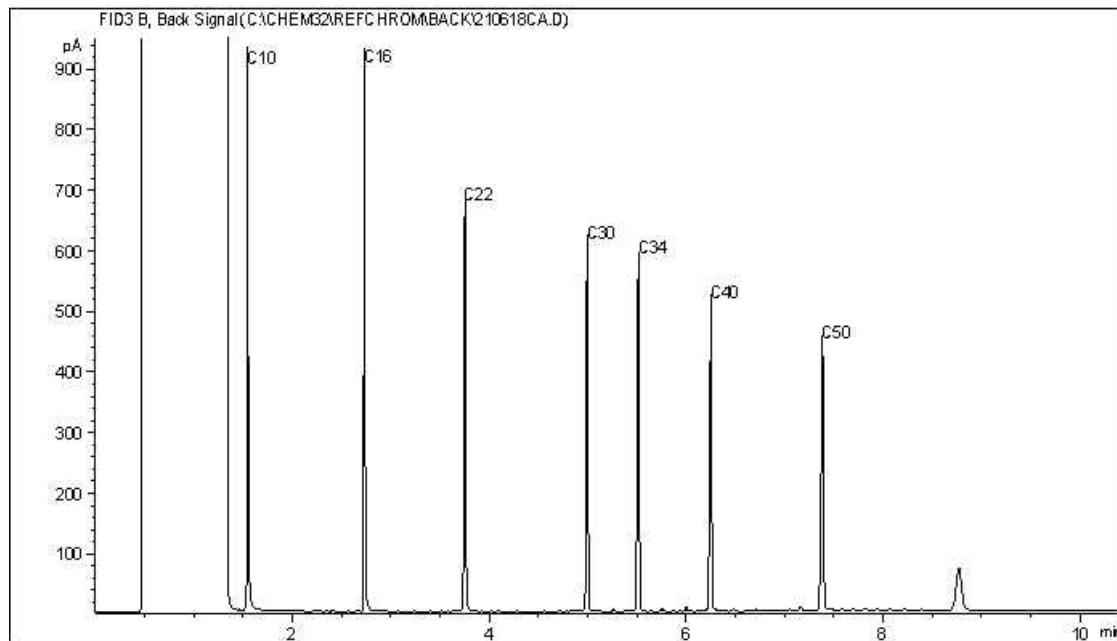
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Carbon Range Distribution - Reference Chromatogram



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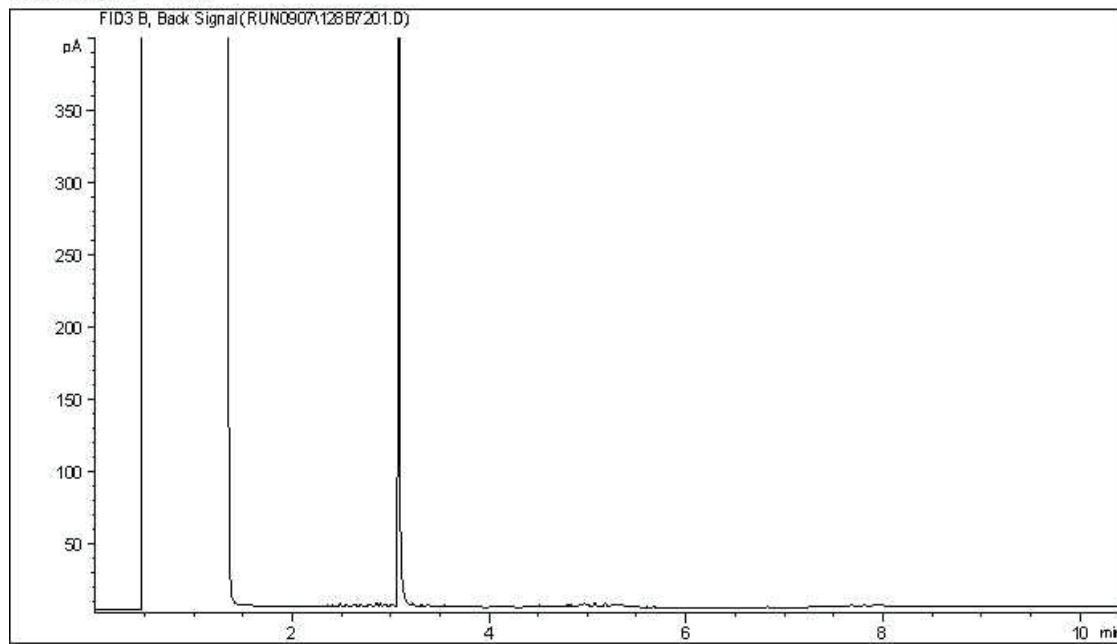
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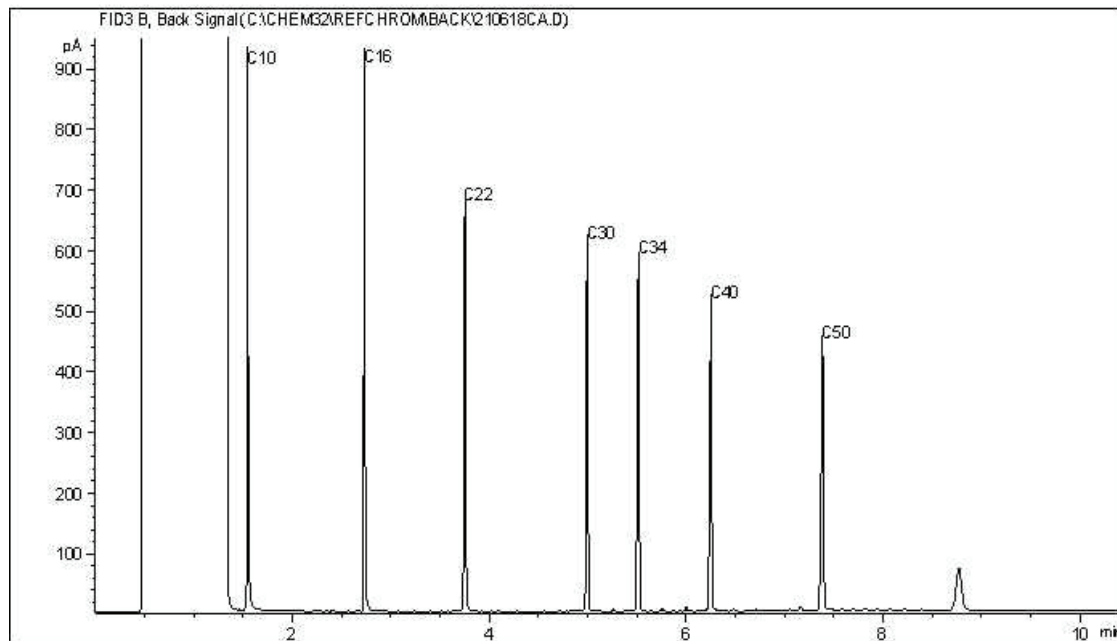


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**GOLDER DATA QUALITY REVIEW CHECKLIST**

Site Location: Camp Farewell

Sampling Date: August 28, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C164643

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 acceptance criteria.
Method Blank Concentration	X			
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 alert limits.
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: September 17, 2021



Your P.O. #: 20368099-7000-1001  
 Your Project #: 20368099-6000-1001  
 Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-52-01, 644511-53-01, 644511-48-01

**Report Date: 2021/09/10**  
 Report #: R3069681  
 Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C164647**

**Received: 2021/08/31, 08:35**

Sample Matrix: Soil  
 # Samples Received: 26

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	20	N/A	2021/09/08 AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	6	N/A	2021/09/09 AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	20	N/A	2021/09/08	Auto Calc
F1-BTEX (1)	6	N/A	2021/09/09	Auto Calc
CCME Hydrocarbons (F2-F4 in soil) (1, 3)	6	2021/09/04	2021/09/05 AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 3)	12	2021/09/04	2021/09/08 AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 3)	6	2021/09/05	2021/09/07 AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 3)	2	2021/09/05	2021/09/08 AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F4G in soil) (1, 3)	1	2021/09/04	2021/09/07 AB SOP-00036 AB SOP-00040	CCME PHC-CWS m
CCME Hydrocarbons (F4G in soil) (1, 3)	4	2021/09/04	2021/09/09 AB SOP-00036 AB SOP-00040	CCME PHC-CWS m
Moisture (1)	20	N/A	2021/09/05 AB SOP-00002	CCME PHC-CWS m
Moisture (1)	6	N/A	2021/09/07 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.



Your P.O. #: 20368099-7000-1001  
Your Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-52-01, 644511-53-01, 644511-48-01

**Report Date: 2021/09/10**  
Report #: R3069681  
Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C164647**

**Received: 2021/08/31, 08:35**

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. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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 Environmental
- (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 Laboratories 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

Cynny Hagen  
Key Account Specialist  
10 Sep 2021 10:21:48

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

=====  
BV Labs 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

BV Labs Job #: C164647  
Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

<b>BV Labs ID</b>		AFA042	AFA042	AFA043		AFA044	AFA045		
<b>Sampling Date</b>		2021/08/24 09:16	2021/08/24 09:16	2021/08/24 09:17		2021/08/24 09:14	2021/08/24 09:36		
<b>COC Number</b>		644511-52-01	644511-52-01	644511-52-01		644511-52-01	644511-52-01		
	<b>UNITS</b>	<b>TP21-53-03</b>	<b>TP21-53-03 Lab-Dup</b>	<b>TP21-53-05</b>	<b>QC Batch</b>	<b>TP21-53-01</b>	<b>TP21-54-02</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Ext. Pet. Hydrocarbon</b>									
F2 (C10-C16 Hydrocarbons)	mg/kg	100	N/A	<10	A342599	95	220	10	A342518
F3 (C16-C34 Hydrocarbons)	mg/kg	240	N/A	56	A342599	290	320	50	A342518
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	N/A	<50	A342599	<50	<50	50	A342518
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	A342599	Yes	Yes	N/A	A342518
<b>Physical Properties</b>									
Moisture	%	8.4	N/A	13	A342568	11	11	0.30	A342517
<b>Volatiles</b>									
Xylenes (Total)	mg/kg	<0.045	N/A	<0.045	A340507	<0.045	<0.045	0.045	A340507
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	<10	A340507	<10	<10	10	A340507
<b>Field Preserved Volatiles</b>									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	A341585	<0.0050	<0.0050	0.0050	A341585
Toluene	mg/kg	<0.050	<0.050	0.066	A341585	<0.050	<0.050	0.050	A341585
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	A341585	<0.010	0.016	0.010	A341585
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	A341585	<0.040	<0.040	0.040	A341585
o-Xylene	mg/kg	<0.020	<0.020	<0.020	A341585	<0.020	<0.020	0.020	A341585
F1 (C6-C10)	mg/kg	<10	<10	<10	A341585	<10	<10	10	A341585
<b>Surrogate Recovery (%)</b>									
1,4-Difluorobenzene (sur.)	%	99	98	98	A341585	96	97	N/A	A341585
4-Bromofluorobenzene (sur.)	%	96	100	98	A341585	96	101	N/A	A341585
D10-o-Xylene (sur.)	%	94	91	101	A341585	89	94	N/A	A341585
D4-1,2-Dichloroethane (sur.)	%	97	93	95	A341585	94	96	N/A	A341585
O-TERPHENYL (sur.)	%	108	N/A	111	A342599	109	108	N/A	A342518
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable									



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BV Labs Job #: C164647  
Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFA046	AFA047		AFA048		AFA049		
Sampling Date		2021/08/24 09:38	2021/08/24 09:39		2021/08/24 09:48		2021/08/24 09:49		
COC Number		644511-52-01	644511-52-01		644511-52-01		644511-52-01		
	UNITS	TP21-54-04	TP21-54-06	QC Batch	TP21-55-02	QC Batch	TP21-55-03	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>									
F2 (C10-C16 Hydrocarbons)	mg/kg	89	31	A342388	110	A342390	38	10	A342599
F3 (C16-C34 Hydrocarbons)	mg/kg	590	<50	A342388	200	A342390	120	50	A342599
F4 (C34-C50 Hydrocarbons)	mg/kg	180	<50	A342388	<50	A342390	<50	50	A342599
Reached Baseline at C50	mg/kg	Yes	Yes	A342388	Yes	A342390	Yes	N/A	A342599
<b>Physical Properties</b>									
Moisture	%	44	17	A342384	12	A342384	11	0.30	A342568
<b>Volatiles</b>									
Xylenes (Total)	mg/kg	0.77	0.51	A340507	<0.045	A340507	<0.045	0.045	A340507
F1 (C6-C10) - BTEX	mg/kg	21	<10	A340507	12	A340507	<10	10	A340507
<b>Field Preserved Volatiles</b>									
Benzene	mg/kg	0.072	0.068	A341585	<0.0050	A341585	<0.0050	0.0050	A341585
Toluene	mg/kg	8.7	0.081	A341585	0.064	A341585	0.097	0.050	A341585
Ethylbenzene	mg/kg	0.16	0.18	A341585	0.012	A341585	<0.010	0.010	A341585
m & p-Xylene	mg/kg	0.40	0.19	A341585	<0.040	A341585	<0.040	0.040	A341585
o-Xylene	mg/kg	0.37 (1)	0.31	A341585	<0.020	A341585	<0.020	0.020	A341585
F1 (C6-C10)	mg/kg	30	<10	A341585	12	A341585	<10	10	A341585
<b>Surrogate Recovery (%)</b>									
1,4-Difluorobenzene (sur.)	%	99	97	A341585	96	A341585	96	N/A	A341585
4-Bromofluorobenzene (sur.)	%	100	102	A341585	99	A341585	101	N/A	A341585
D10-o-Xylene (sur.)	%	108	113	A341585	97	A341585	98	N/A	A341585
D4-1,2-Dichloroethane (sur.)	%	96	93	A341585	95	A341585	94	N/A	A341585
O-TERPHENYL (sur.)	%	105	104	A342388	97	A342390	109	N/A	A342599
RDL = Reportable Detection Limit N/A = Not Applicable (1) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.									





**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AFA050	AFA051		AFA052	AFA053		
Sampling Date		2021/08/24 09:49	2021/08/24 09:50		2021/08/24 10:04	2021/08/24 10:05		
COC Number		644511-52-01	644511-52-01		644511-53-01	644511-53-01		
	UNITS	DUP Z	TP21-55-05	QC Batch	TP21-56-01	TP21-56-03	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>								
F2 (C10-C16 Hydrocarbons)	mg/kg	180	54	A342599	130	46	10	A342388
F3 (C16-C34 Hydrocarbons)	mg/kg	190	770	A342599	210	270	50	A342388
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	280	A342599	<50	67	50	A342388
Reached Baseline at C50	mg/kg	Yes	Yes	A342599	Yes	Yes	N/A	A342388
<b>Physical Properties</b>								
Moisture	%	7.5	37	A342568	11	8.9	0.30	A342384
<b>Volatiles</b>								
Xylenes (Total)	mg/kg	<0.045	<0.045	A340507	<0.045	<0.045	0.045	A340507
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A340507	<10	<10	10	A340507
<b>Field Preserved Volatiles</b>								
Benzene	mg/kg	<0.0050	<0.0050	A341585	<0.0050	<0.0050	0.0050	A341585
Toluene	mg/kg	<0.050	3.0	A341585	<0.050	0.20	0.050	A341585
Ethylbenzene	mg/kg	<0.010	<0.010	A341585	<0.010	<0.010	0.010	A341585
m & p-Xylene	mg/kg	<0.040	<0.040	A341585	<0.040	<0.040	0.040	A341585
o-Xylene	mg/kg	<0.020	<0.020	A341585	<0.020	<0.020	0.020	A341585
F1 (C6-C10)	mg/kg	<10	<10	A341585	<10	<10	10	A341585
<b>Surrogate Recovery (%)</b>								
1,4-Difluorobenzene (sur.)	%	96	96	A341585	97	98	N/A	A341585
4-Bromofluorobenzene (sur.)	%	100	100	A341585	98	99	N/A	A341585
D10-o-Xylene (sur.)	%	99	97	A341585	96	101	N/A	A341585
D4-1,2-Dichloroethane (sur.)	%	94	96	A341585	95	96	N/A	A341585
O-TERPHENYL (sur.)	%	114	111	A342599	104	105	N/A	A342388
RDL = Reportable Detection Limit N/A = Not Applicable								



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BV Labs Job #: C164647  
Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AFA054	AFA055	AFA056	AFA057	AFA057		
Sampling Date		2021/08/24 10:06	2021/08/24 10:22	2021/08/24 10:23	2021/08/24 10:25	2021/08/24 10:25		
COC Number		644511-53-01	644511-53-01	644511-53-01	644511-53-01	644511-53-01		
	UNITS	TP21-56-06	TP21-57-01	TP21-57-03	TP21-57-05	TP21-57-05 Lab-Dup	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>								
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	87	98	<10	N/A	10	A342390
F3 (C16-C34 Hydrocarbons)	mg/kg	62	290	280	<50	N/A	50	A342390
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	N/A	50	A342390
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	N/A	N/A	A342390
<b>Physical Properties</b>								
Moisture	%	18	11	9.6	16	16	0.30	A342384
<b>Volatiles</b>								
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	N/A	0.045	A340507
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	N/A	10	A340507
<b>Field Preserved Volatiles</b>								
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	N/A	0.0050	A341585
Toluene	mg/kg	<0.050	0.12	0.53	<0.050	N/A	0.050	A341585
Ethylbenzene	mg/kg	<0.010	0.013	<0.010	<0.010	N/A	0.010	A341585
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	N/A	0.040	A341585
o-Xylene	mg/kg	<0.020	0.024	<0.020	<0.020	N/A	0.020	A341585
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	N/A	10	A341585
<b>Surrogate Recovery (%)</b>								
1,4-Difluorobenzene (sur.)	%	98	98	98	97	N/A	N/A	A341585
4-Bromofluorobenzene (sur.)	%	100	102	101	102	N/A	N/A	A341585
D10-o-Xylene (sur.)	%	96	88	96	95	N/A	N/A	A341585
D4-1,2-Dichloroethane (sur.)	%	97	96	97	96	N/A	N/A	A341585
O-TERPHENYL (sur.)	%	91	99	98	99	N/A	N/A	A342390
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable								



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BV Labs Job #: C164647  
Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AFA058			AFA059			AFA060		
Sampling Date		2021/08/24 11:02			2021/08/24 11:02			2021/08/24 11:18		
COC Number		644511-53-01			644511-53-01			644511-53-01		
	UNITS	TP21-162-02	RDL	QC Batch	DUP-AA	RDL	QC Batch	TP21-163-02	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>										
F2 (C10-C16 Hydrocarbons)	mg/kg	360 (1)	33	A342390	160 (1)	38	A342599	460 (1)	34	A342388
F3 (C16-C34 Hydrocarbons)	mg/kg	4500 (1)	170	A342390	3100 (1)	190	A342599	9200 (1)	170	A342388
F4 (C34-C50 Hydrocarbons)	mg/kg	1600 (1)	170	A342390	1100 (1)	190	A342599	3800 (1)	170	A342388
Reached Baseline at C50	mg/kg	No	N/A	A342390	Yes	N/A	A342599	No	N/A	A342388
<b>Physical Properties</b>										
Moisture	%	70	0.30	A342384	74	0.30	A342568	70	0.30	A342384
<b>Volatiles</b>										
Xylenes (Total)	mg/kg	<0.25	0.25	A340507	<0.29	0.29	A340507	<0.29	0.29	A340507
F1 (C6-C10) - BTEX	mg/kg	<24	24	A340507	<65	65	A340507	<24	24	A340507
<b>Field Preserved Volatiles</b>										
Benzene	mg/kg	<0.028 (2)	0.028	A341585	<0.033 (2)	0.033	A341585	<0.032 (2)	0.032	A341585
Toluene	mg/kg	30 (2)	0.28	A341585	38 (2)	0.33	A341585	12 (2)	0.32	A341585
Ethylbenzene	mg/kg	<0.055 (2)	0.055	A341585	<0.065 (2)	0.065	A341585	<0.065 (2)	0.065	A341585
m & p-Xylene	mg/kg	<0.22 (2)	0.22	A341585	<0.26 (2)	0.26	A341585	<0.26 (2)	0.26	A341585
o-Xylene	mg/kg	<0.11 (2)	0.11	A341585	<0.13 (2)	0.13	A341585	<0.13 (2)	0.13	A341585
F1 (C6-C10)	mg/kg	<24 (3)	24	A341585	<65 (2)	65	A341585	<24 (3)	24	A341585
<b>Surrogate Recovery (%)</b>										
1,4-Difluorobenzene (sur.)	%	92	N/A	A341585	98	N/A	A341585	96	N/A	A341585
4-Bromofluorobenzene (sur.)	%	94	N/A	A341585	102	N/A	A341585	100	N/A	A341585
D10-o-Xylene (sur.)	%	83	N/A	A341585	92	N/A	A341585	86	N/A	A341585
D4-1,2-Dichloroethane (sur.)	%	92	N/A	A341585	95	N/A	A341585	96	N/A	A341585
O-TERPHENYL (sur.)	%	98	N/A	A342390	106	N/A	A342599	114	N/A	A342388
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 limits raised based on MDL and sample weight used for analysis.										



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BV Labs Job #: C164647  
Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AFA061			AFA062			AFA063			AFA065		
Sampling Date		2021/08/24 14:01			2021/08/24 14:05			2021/08/24 14:10			2021/08/24 14:21		
COC Number		644511-53-01			644511-48-01			644511-48-01			644511-48-01		
	UNITS	TP21-172-02	RDL	QC Batch	TP21-173-02	RDL	TP21-174-02	RDL	TP21-175-02	RDL	QC Batch		
<b>Ext. Pet. Hydrocarbon</b>													
F2 (C10-C16 Hydrocarbons)	mg/kg	24 (1)	21	A342388	60 (1)	29	52 (1)	26	430 (1)	29	A342388		
F3 (C16-C34 Hydrocarbons)	mg/kg	380 (1)	100	A342388	1100 (1)	140	720 (1)	130	5700 (1)	140	A342388		
F4 (C34-C50 Hydrocarbons)	mg/kg	160 (1)	100	A342388	420 (1)	140	150 (1)	130	2100 (1)	140	A342388		
Reached Baseline at C50	mg/kg	Yes	N/A	A342388	Yes	N/A	Yes	N/A	No	N/A	A342388		
<b>Physical Properties</b>													
Moisture	%	51	0.30	A342384	66	0.30	62	0.30	65	0.30	A342384		
<b>Volatiles</b>													
Xylenes (Total)	mg/kg	<0.12	0.12	A340507	<0.17	0.17	<0.18	0.18	<0.24	0.24	A340507		
F1 (C6-C10) - BTEX	mg/kg	<24	24	A340507	<24	24	<24	24	<54	54	A340507		
<b>Field Preserved Volatiles</b>													
Benzene	mg/kg	<0.013 (2)	0.013	A341585	<0.019 (2)	0.019	<0.020 (2)	0.020	<0.027 (2)	0.027	A341597		
Toluene	mg/kg	<0.080 (3)	0.080	A341585	<0.080 (3)	0.080	<0.080 (3)	0.080	<0.080 (3)	0.080	A341597		
Ethylbenzene	mg/kg	<0.026 (2)	0.026	A341585	<0.037 (2)	0.037	<0.040 (2)	0.040	<0.054 (2)	0.054	A341597		
m & p-Xylene	mg/kg	<0.11 (2)	0.11	A341585	<0.15 (2)	0.15	<0.16 (2)	0.16	<0.22 (2)	0.22	A341597		
o-Xylene	mg/kg	<0.053 (2)	0.053	A341585	<0.075 (2)	0.075	<0.079 (2)	0.079	0.17 (2)	0.11	A341597		
F1 (C6-C10)	mg/kg	<24 (3)	24	A341585	<24 (3)	24	<24 (3)	24	<54 (2)	54	A341597		
<b>Surrogate Recovery (%)</b>													
1,4-Difluorobenzene (sur.)	%	95	N/A	A341585	95	N/A	96	N/A	97	N/A	A341597		
4-Bromofluorobenzene (sur.)	%	98	N/A	A341585	99	N/A	97	N/A	96	N/A	A341597		
D10-o-Xylene (sur.)	%	96	N/A	A341585	85	N/A	100	N/A	97	N/A	A341597		
D4-1,2-Dichloroethane (sur.)	%	93	N/A	A341585	96	N/A	95	N/A	98	N/A	A341597		
O-TERPHENYL (sur.)	%	109	N/A	A342388	116	N/A	108	N/A	108	N/A	A342388		
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 limits raised based on MDL and sample weight used for analysis.													



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BV Labs Job #: C164647  
Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

BV Labs ID		AFA066		AFA068	AFA070		
Sampling Date		2021/08/24 14:21		2021/08/24 14:26	2021/08/24 14:26		
COC Number		644511-48-01		644511-48-01	644511-48-01		
	UNITS	DUP-BB	RDL	TP21-176-02	DUP-CC	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>							
F2 (C10-C16 Hydrocarbons)	mg/kg	860 (1)	25	180	390	10	A342388
F3 (C16-C34 Hydrocarbons)	mg/kg	1900 (1)	130	1200	1700	50	A342388
F4 (C34-C50 Hydrocarbons)	mg/kg	520 (1)	130	450	670	50	A342388
Reached Baseline at C50	mg/kg	Yes	N/A	No	No	N/A	A342388
<b>Physical Properties</b>							
Moisture	%	61	0.30	39	43	0.30	A342384
<b>Volatiles</b>							
Xylenes (Total)	mg/kg	<0.16	0.16	0.26	0.28	0.045	A340507
F1 (C6-C10) - BTEX	mg/kg	51	35	14	19	10	A340507
<b>Field Preserved Volatiles</b>							
Benzene	mg/kg	<0.018 (2)	0.018	<0.0050	<0.0050	0.0050	A341597
Toluene	mg/kg	<0.080 (3)	0.080	<0.050	<0.050	0.050	A341597
Ethylbenzene	mg/kg	<0.035 (2)	0.035	0.055	0.055	0.010	A341597
m & p-Xylene	mg/kg	<0.14 (2)	0.14	0.10	0.099	0.040	A341597
o-Xylene	mg/kg	<0.071 (2)	0.071	0.16	0.18	0.020	A341597
F1 (C6-C10)	mg/kg	51 (2)	35	15	20	10	A341597
<b>Surrogate Recovery (%)</b>							
1,4-Difluorobenzene (sur.)	%	96	N/A	95	95	N/A	A341597
4-Bromofluorobenzene (sur.)	%	100	N/A	99	97	N/A	A341597
D10-o-Xylene (sur.)	%	95	N/A	102	105	N/A	A341597
D4-1,2-Dichloroethane (sur.)	%	99	N/A	97	96	N/A	A341597
O-TERPHENYL (sur.)	%	128	N/A	116	124	N/A	A342388
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 limits raised based on MDL and sample weight used for analysis.							



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BV Labs Job #: C164647  
Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### PETROLEUM HYDROCARBONS (CCME)

<b>BV Labs ID</b>		AFA058			AFA060			AFA065		AFA068		
<b>Sampling Date</b>		2021/08/24 11:02			2021/08/24 11:18			2021/08/24 14:21		2021/08/24 14:26		
<b>COC Number</b>		644511-53-01			644511-53-01			644511-48-01		644511-48-01		
	<b>UNITS</b>	<b>TP21-162-02</b>	<b>RDL</b>	<b>QC Batch</b>	<b>TP21-163-02</b>	<b>RDL</b>	<b>TP21-175-02</b>	<b>RDL</b>	<b>TP21-176-02</b>	<b>RDL</b>	<b>QC Batch</b>	

#### Ext. Pet. Hydrocarbon

F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	5300	500	A343336	11000 (1)	1700	11000 (1)	1400	2000	500	A345342
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RDL = Reportable Detection Limit

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

<b>BV Labs ID</b>		AFA070		
<b>Sampling Date</b>		2021/08/24 14:26		
<b>COC Number</b>		644511-48-01		
	<b>UNITS</b>	<b>DUP-CC</b>	<b>RDL</b>	<b>QC Batch</b>

#### Ext. Pet. Hydrocarbon

F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	2200	500	A345342
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RDL = Reportable Detection Limit



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BV Labs Job #: C164647

Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories

Your P.O. #: 20368099-7000-1001

Sampler Initials: PT

### GENERAL COMMENTS

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

Package 1	4.7°C
Package 2	9.3°C
Package 3	5.7°C
Package 4	4.7°C
Package 5	6.0°C
Package 6	5.7°C
Package 7	5.7°C
Package 8	5.7°C
Package 9	5.3°C

Version #2: Report reissued to amend client sample ID on AFA050 from DUP02 to DUP Z as per the original Chain of Custody.

**Results relate only to the items tested.**



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BV Labs Job #: C164647  
Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
A341585	PKL	Matrix Spike [AFA042-02]	1,4-Difluorobenzene (sur.)	2021/09/07	96	%	50 - 140			
			4-Bromofluorobenzene (sur.)	2021/09/07	100	%	50 - 140			
			D10-o-Xylene (sur.)	2021/09/07	88	%	50 - 140			
			D4-1,2-Dichloroethane (sur.)	2021/09/07	96	%	50 - 140			
			Benzene	2021/09/07	87	%	50 - 140			
			Toluene	2021/09/07	89	%	50 - 140			
			Ethylbenzene	2021/09/07	96	%	50 - 140			
			m & p-Xylene	2021/09/07	94	%	50 - 140			
			o-Xylene	2021/09/07	98	%	50 - 140			
			F1 (C6-C10)	2021/09/07	89	%	60 - 140			
			A341585	PKL	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/07	100	%	50 - 140
						4-Bromofluorobenzene (sur.)	2021/09/07	105	%	50 - 140
						D10-o-Xylene (sur.)	2021/09/07	89	%	50 - 140
D4-1,2-Dichloroethane (sur.)	2021/09/07	104				%	50 - 140			
Benzene	2021/09/07	83				%	60 - 130			
Toluene	2021/09/07	89				%	60 - 130			
Ethylbenzene	2021/09/07	92				%	60 - 130			
m & p-Xylene	2021/09/07	93				%	60 - 130			
o-Xylene	2021/09/07	89				%	60 - 130			
F1 (C6-C10)	2021/09/07	104				%	60 - 140			
A341585	PKL	Method Blank				1,4-Difluorobenzene (sur.)	2021/09/08	98	%	50 - 140
						4-Bromofluorobenzene (sur.)	2021/09/08	100	%	50 - 140
						D10-o-Xylene (sur.)	2021/09/08	81	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/08	96	%	50 - 140			
			Benzene	2021/09/08	<0.0050		mg/kg			
			Toluene	2021/09/08	<0.050		mg/kg			
			Ethylbenzene	2021/09/08	<0.010		mg/kg			
			m & p-Xylene	2021/09/08	<0.040		mg/kg			
			o-Xylene	2021/09/08	<0.020		mg/kg			
			F1 (C6-C10)	2021/09/08	<10		mg/kg			
			A341585	PKL	RPD [AFA042-02]	Benzene	2021/09/08	NC	%	50
						Toluene	2021/09/08	NC	%	50
						Ethylbenzene	2021/09/08	NC	%	50
m & p-Xylene	2021/09/08	NC				%	50			
o-Xylene	2021/09/08	NC				%	50			
F1 (C6-C10)	2021/09/08	NC				%	30			
A341597	PKL	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/09	96	%	50 - 140			
			4-Bromofluorobenzene (sur.)	2021/09/09	97	%	50 - 140			
			D10-o-Xylene (sur.)	2021/09/09	87	%	50 - 140			
			D4-1,2-Dichloroethane (sur.)	2021/09/09	99	%	50 - 140			
			Benzene	2021/09/09	88	%	50 - 140			
			Toluene	2021/09/09	91	%	50 - 140			
			Ethylbenzene	2021/09/09	97	%	50 - 140			
			m & p-Xylene	2021/09/09	96	%	50 - 140			
			o-Xylene	2021/09/09	100	%	50 - 140			
			F1 (C6-C10)	2021/09/09	94	%	60 - 140			
			A341597	PKL	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/09	100	%	50 - 140
						4-Bromofluorobenzene (sur.)	2021/09/09	105	%	50 - 140
						D10-o-Xylene (sur.)	2021/09/09	85	%	50 - 140
D4-1,2-Dichloroethane (sur.)	2021/09/09	106				%	50 - 140			
Benzene	2021/09/09	75				%	60 - 130			





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BV Labs Job #: C164647  
Report Date: 2021/09/10

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A341597	PKL	Method Blank	Toluene	2021/09/09		81	%	60 - 130
			Ethylbenzene	2021/09/09		85	%	60 - 130
			m & p-Xylene	2021/09/09		84	%	60 - 130
			o-Xylene	2021/09/09		84	%	60 - 130
			F1 (C6-C10)	2021/09/09		98	%	60 - 140
			1,4-Difluorobenzene (sur.)	2021/09/09		97	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/09		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/09		86	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/09		97	%	50 - 140
			Benzene	2021/09/09		<0.0050		
A341597	PKL	RPD	Toluene	2021/09/09	<0.050		mg/kg	
			Ethylbenzene	2021/09/09	<0.010		mg/kg	
			m & p-Xylene	2021/09/09	<0.040		mg/kg	
			o-Xylene	2021/09/09	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/09	<10		mg/kg	
			Benzene	2021/09/09	NC		%	50
			Toluene	2021/09/09	NC		%	50
			Ethylbenzene	2021/09/09	NC		%	50
			m & p-Xylene	2021/09/09	NC		%	50
			o-Xylene	2021/09/09	NC		%	50
A342384	ARV	Method Blank	F1 (C6-C10)	2021/09/09	NC		%	30
			Moisture	2021/09/05	<0.30		%	
A342384	ARV	RPD [AFA057-01]	Moisture	2021/09/05	0.61		%	20
A342388	GG3	Matrix Spike	O-TERPHENYL (sur.)	2021/09/08		124	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08		115	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/08		107	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/08		106	%	60 - 140
			O-TERPHENYL (sur.)	2021/09/08		95	%	60 - 140
A342388	GG3	Spiked Blank	F2 (C10-C16 Hydrocarbons)	2021/09/08		103	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/08		95	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/08		92	%	60 - 140
			O-TERPHENYL (sur.)	2021/09/08		112	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08	<10		mg/kg	
A342388	GG3	RPD	F3 (C16-C34 Hydrocarbons)	2021/09/08	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/08	<50		mg/kg	
			F2 (C10-C16 Hydrocarbons)	2021/09/08	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/08	NC		%	40
A342390	MHF	Matrix Spike	F4 (C34-C50 Hydrocarbons)	2021/09/08	NC		%	40
			O-TERPHENYL (sur.)	2021/09/05		123	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/05		117	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/05		124	%	60 - 140
A342390	MHF	Spiked Blank	F4 (C34-C50 Hydrocarbons)	2021/09/05		120	%	60 - 140
			O-TERPHENYL (sur.)	2021/09/05		107	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/05		101	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/05		106	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/05		102	%	60 - 140
A342390	MHF	Method Blank	O-TERPHENYL (sur.)	2021/09/05		115	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/05	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/05	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/05	<50		mg/kg	
A342390	MHF	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/05	NC		%	40



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BV Labs Job #: C164647  
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GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F3 (C16-C34 Hydrocarbons)	2021/09/05	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/05	NC		%	40
A342517	ARV	Method Blank	Moisture	2021/09/05	<0.30		%	
A342517	ARV	RPD	Moisture	2021/09/05	7.8		%	20
A342518	GG3	Matrix Spike	O-TERPHENYL (sur.)	2021/09/08		115	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08		105	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/08		115	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/08		111	%	60 - 140
A342518	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/09/08		112	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08		106	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/08		111	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/08		107	%	60 - 140
A342518	GG3	Method Blank	O-TERPHENYL (sur.)	2021/09/08		128	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/08	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/08	<50		mg/kg	
A342518	GG3	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/08	36		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/08	8.7		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/08	NC		%	40
A342568	ARV	Method Blank	Moisture	2021/09/07	<0.30		%	
A342568	ARV	RPD	Moisture	2021/09/07	5.3		%	20
A342599	GG3	Matrix Spike	O-TERPHENYL (sur.)	2021/09/07		115	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/07		107	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/07		113	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/07		108	%	60 - 140
A342599	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/09/07		109	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/07		105	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/07		113	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/07		104	%	60 - 140
A342599	GG3	Method Blank	O-TERPHENYL (sur.)	2021/09/07		109	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/07	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/07	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/07	<50		mg/kg	
A342599	GG3	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/07	0.42		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/07	4.5		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/07	NC		%	40
A343336	JLJ	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/07		95	%	60 - 140
A343336	JLJ	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/07	<500		mg/kg	
A343336	JLJ	RPD	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/07	3.7		%	40
A345342	JB9	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/09		109	%	60 - 140
A345342	JB9	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/09	<500		mg/kg	



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BV Labs Job #: C164647  
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GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC									
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
A345342	JB9	RPD	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/09	7.1 (1)		%	40	
<p>Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.</p> <p>Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.</p> <p>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.</p> <p>Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.</p> <p>Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.</p> <p>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 &lt;= 2x RDL).</p> <p>(1) Detection limits raised due to high moisture content, samples contain =&gt; 50% moisture.</p>									



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GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
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Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: PT

### 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

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BV Labs 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 Laboratories  
4000 1st St N.E. Calgary, Alberta Canada T2E 6P8 Tel: (403) 291-3077 Toll-free: 800-563-6266 Fax: (403) 291-9468 www.bvlabs.com

CHAIN OF CUSTODY RECORD

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<b>INVOICE TO:</b> Company Name: #254 GOLDER ASSOCIATES LTD. ACCOUNTS PAYABLE 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606 Email: canadaaccounts@payableinvoices@golder.com		<b>REPORT TO:</b> Company Name: #6340 GOLDER ASSOCIATES LTD. Attention: Aurelie Belavance Address: 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 Tel: (403) 299-5600 Fax: abellavance@golder.com Email:		<b>PROJECT INFORMATION:</b> Quotation #: C00480 P.O #: 20368099-7000-1001 Project: 20368099-6000-1001 Project Name: Site #: Sampled By:		<b>Laboratory Use Only:</b> Bottle Order #: 644511 BV Labs Job #: C164647 COC #: Project Manager: Carmen McKay C#644511-S2-01														
<b>Regulatory Criteria:</b> <input type="checkbox"/> ATI <input checked="" type="checkbox"/> CCME <input type="checkbox"/> Other		<b>Special Instructions:</b> email: sheild@golder.com		<b>ANALYSIS REQUESTED (PLEASE BE SPECIFIC)</b> Metals Field Filtered? (Y/N) <input checked="" type="checkbox"/> Y Regulated Metals - Soils F1, BTEX and F1-F4 in Soil (F2/F2+FB) in soil Sulphate / nitrate Barium on CP using Fusion Extraction (True Barium) CCMF BTEX and F1-F2 in Water Routine Water Regulated Metals (CCME/AT1) - Dissolved PAH in Water by GC/MS Limited Sample		<b>Turnaround Time (TAT) Required:</b> Regular (Standard) TAT: <input checked="" type="checkbox"/> (Will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details. Job Specific Rush TAT (if applies to entire submission) Rush Confirmation Number: # of Bottles: (cell lab for #) Comments:														
<b>SAMPLES MUST BE KEPT COOL (&lt; 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BVL LABS</b>		<b>RECEIVED BY: (Signature/Print)</b> Aurelie Belavance		<b>RECEIVED BY: (Signature/Print)</b> Kim DeWit		<b>Time</b> 15:30		<b>Time</b> 1:30		<b>Date: (YYMMDD)</b> 21/08/24		<b>Date: (YYMMDD)</b> 21/08/24		<b>Temperature (°C) on Receipt</b> See ACTR		<b>Custody Seal Intact on Cooler?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>				
Sample Barcode Label 1 N/A 2 3 4 5 6 7 8 9 10	Sample (Location) Identification TP21-53-03 TP21-53-05 TP21-53-04 TP21-54-02 TP21-54-04 TP21-54-06 TP21-55-02 TP21-55-03 TP21-55-05	Date Sampled 24 Aug 21 9:16 9:17 9:14 9:36 9:38 9:39 9:48 9:49 9:49 9:50	Time Sampled 9:16 9:17 9:14 9:36 9:38 9:39 9:48 9:49 9:49 9:50	Matrix Soil Soil Soil Soil Soil Soil Soil Soil Soil	<b>RELINQUISHED BY: (Signature/Print)</b> Aurelie Belavance		<b>RELINQUISHED BY: (Signature/Print)</b> Kim DeWit		<b>Time</b> 15:30		<b>Time</b> 1:30		<b>Date: (YYMMDD)</b> 21/08/24		<b>Date: (YYMMDD)</b> 21/08/24		<b>Temperature (°C) on Receipt</b> See ACTR		<b>Custody Seal Intact on Cooler?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	

UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BVL LABS STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVL.LABS.COM/TERMS-AND-CONDITIONS.  
 IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.  
 \*\* ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT. FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER



CHAIN OF CUSTODY RECORD

Bureau Veritas Laboratories  
4000 158th N.E. Calgary, Alberta Canada T2E 6P8 Tel: (403) 291-3077 Toll-free: 800-563-6286 Fax: (403) 291-9468 www.bvlabs.com

<b>INVOICE TO:</b> #254 GOLDER ASSOCIATES LTD. ACCOUNTS PAYABLE 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 (905) 567-6100 Ext: 1167 Fax: (403) 299-5606 canadaaccounts@payableinvoices@golder.com		<b>REPORT TO:</b> #6340 GOLDER ASSOCIATES LTD. Aurelie Belavance 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 (403) 299-5600 abelavance@golder.com	
<b>Company Name:</b> #6340 GOLDER ASSOCIATES LTD. <b>Attention:</b> Aurelie Belavance <b>Address:</b> 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 <b>Tel:</b> (403) 299-5600 <b>Email:</b> abelavance@golder.com		<b>Quotation #:</b> C00480 <b>P.O. #:</b> 20368099-7000-1001 <b>Project:</b> 20368099-6000-1001 <b>Project Name:</b> <b>Site #:</b> <b>Sampled By:</b>	
<b>Company Name:</b> #254 GOLDER ASSOCIATES LTD. <b>Attention:</b> ACCOUNTS PAYABLE <b>Address:</b> 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 <b>Tel:</b> (905) 567-6100 Ext: 1167 Fax: (403) 299-5606 <b>Email:</b> canadaaccounts@payableinvoices@golder.com		<b>Project Information:</b> <b>Quotation #:</b> C00480 <b>P.O. #:</b> 20368099-7000-1001 <b>Project:</b> 20368099-6000-1001 <b>Project Name:</b> <b>Site #:</b> <b>Sampled By:</b>	
<b>Company Name:</b> #254 GOLDER ASSOCIATES LTD. <b>Attention:</b> ACCOUNTS PAYABLE <b>Address:</b> 2800, 700 -2nd Street SW CALGARY AB T2P 2W2 <b>Tel:</b> (905) 567-6100 Ext: 1167 Fax: (403) 299-5606 <b>Email:</b> canadaaccounts@payableinvoices@golder.com		<b>Project Information:</b> <b>Quotation #:</b> C00480 <b>P.O. #:</b> 20368099-7000-1001 <b>Project:</b> 20368099-6000-1001 <b>Project Name:</b> <b>Site #:</b> <b>Sampled By:</b>	

**Regulatory Criteria:**  
 ATI  
 CCME  
 Other

**Special Instructions:**  
 email: shell@golder.com

**ANALYSIS REQUESTED (PLEASE BE SPECIFIC)**

Metals Field Filtered? (Y/N)	ATI Regulated Metals - Soils	ATI BTEX and F1-F4 in Soil	(Vals)	BIC %SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample
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**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified):  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_  
 # of Bottles: \_\_\_\_\_  
 Comments: \_\_\_\_\_

Sample Barcode Label	Sample Location, Identification	Date Sampled	Time Sampled	Matrix
1 N/A	TP21-56-01	2/10/10	10:04	Soil
2	TP21-56-03	10:05		
3	TP21-56-06	10:06		
4	TP21-57-01	10:22		
5	TP21-57-03	10:23		
6	TP21-57-05	10:25		
7	TP21-162-02	11:02		
8	DUP-AA	11:02		
9	TP21-163-02	11:18		
10	TP21-172-02	14:01		

**RECEIVED BY: (Signature/Print)** *Cecilia A. Bellavance* **Time** 15:30 **Date:** 2/10/10

**RECEIVED BY: (Signature/Print)** *Julie Dawie Kluz* **Time** 15:00 **Date:** 2/10/10

**Temperature (°C) on Receipt:** 5°C **Temperature (°C) on Cooler?** No

**Time Signature:**  **Time Simulane:**

**Lab used and not submitted:**  **Lab used and submitted:**

**Lab Use Only:**  **Lab Use Only:**

**White: BVL Labs** **Yellow: Client**

\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BVL LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

\*\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

\*\* ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT. FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER

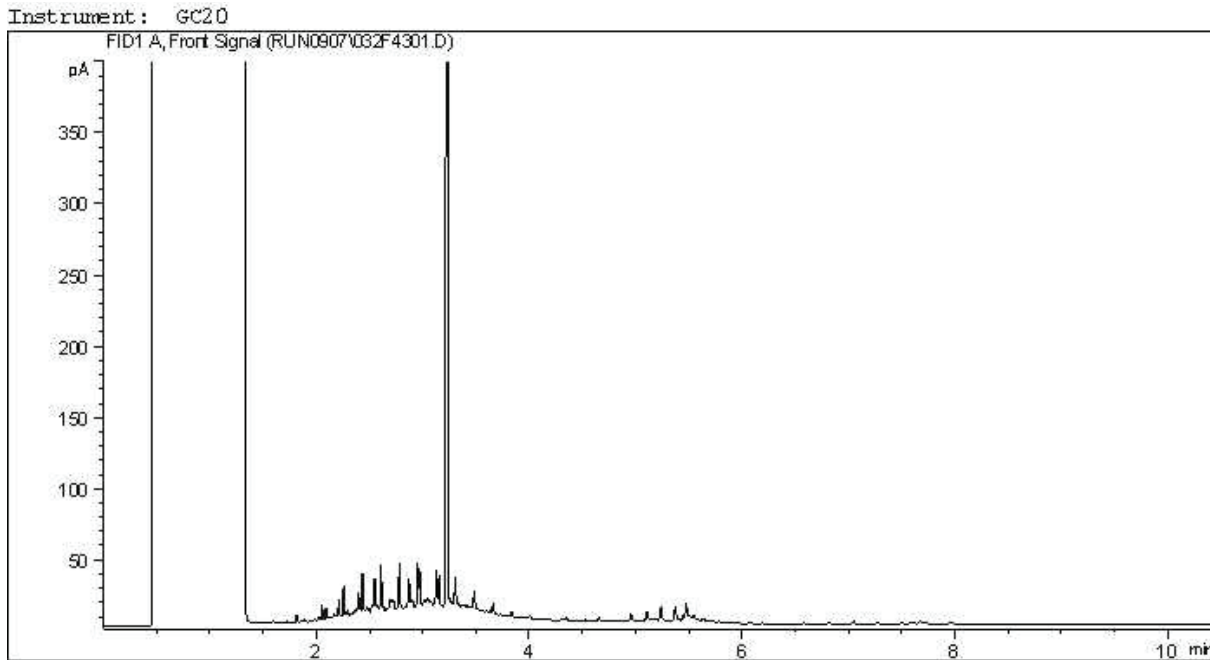
Bureau Veritas Canada (2019) Inc.

Page 20 of 47

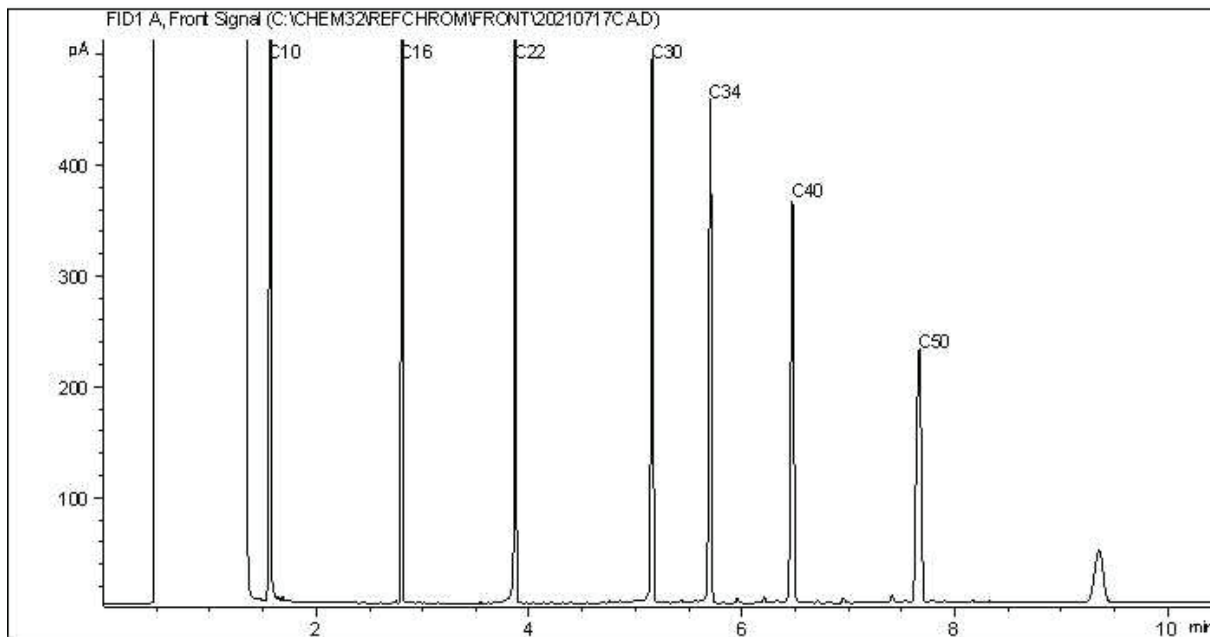




CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



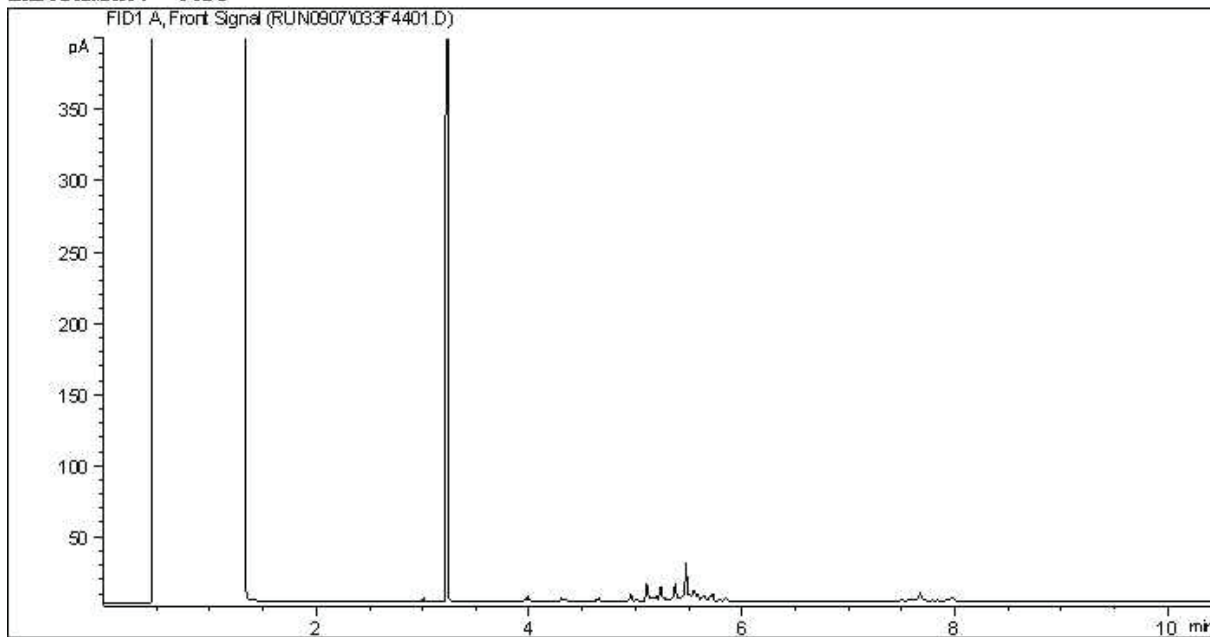
TYPICAL PRODUCT CARBON NUMBER RANGES

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

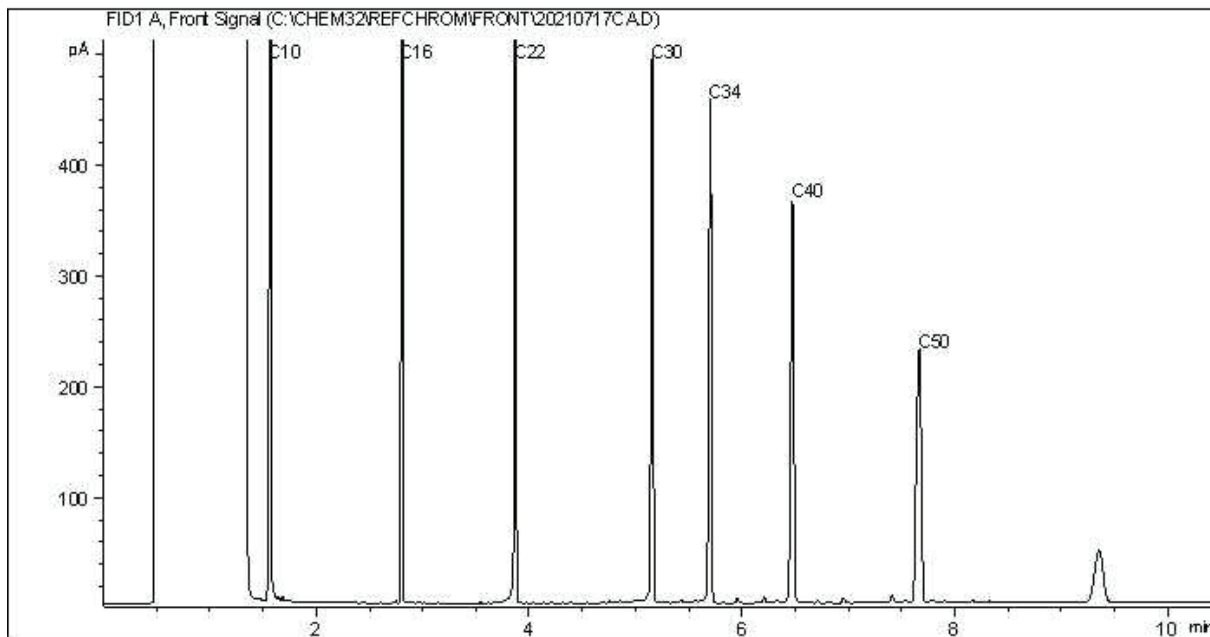
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



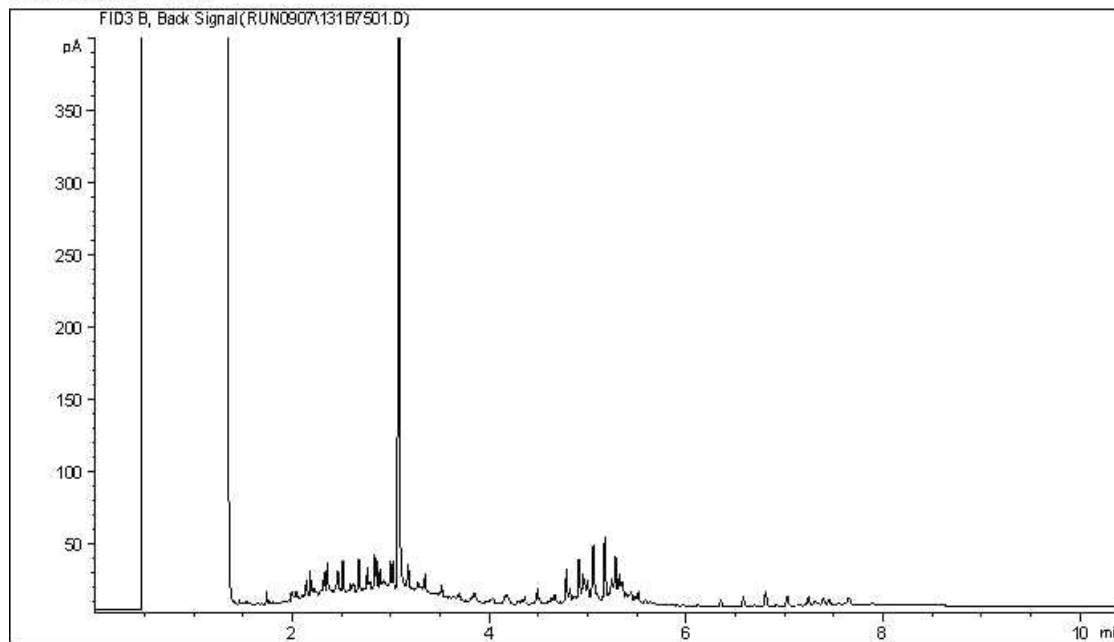
TYPICAL PRODUCT CARBON NUMBER RANGES

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

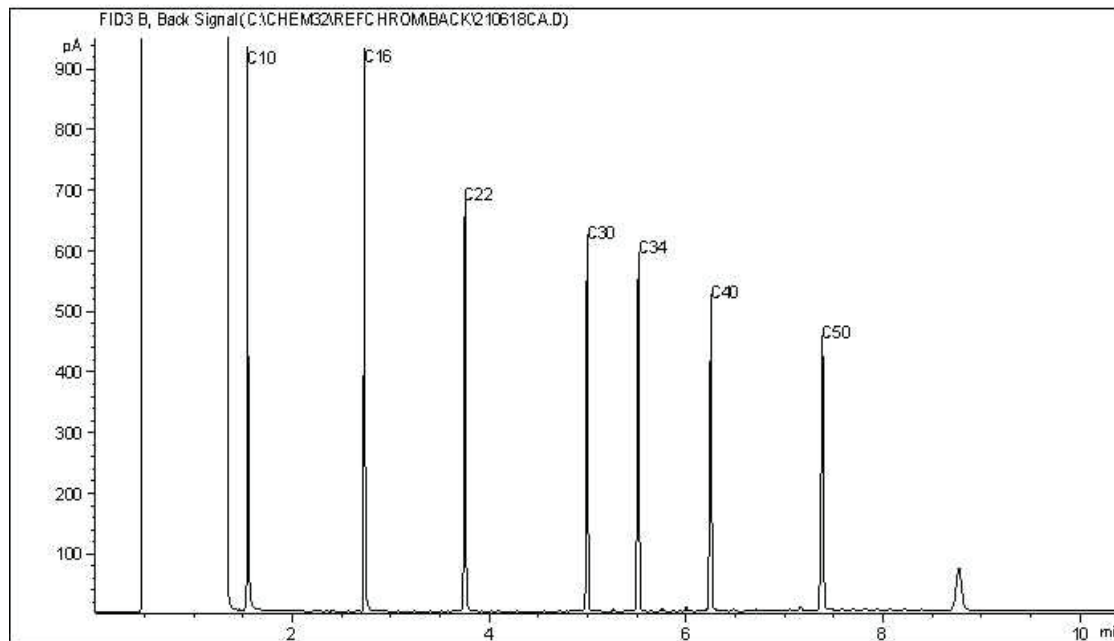
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



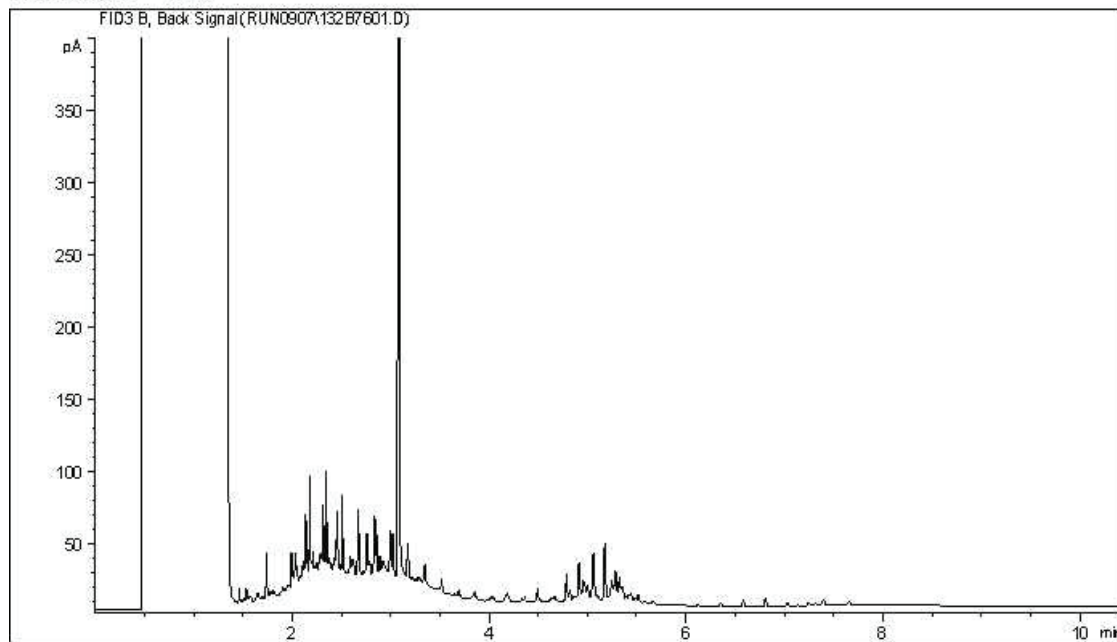
TYPICAL PRODUCT CARBON NUMBER RANGES

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

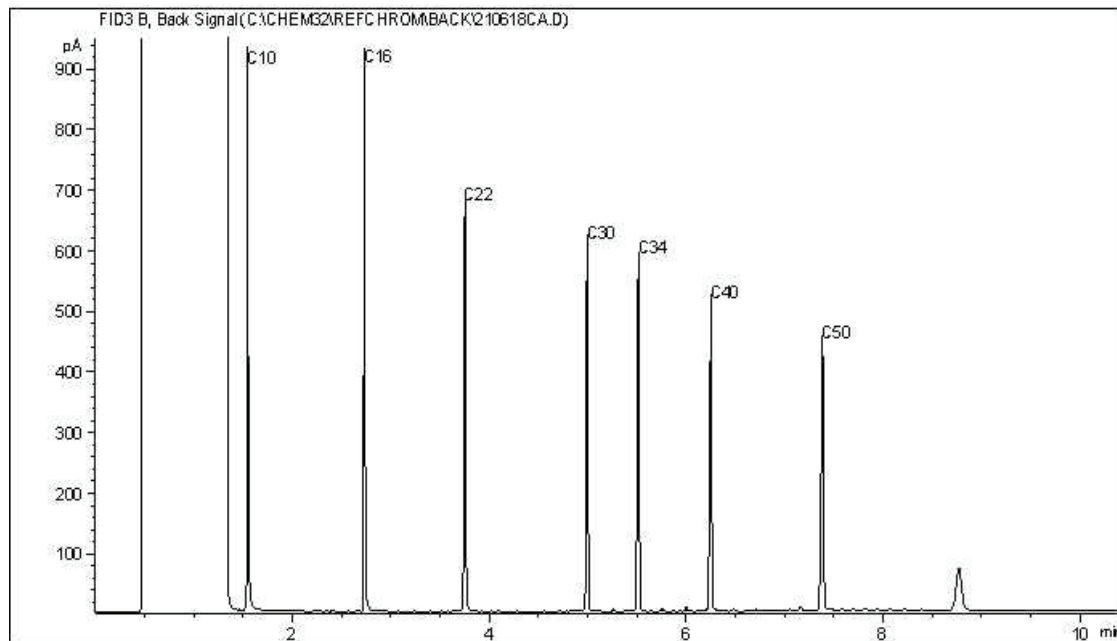
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



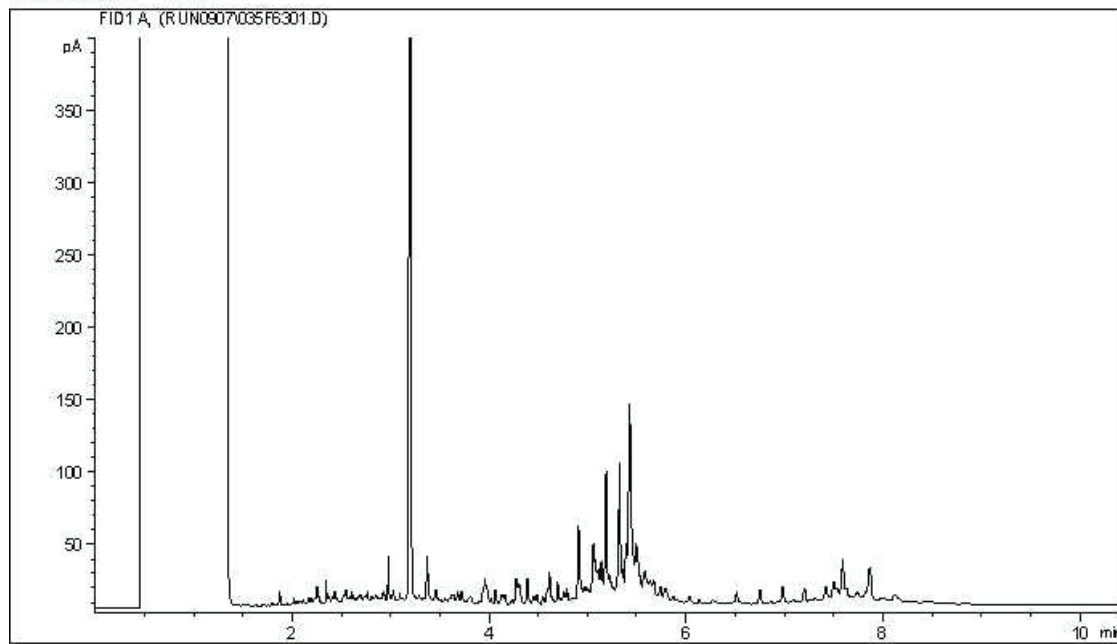
TYPICAL PRODUCT CARBON NUMBER RANGES

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

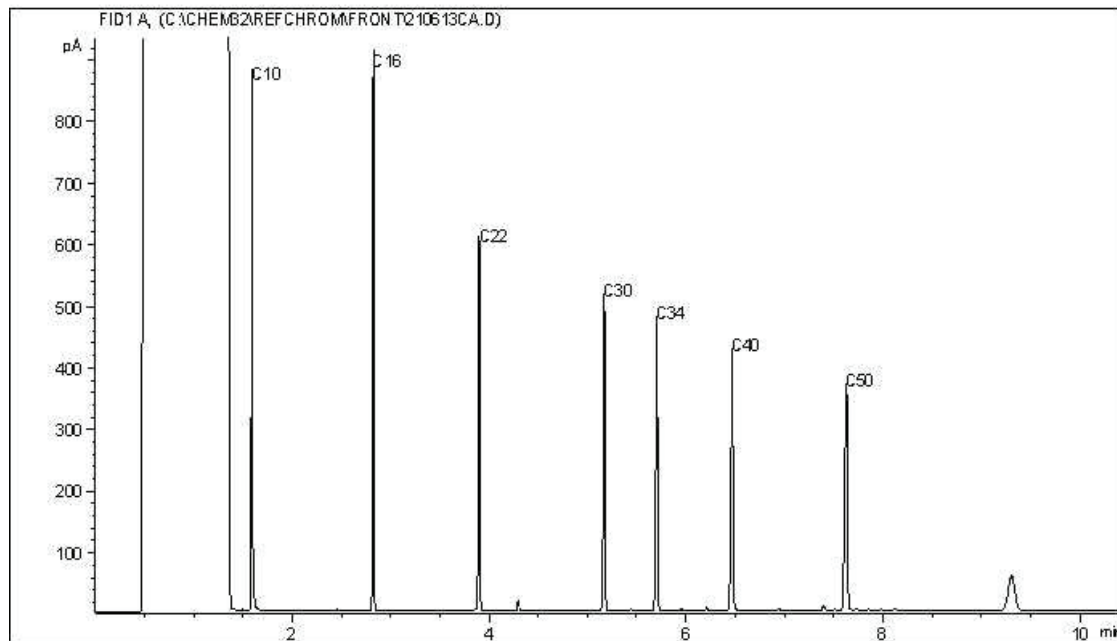
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

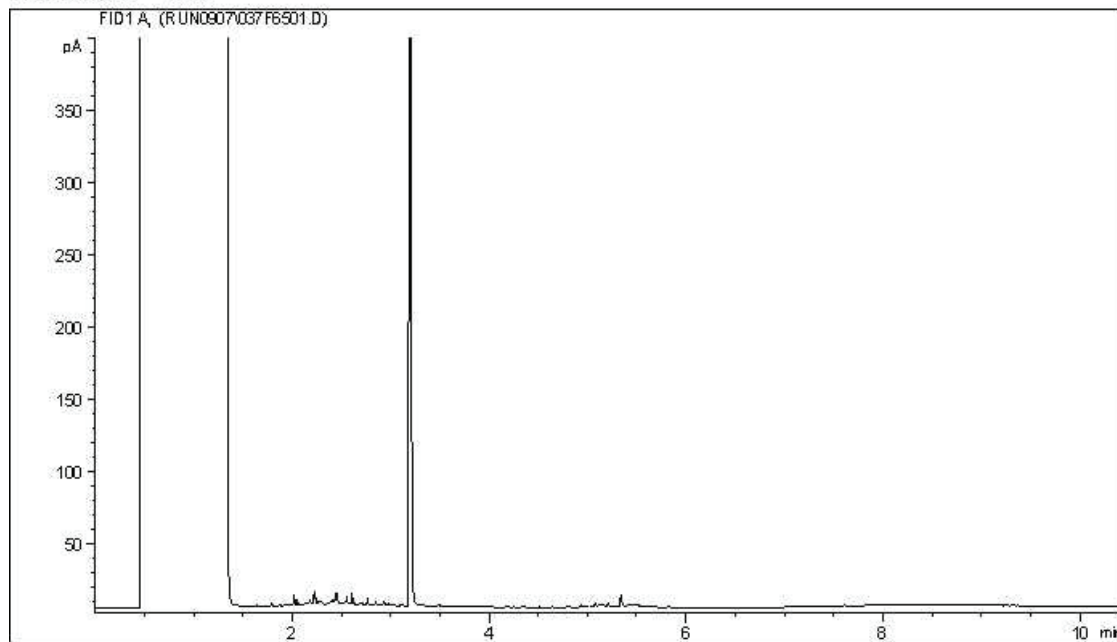
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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

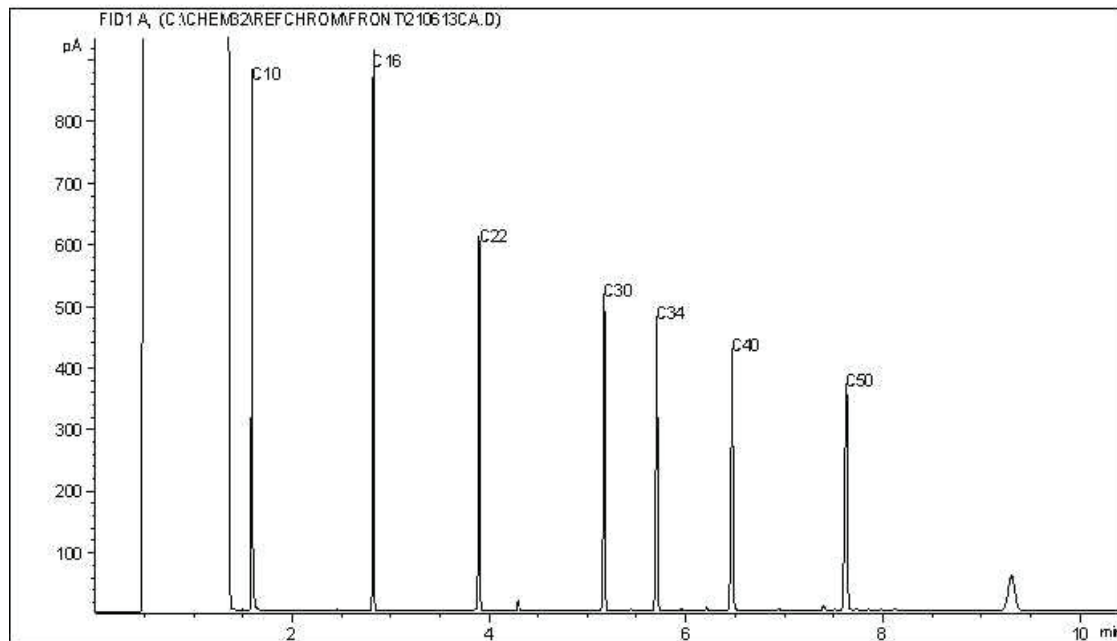


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

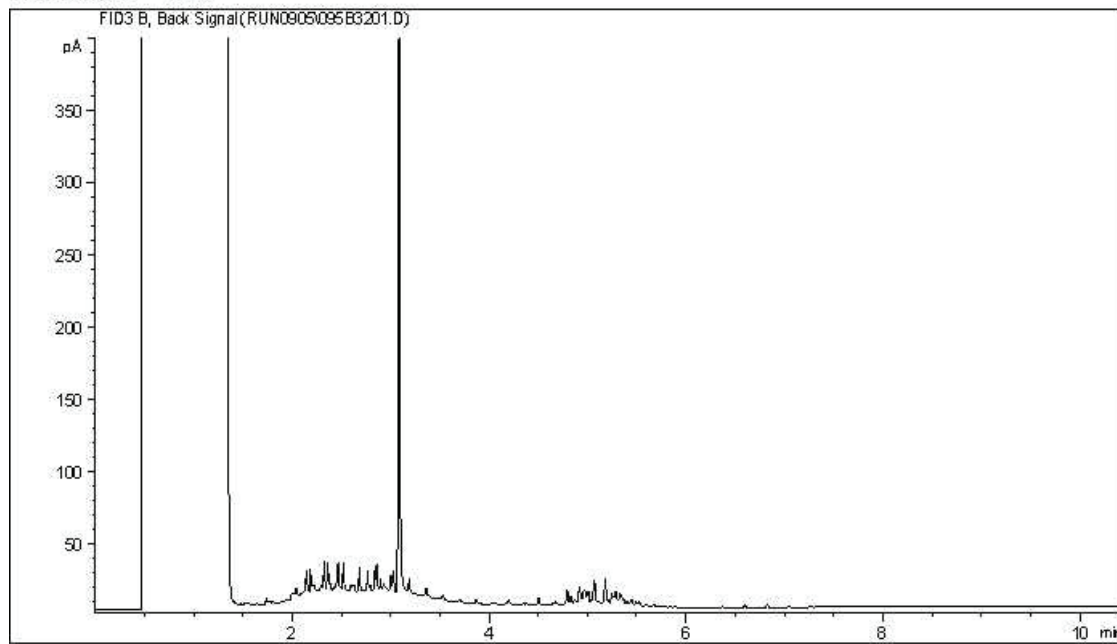
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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

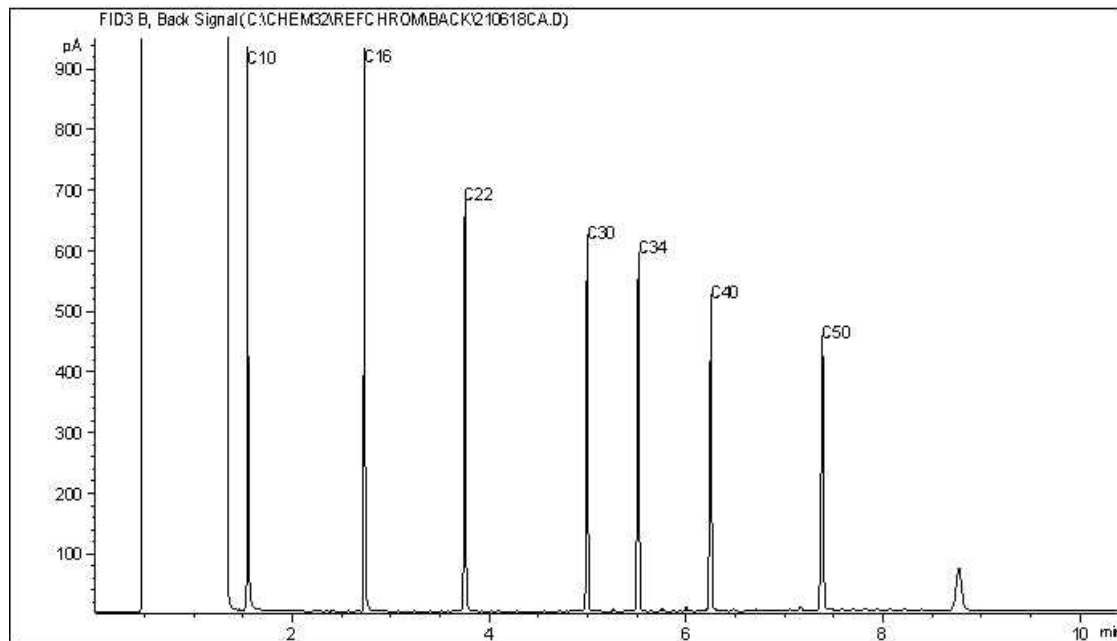


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



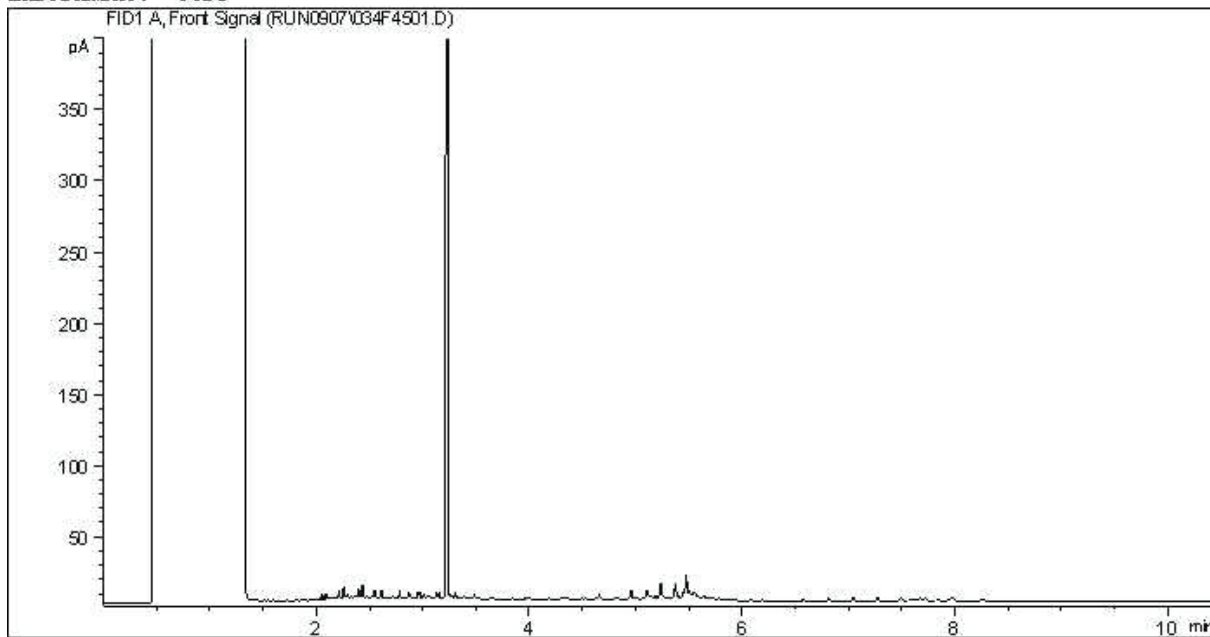
TYPICAL PRODUCT CARBON NUMBER RANGES

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

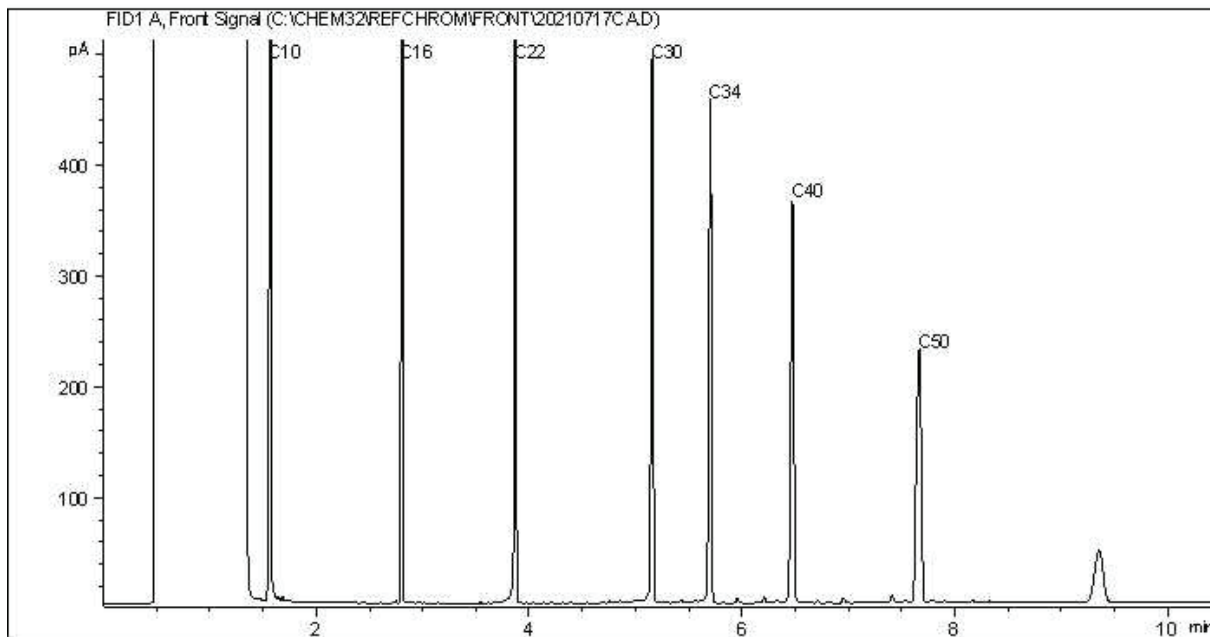
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram

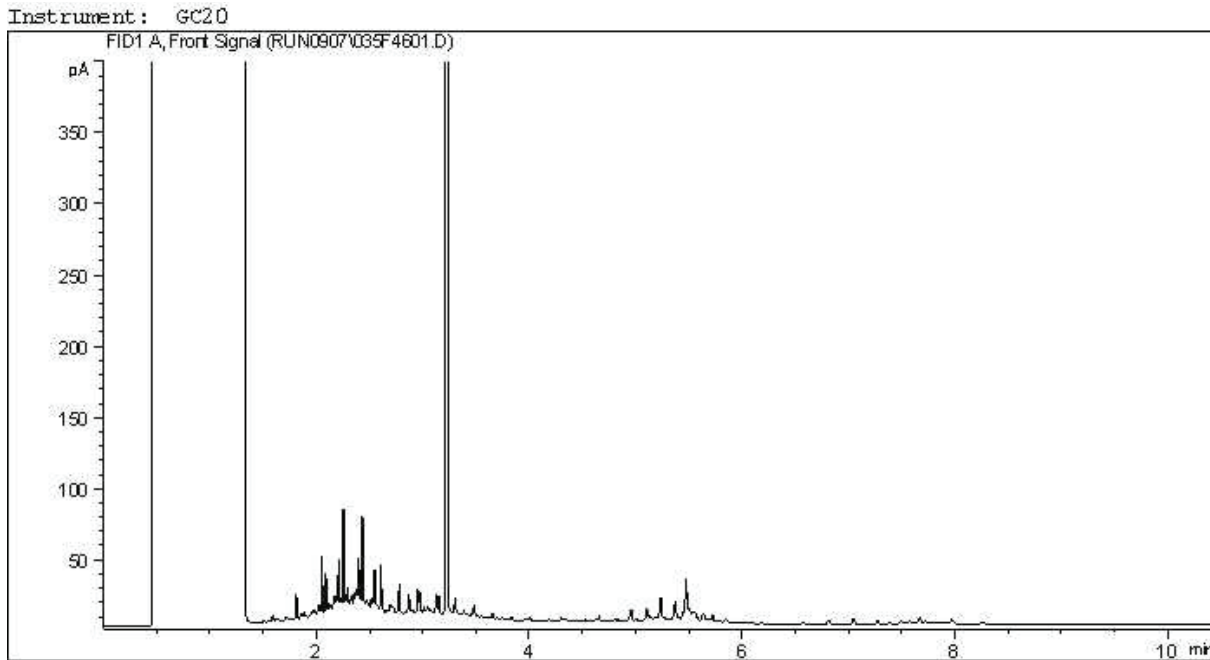


TYPICAL PRODUCT CARBON NUMBER RANGES

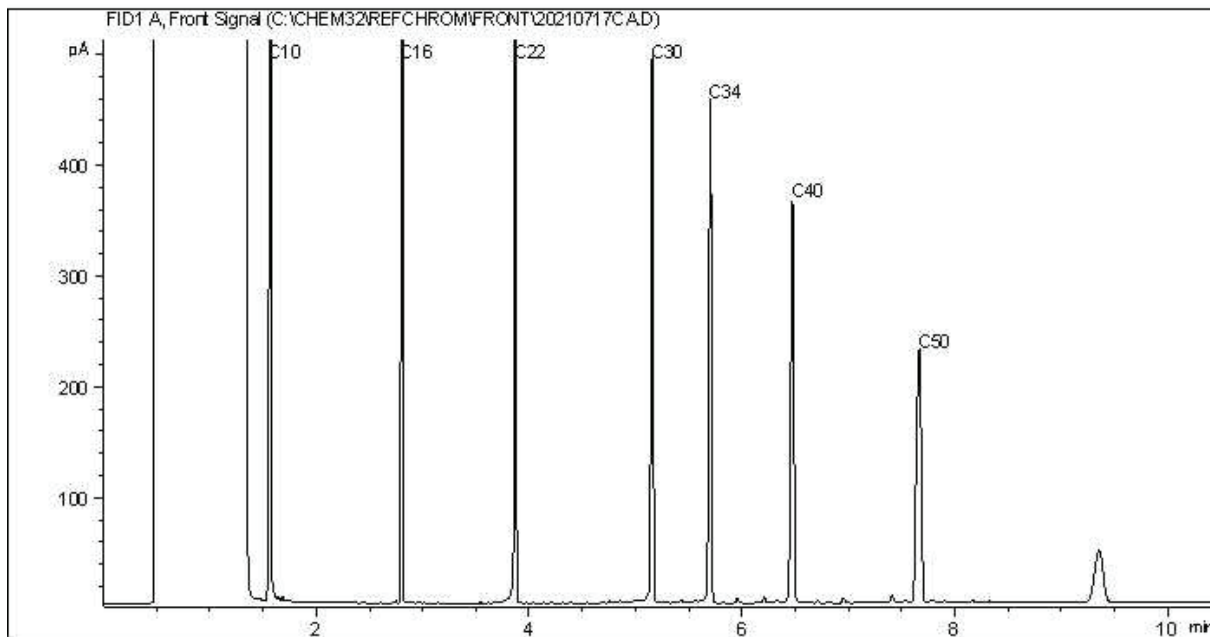
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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



Carbon Range Distribution - Reference Chromatogram

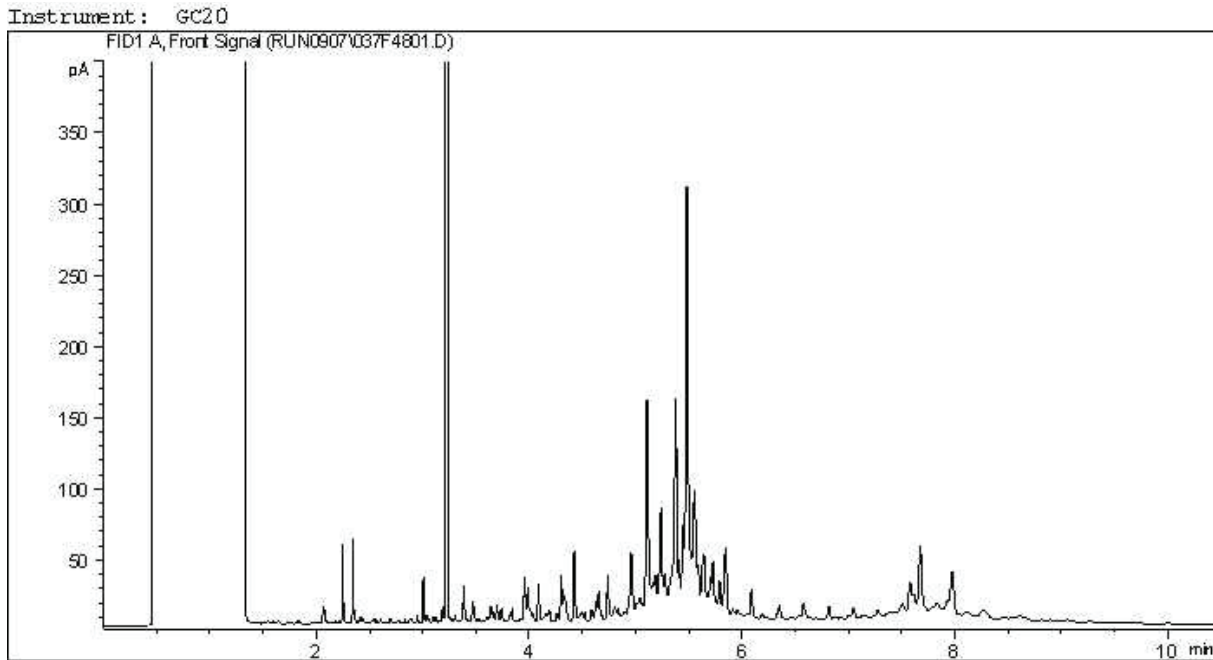


TYPICAL PRODUCT CARBON NUMBER RANGES

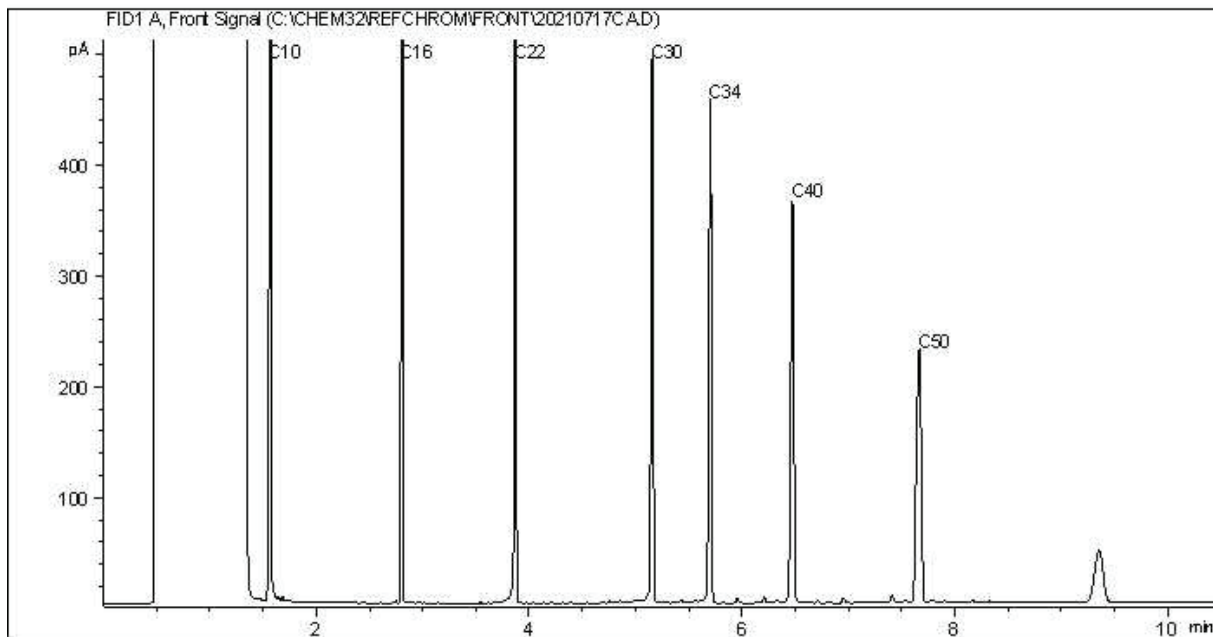
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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



Carbon Range Distribution - Reference Chromatogram



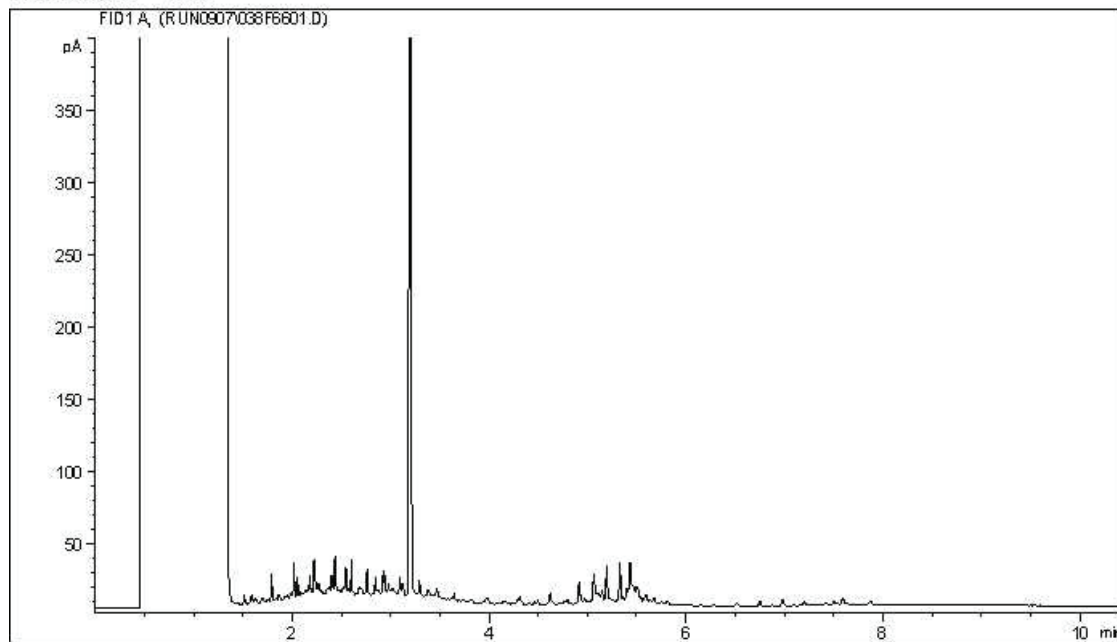
TYPICAL PRODUCT CARBON NUMBER RANGES

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

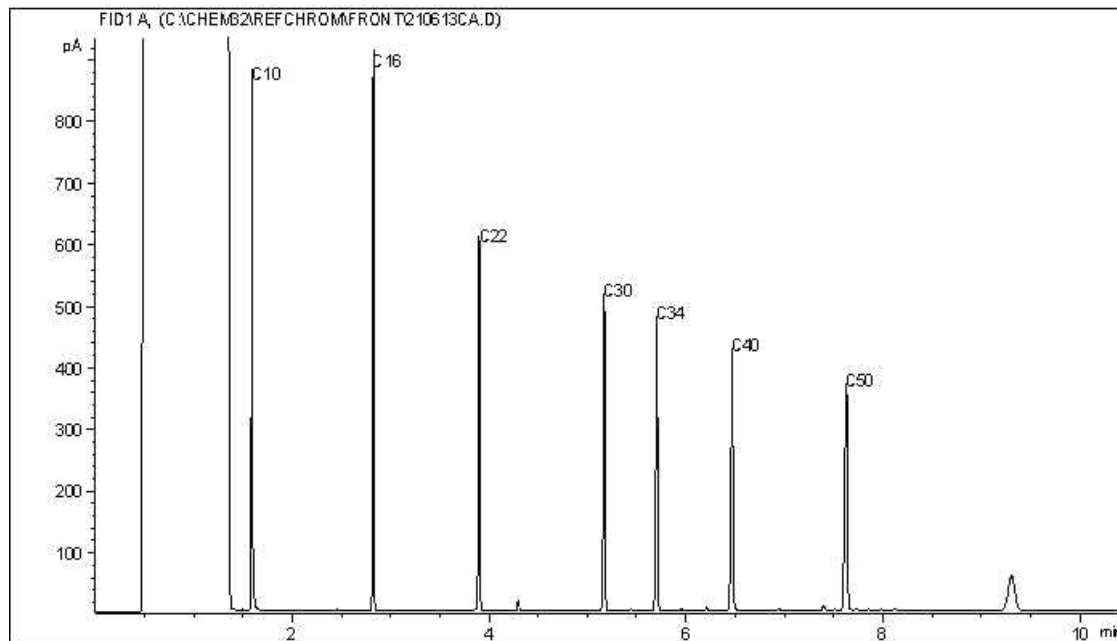
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



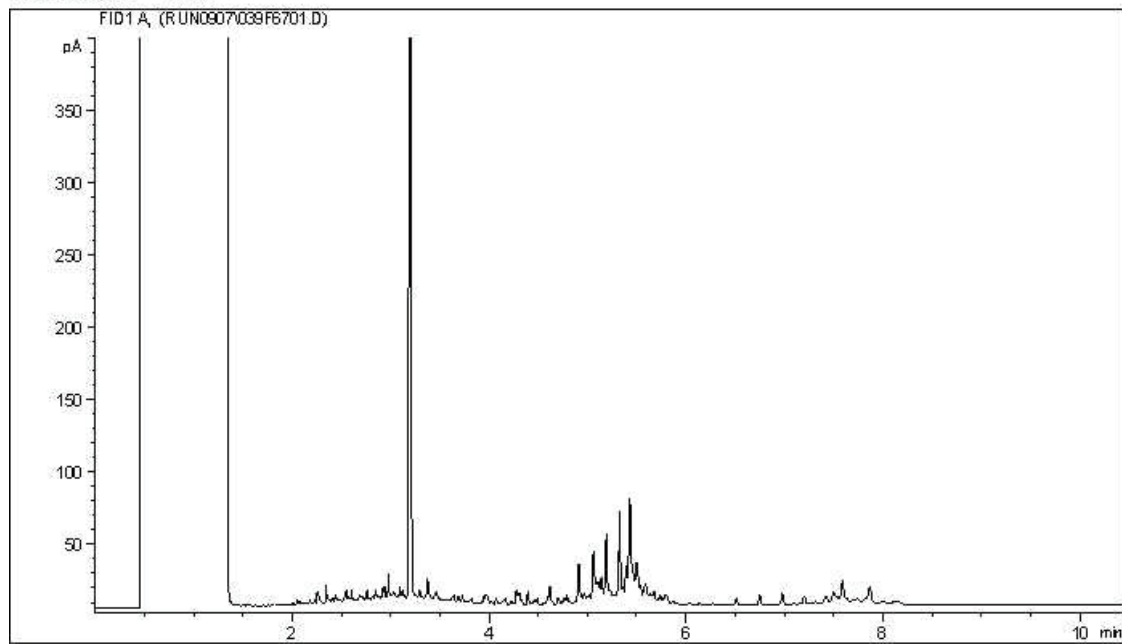
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

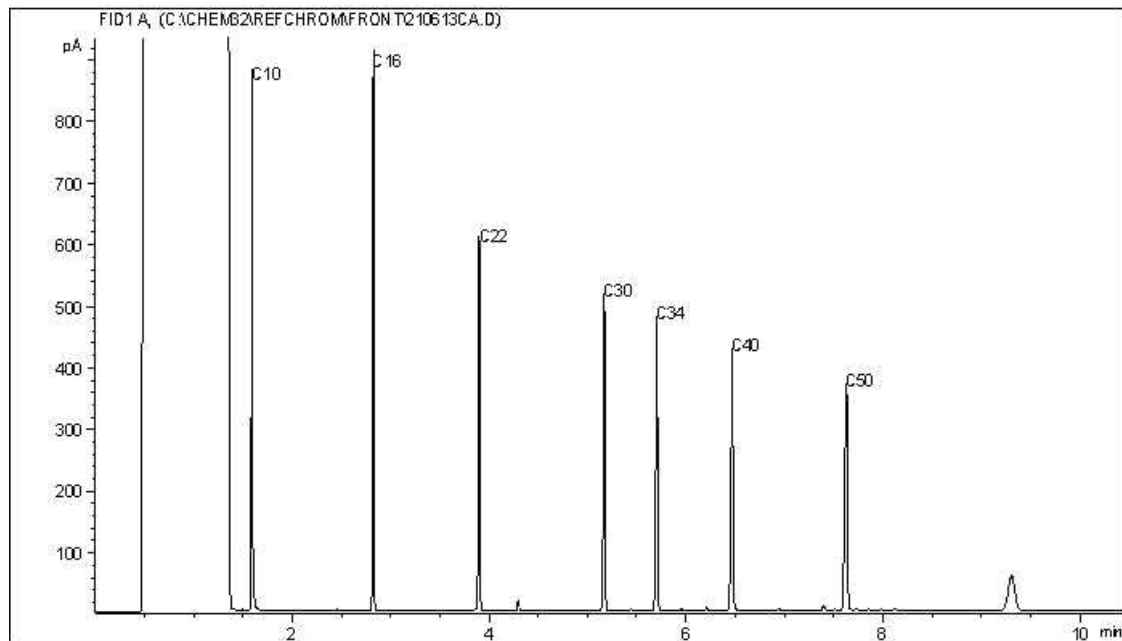
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



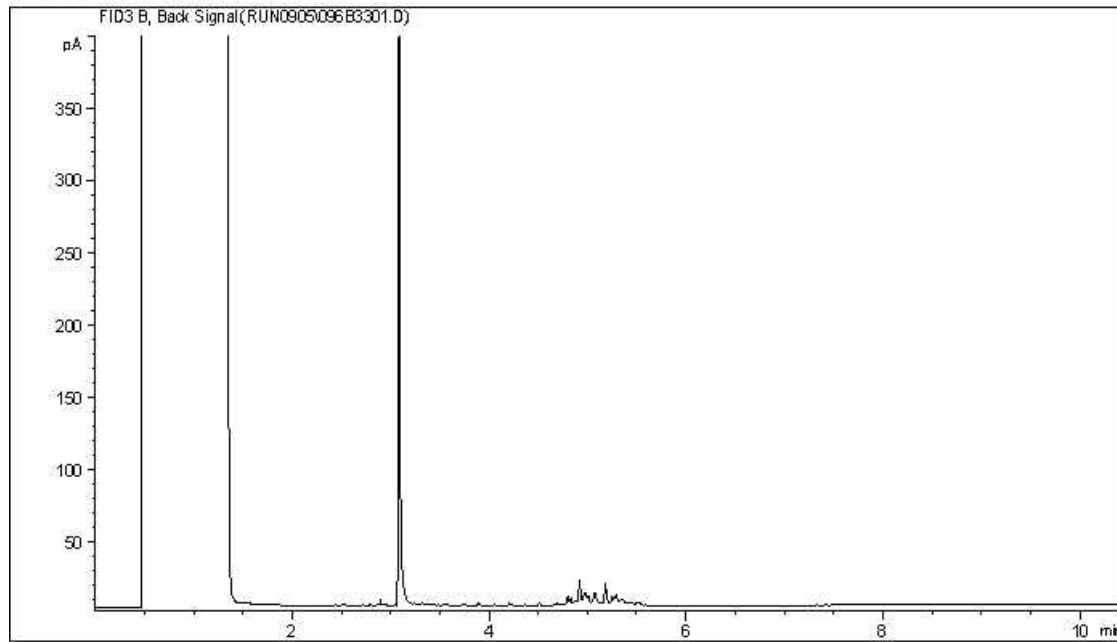
TYPICAL PRODUCT CARBON NUMBER RANGES

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

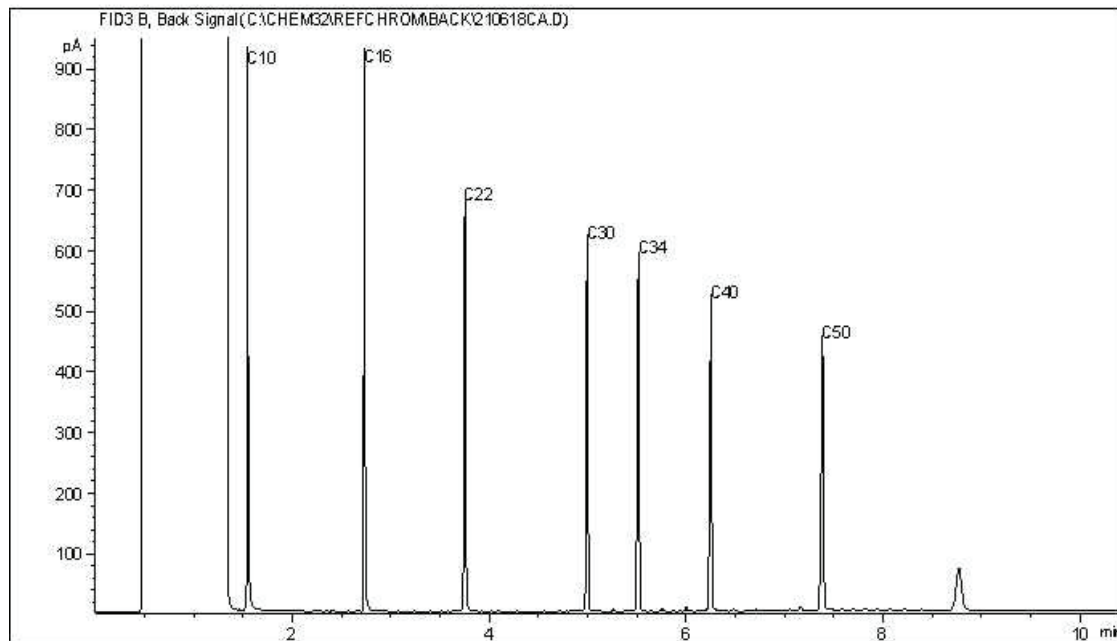
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

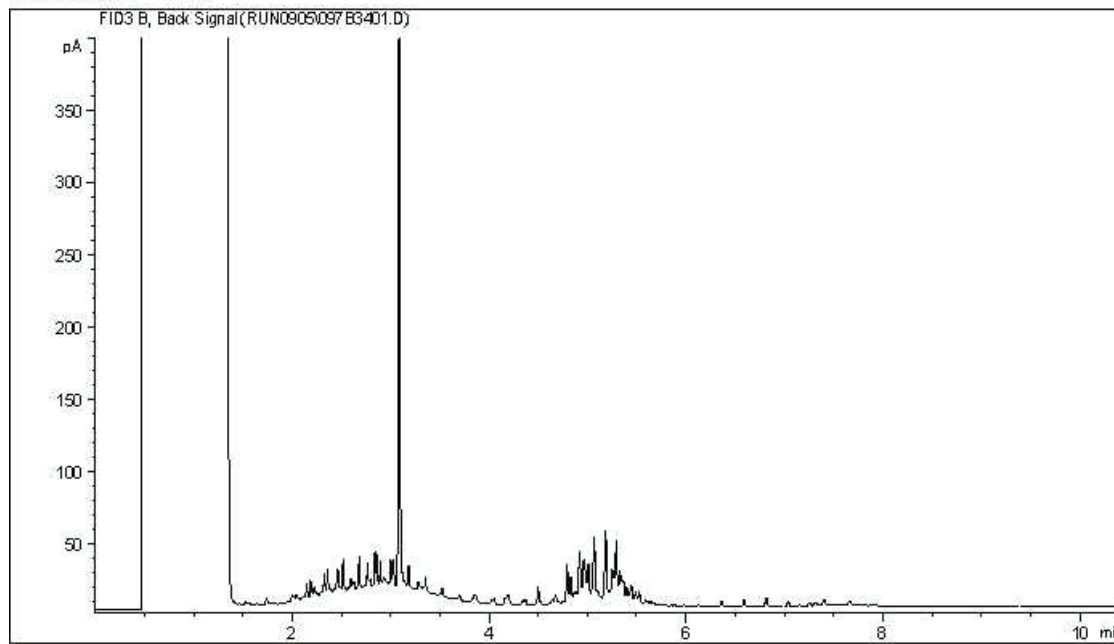
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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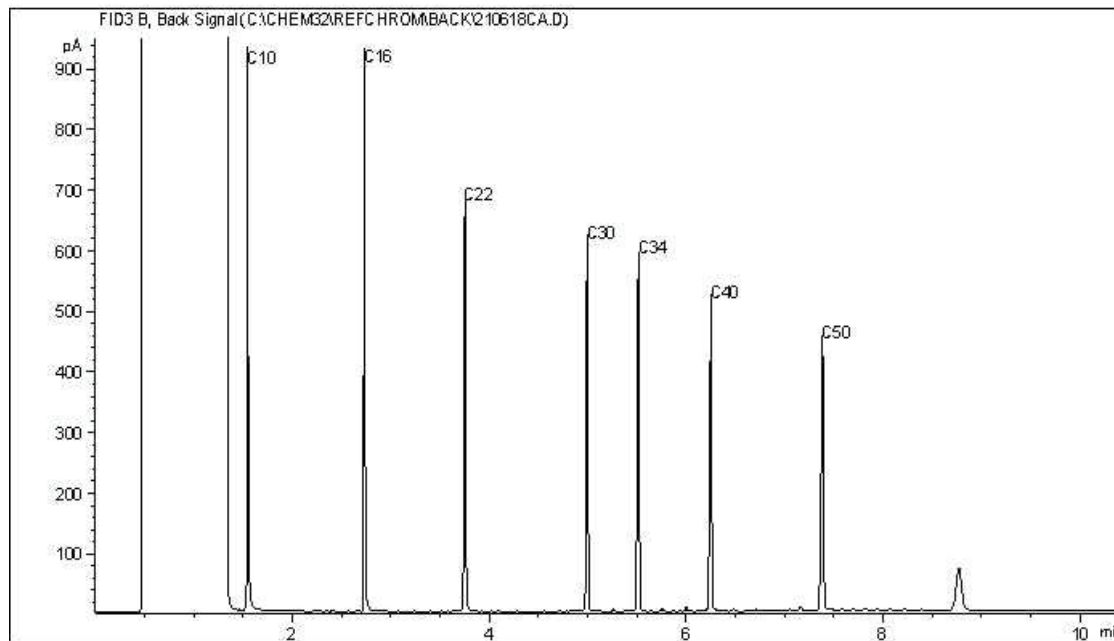


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



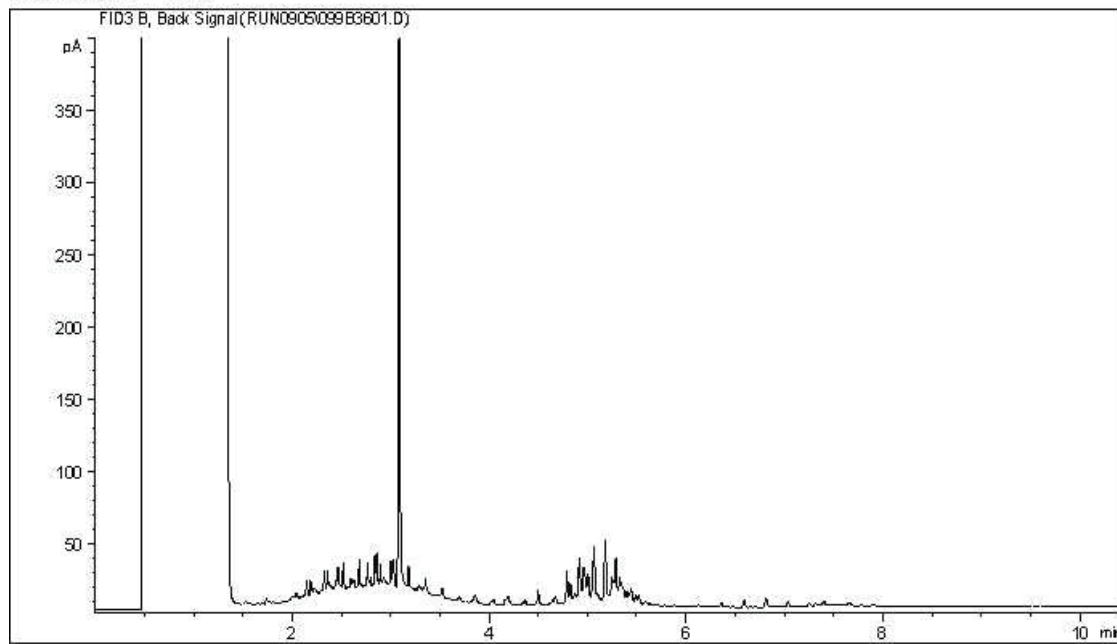
TYPICAL PRODUCT CARBON NUMBER RANGES

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

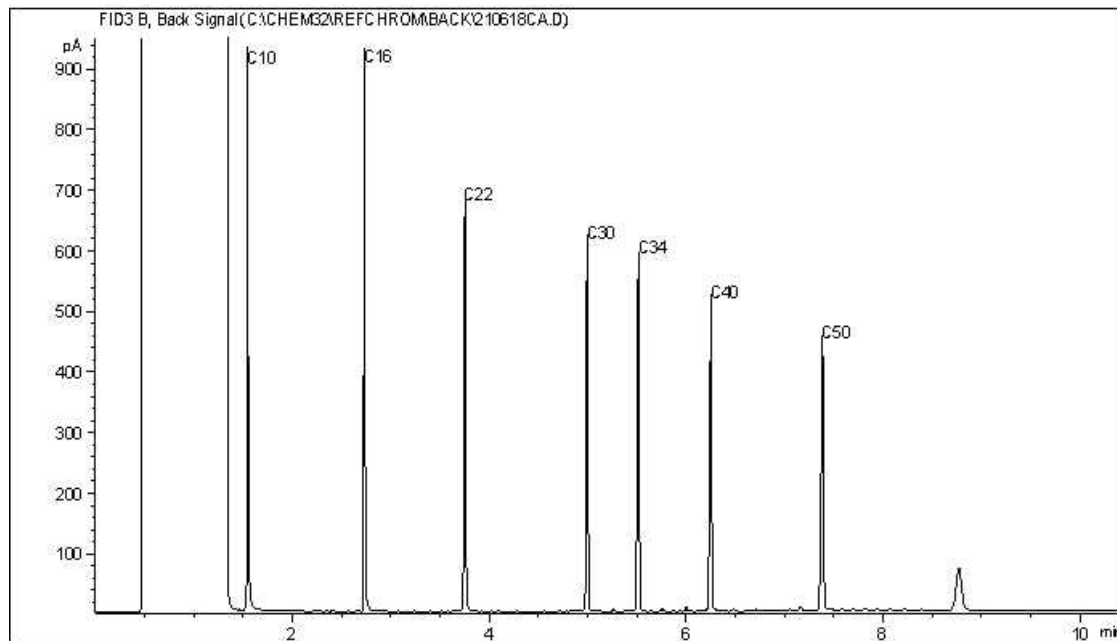
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



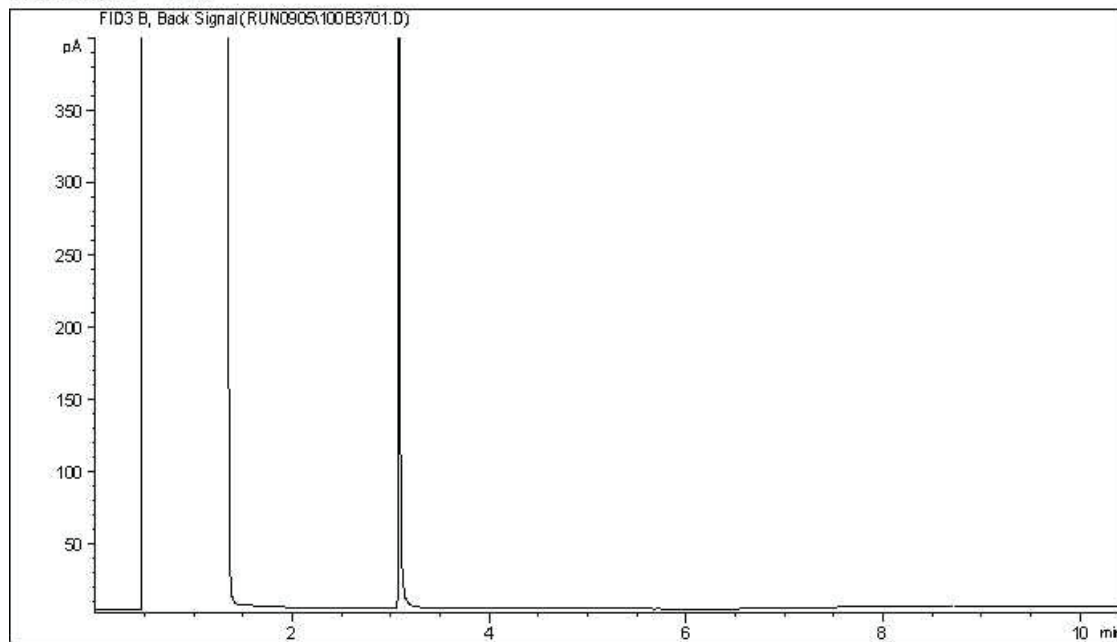
TYPICAL PRODUCT CARBON NUMBER RANGES

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

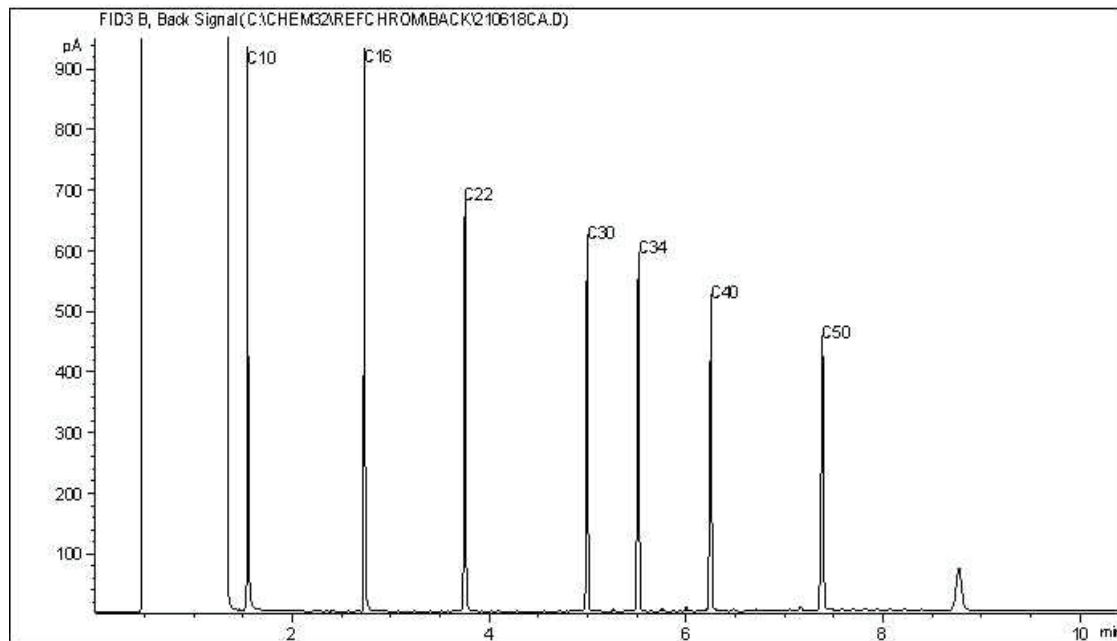
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



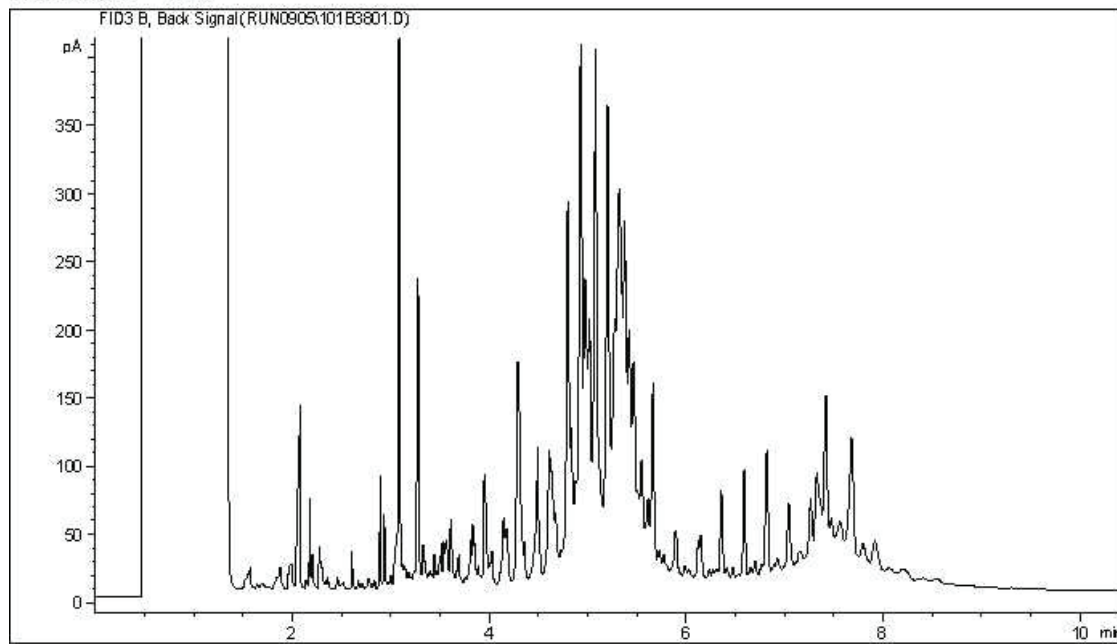
TYPICAL PRODUCT CARBON NUMBER RANGES

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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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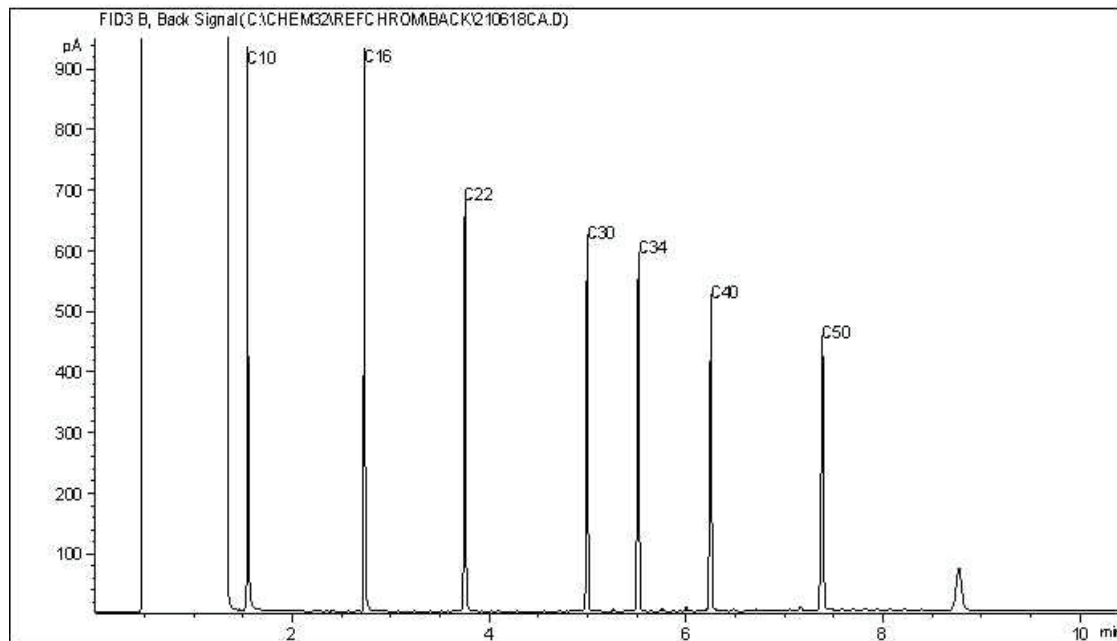
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram

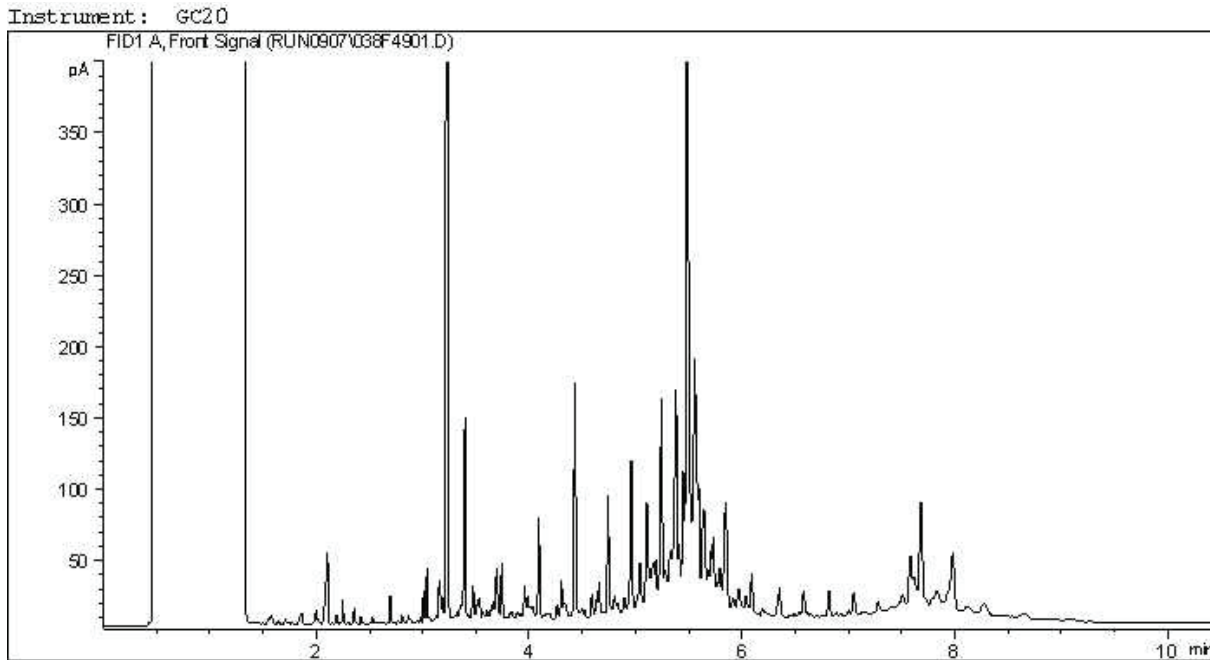


TYPICAL PRODUCT CARBON NUMBER RANGES

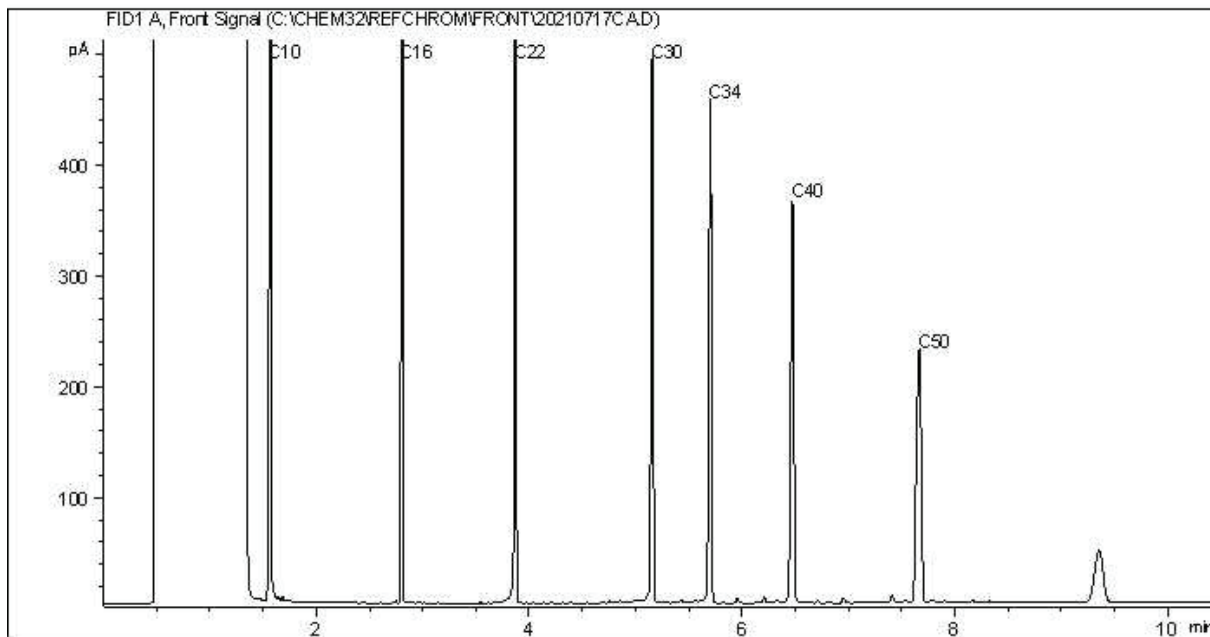
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



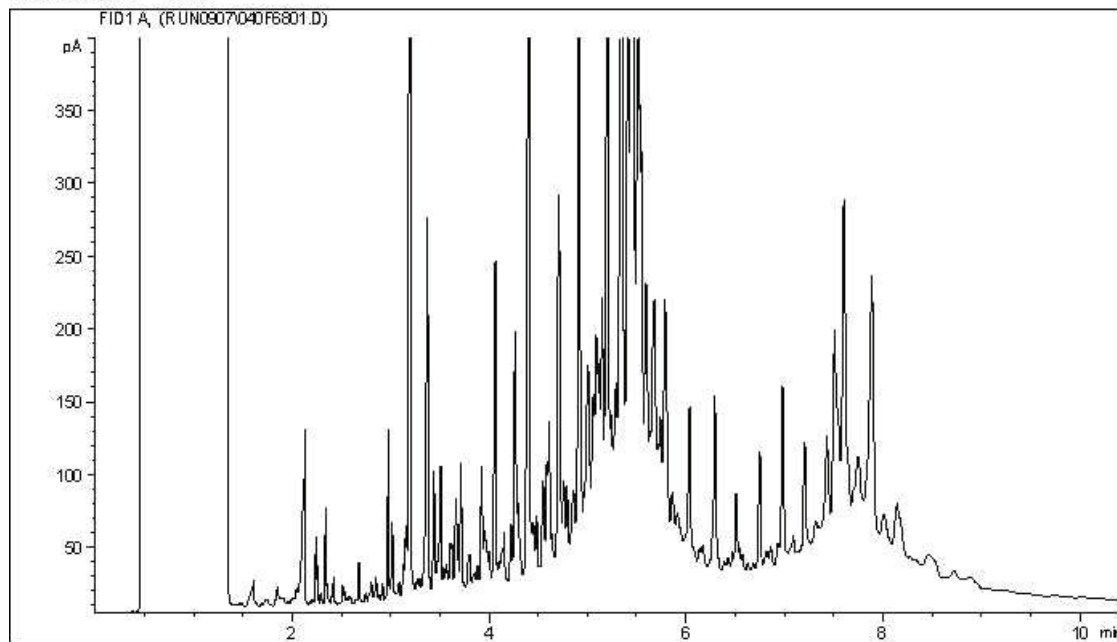
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

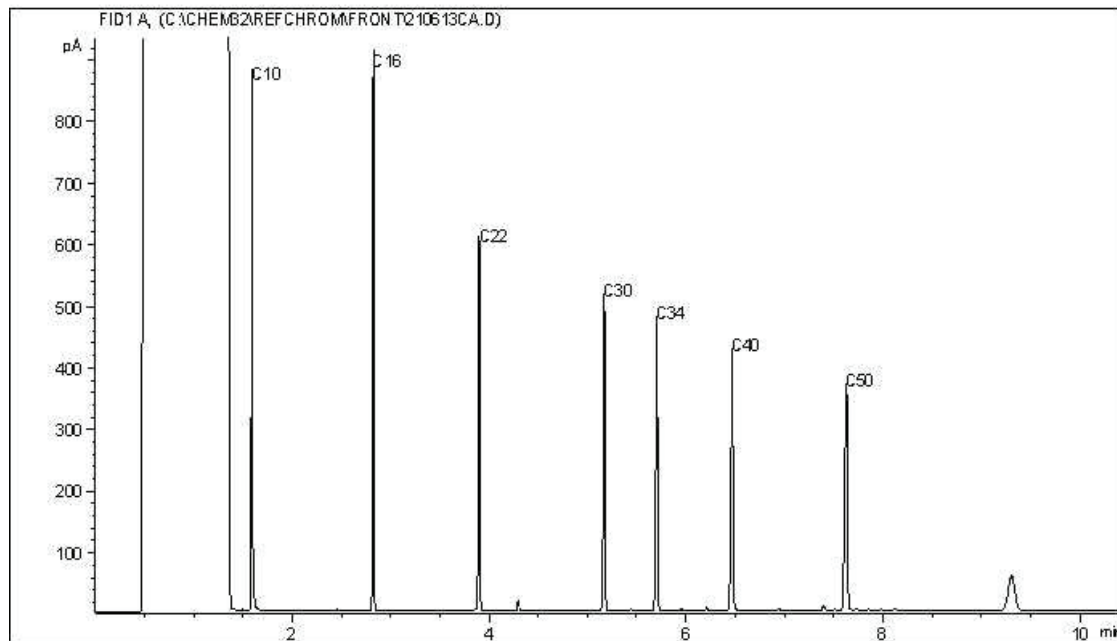
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**CCME Hydrocarbons (F2-F4 in soil) Chromatogram**

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



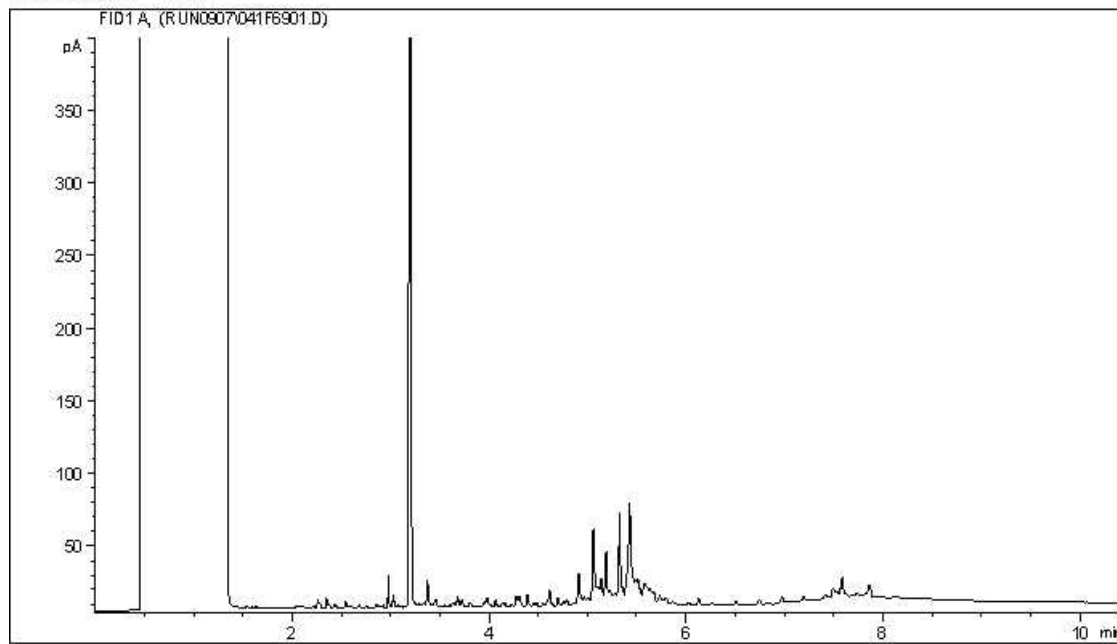
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

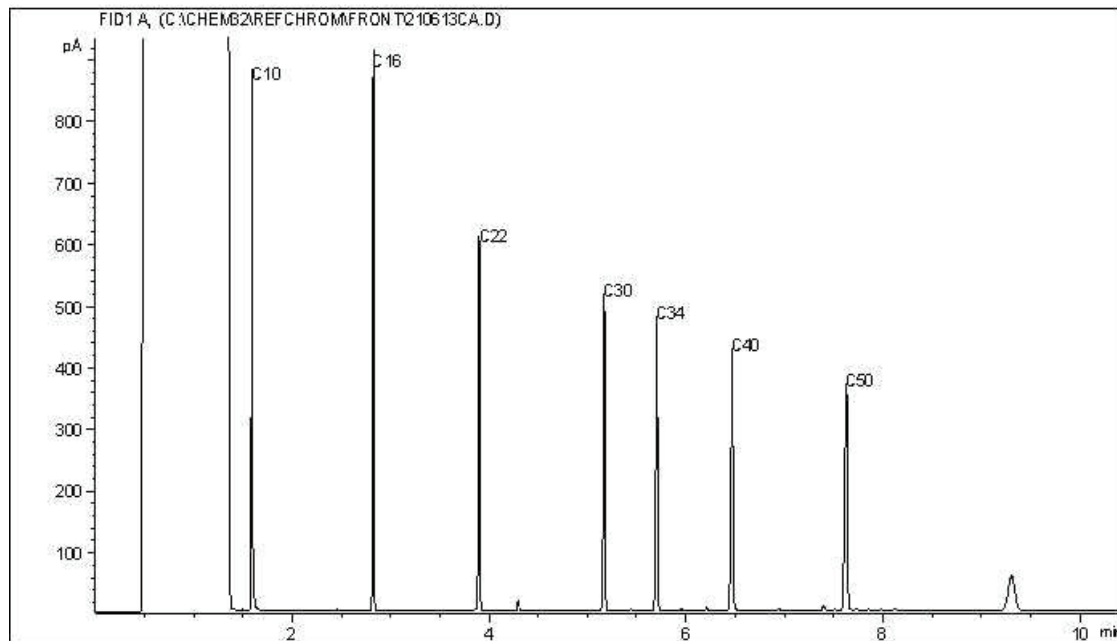
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**CCME Hydrocarbons (F2-F4 in soil) Chromatogram**

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



**TYPICAL PRODUCT CARBON NUMBER RANGES**

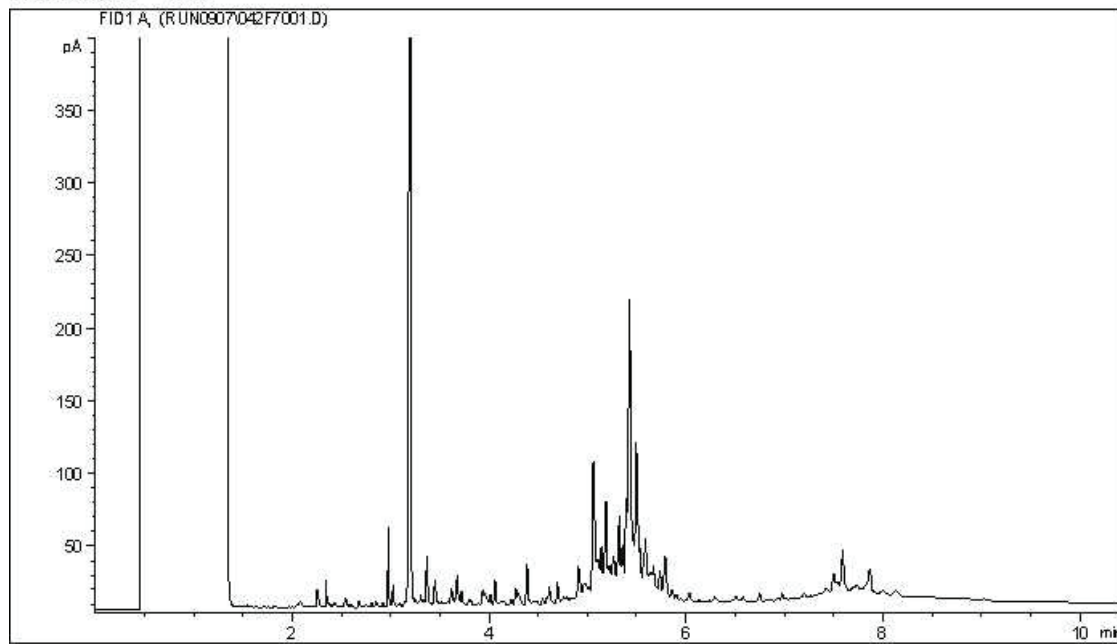
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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**Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.**

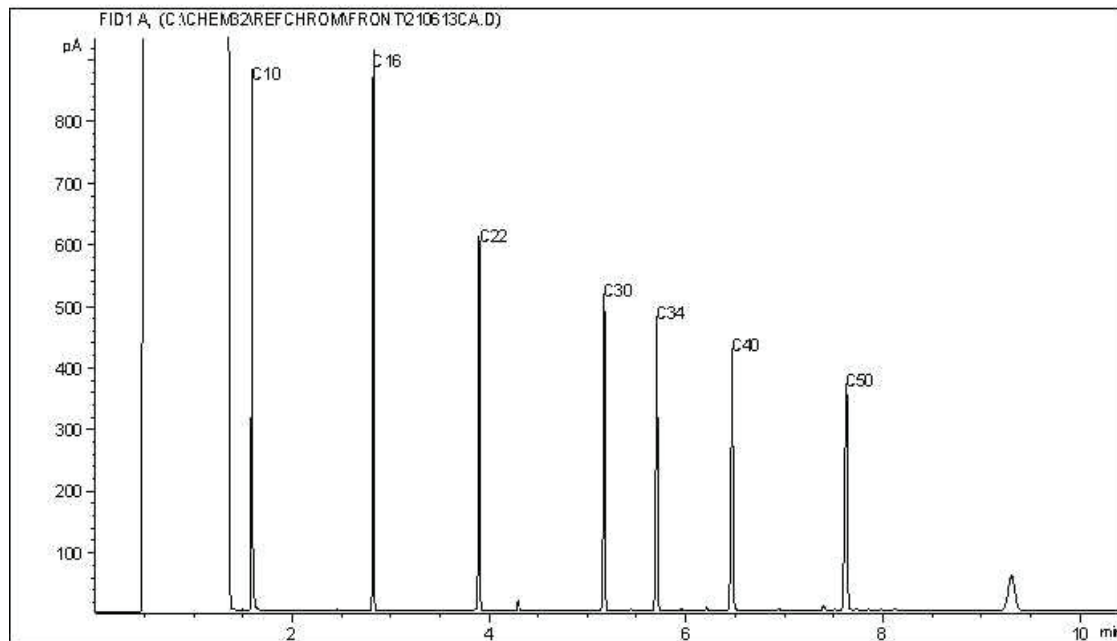


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



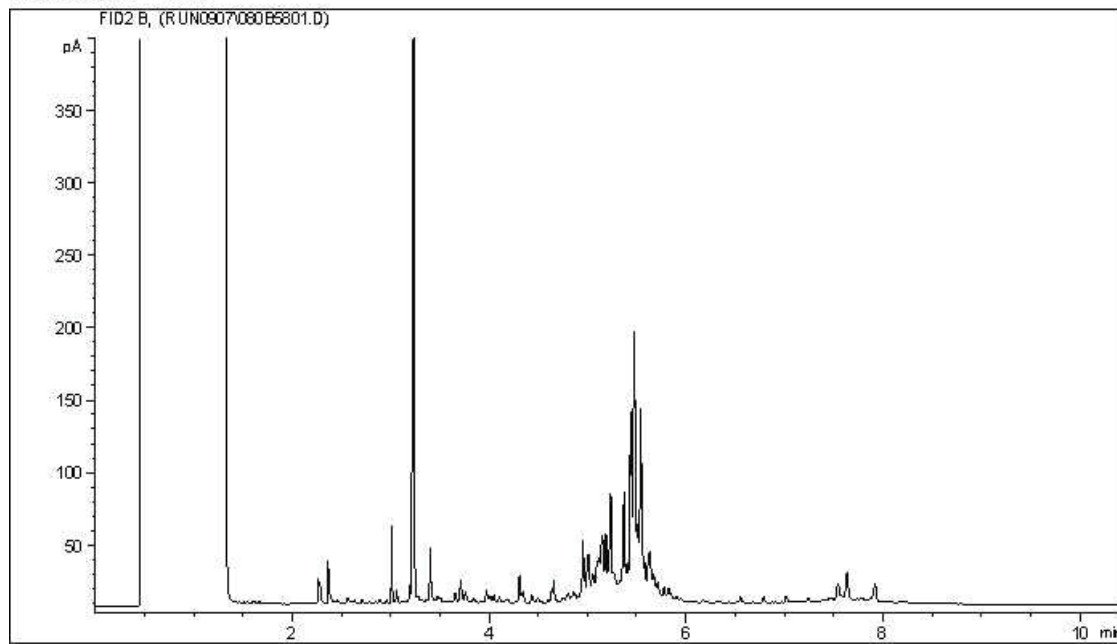
TYPICAL PRODUCT CARBON NUMBER RANGES

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

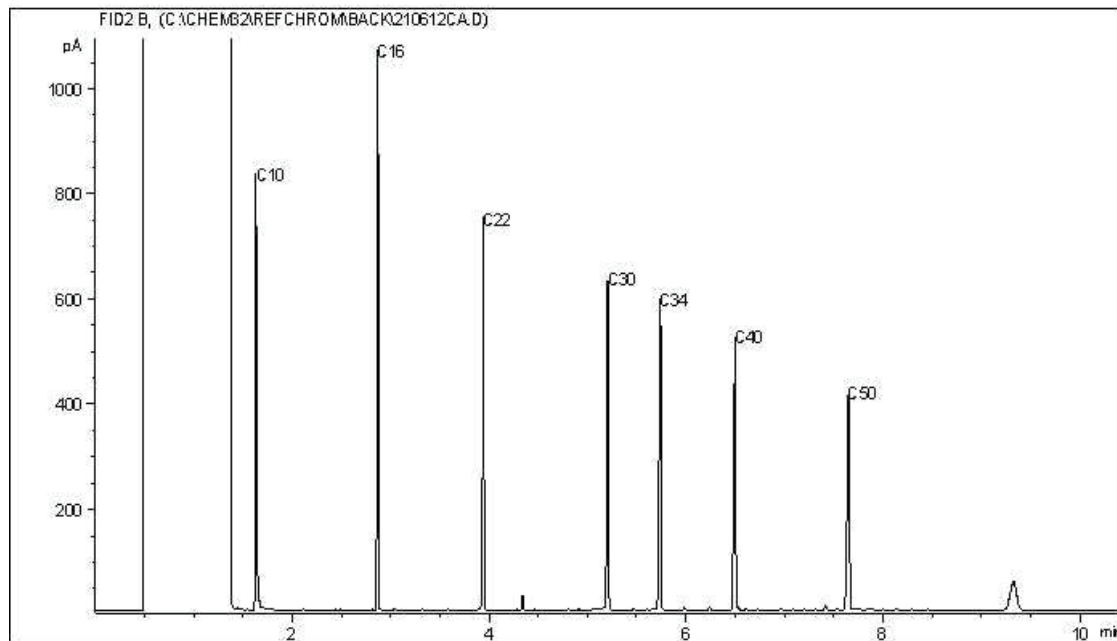
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



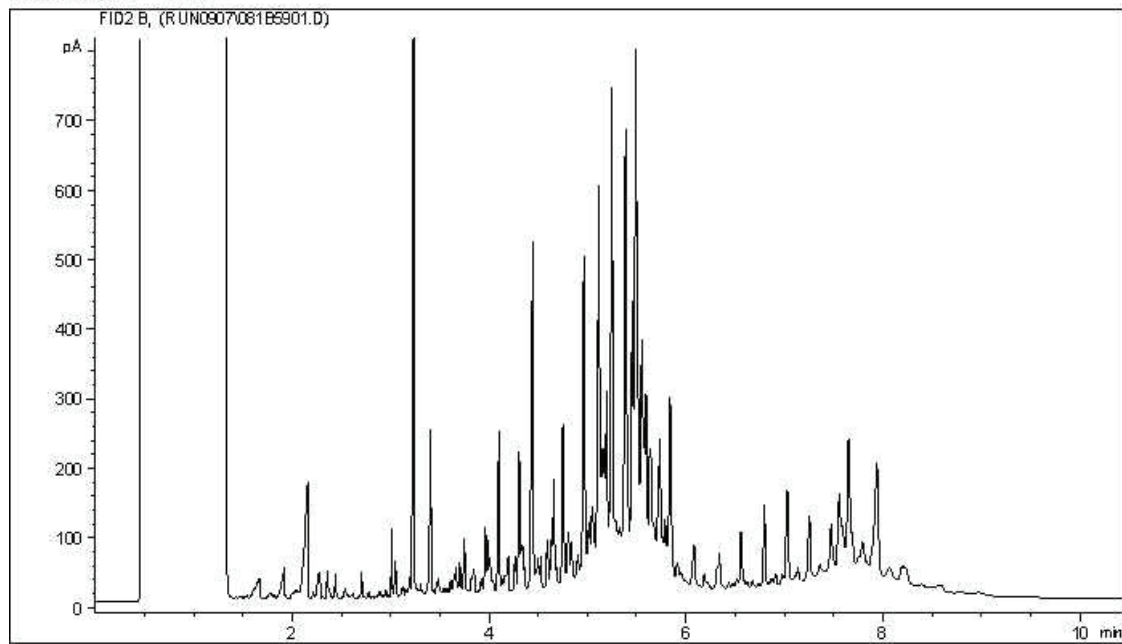
TYPICAL PRODUCT CARBON NUMBER RANGES

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

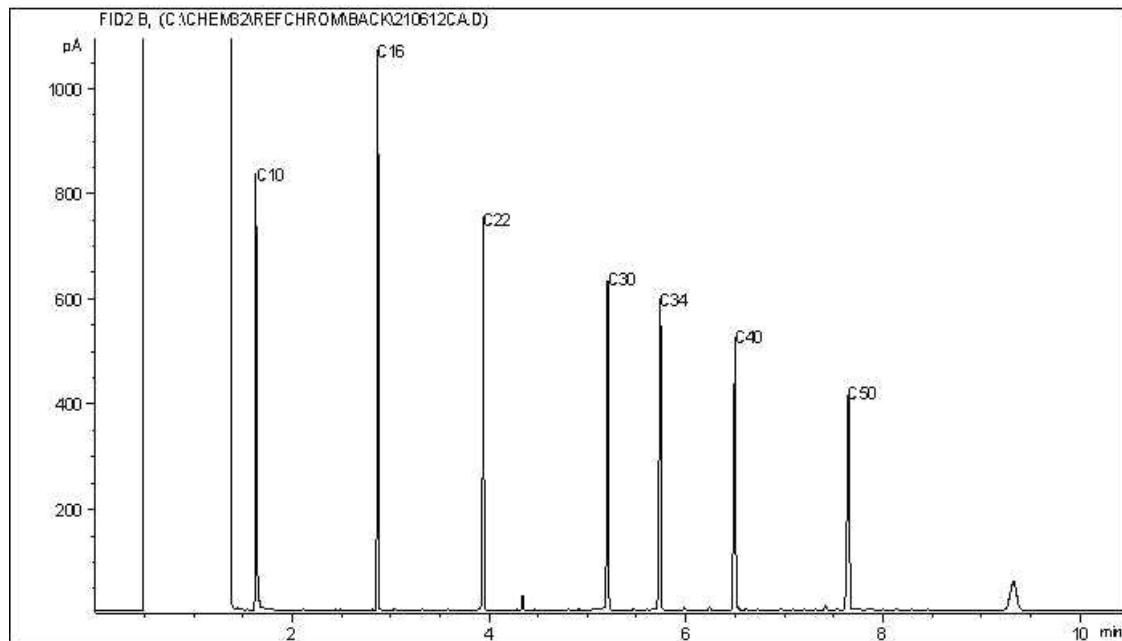
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

**CCME Hydrocarbons (F2-F4 in soil) Chromatogram**

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



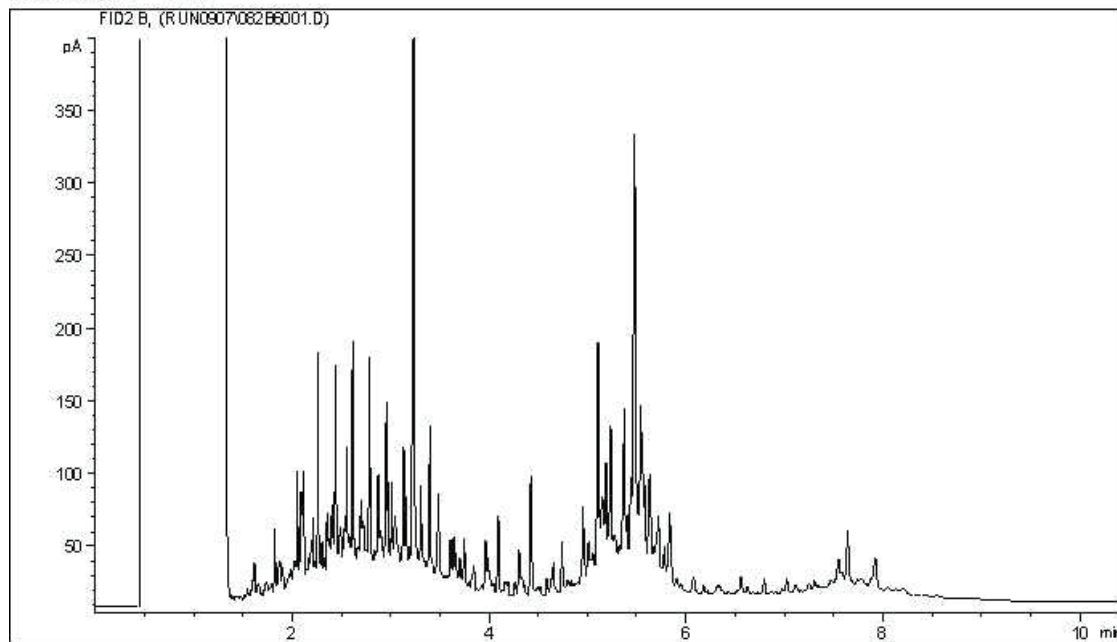
**TYPICAL PRODUCT CARBON NUMBER RANGES**

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

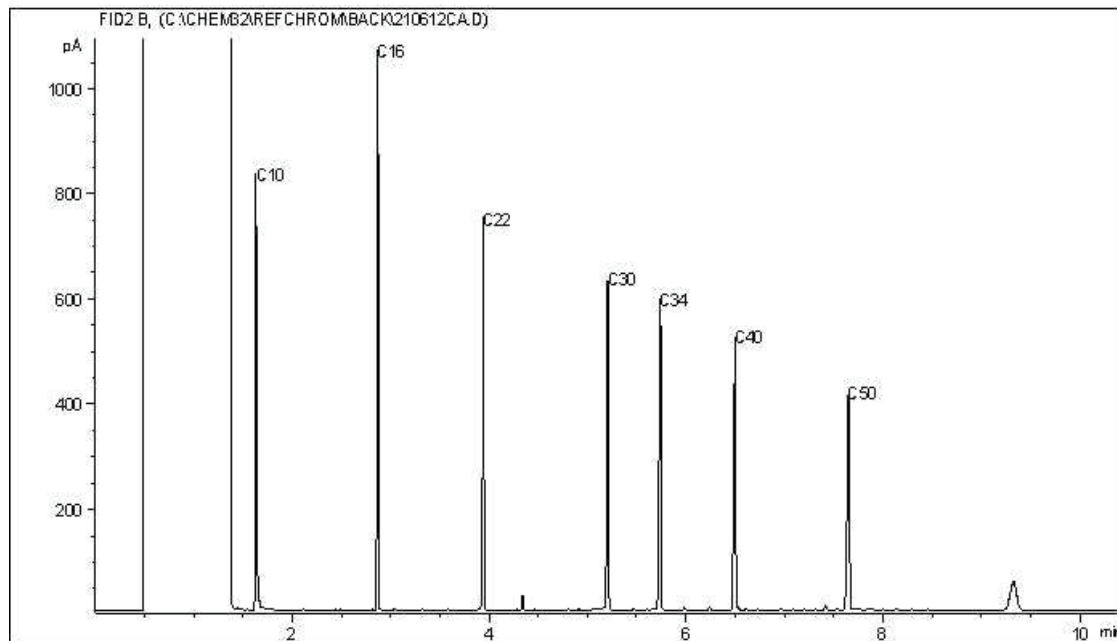
**Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.**

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



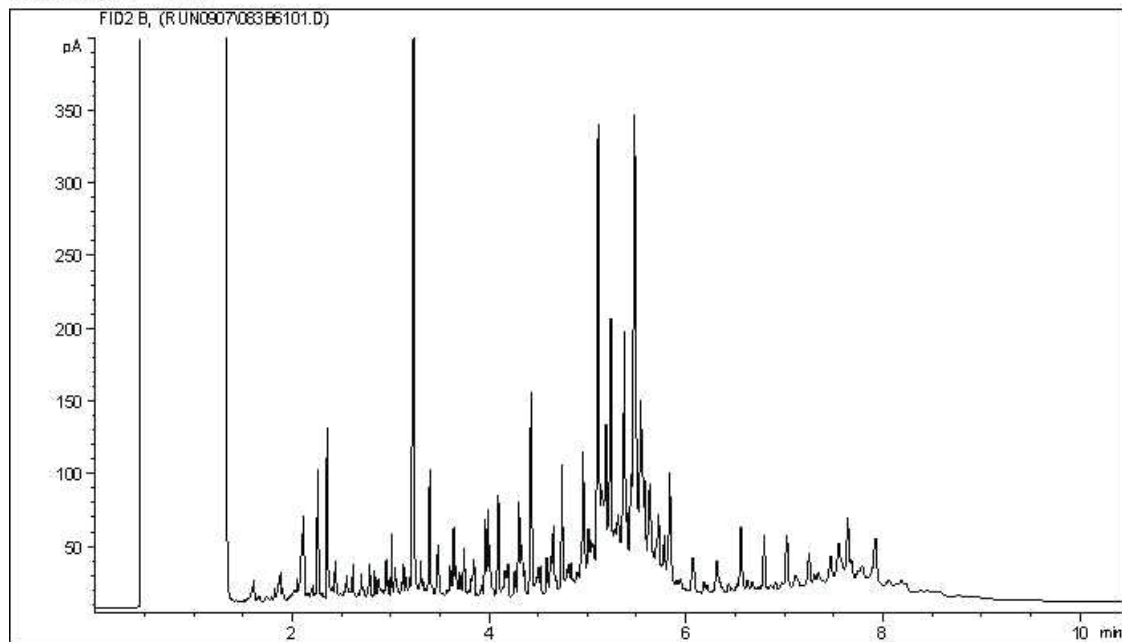
TYPICAL PRODUCT CARBON NUMBER RANGES

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

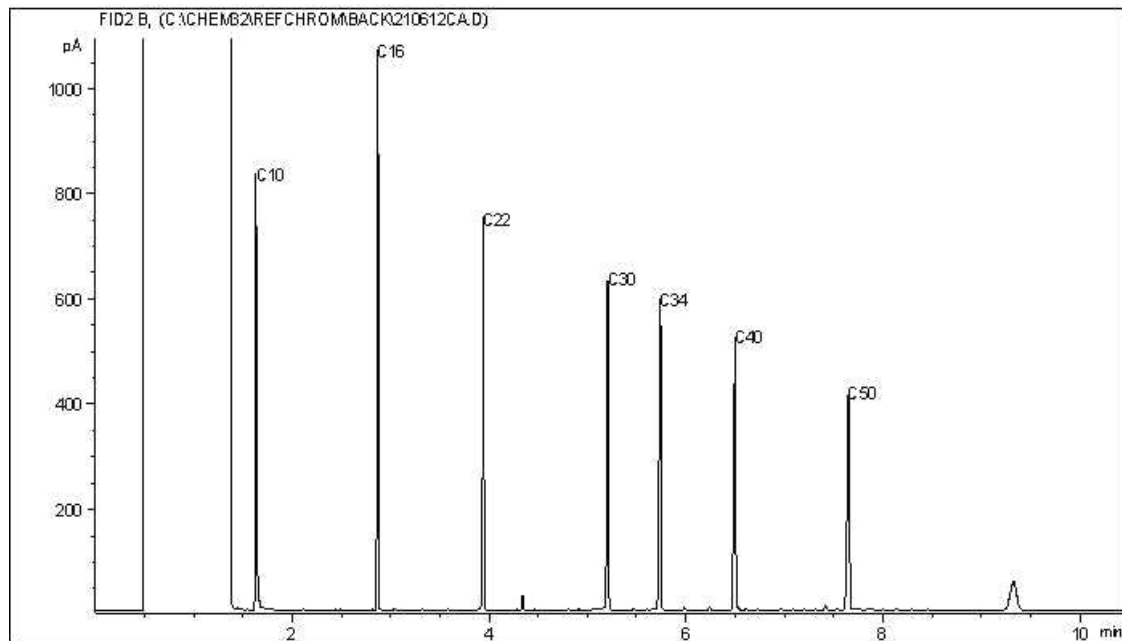
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



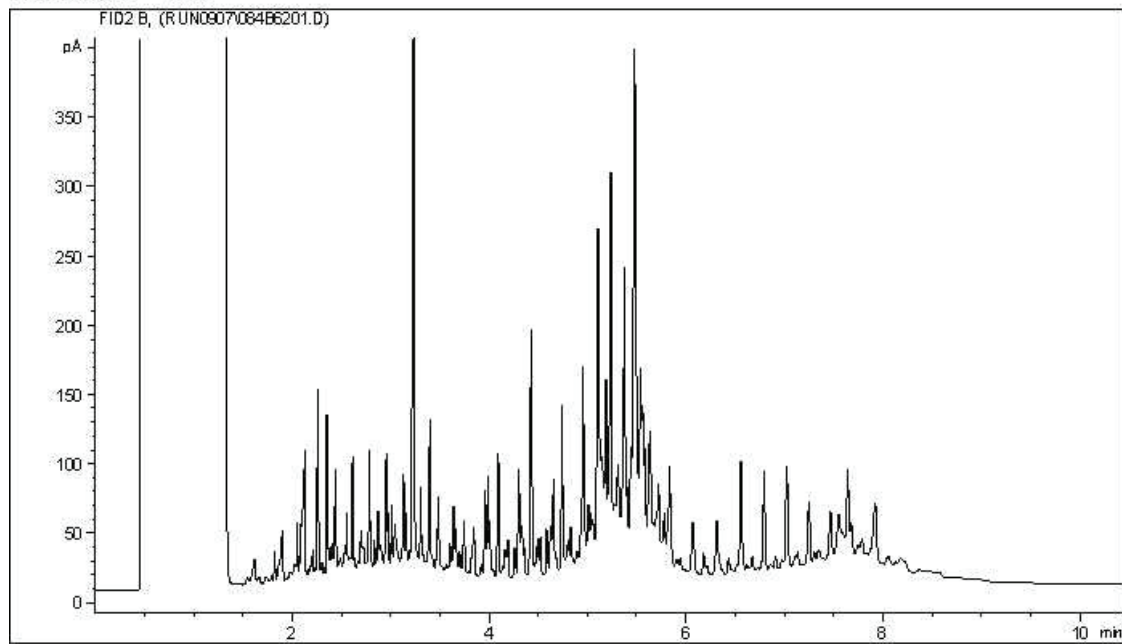
TYPICAL PRODUCT CARBON NUMBER RANGES

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

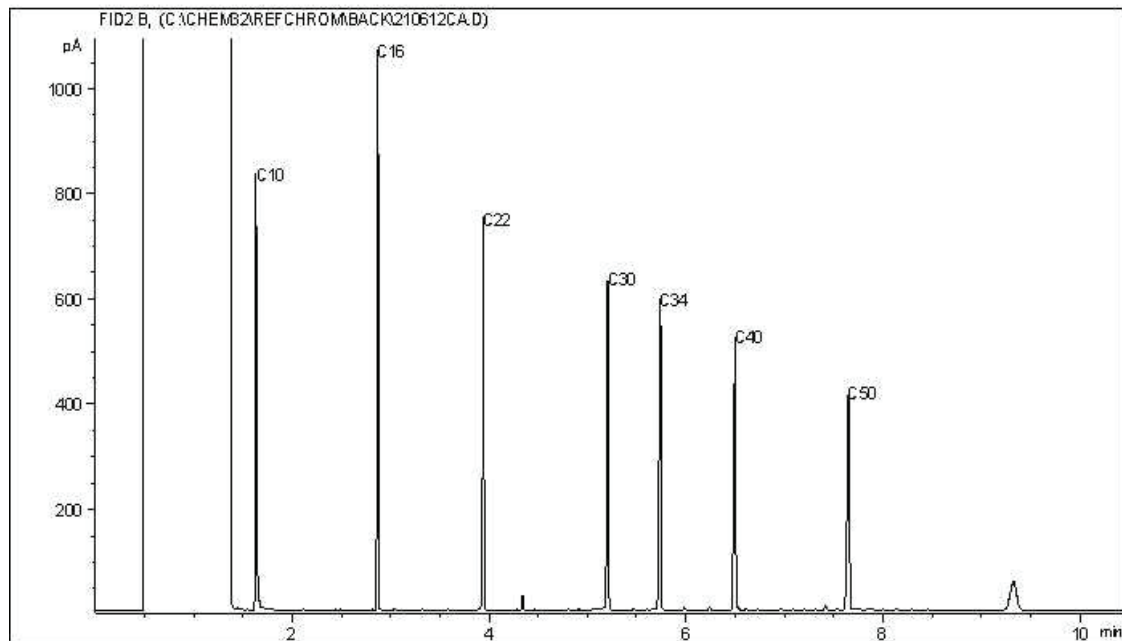
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



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.

**GOLDER DATA QUALITY REVIEW CHECKLIST**

Site Location: Camp Farewell

Sampling Date: August 24, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C164647

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 acceptance criteria.
Method Blank Concentration	X			
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	Samples TP21-175-02 and DUP-BB exceed the alerts limit for F2 (67%) and F3 (100%). samples TP21-176-02 and DUP-CC exceed the alert limit for F2 (74%). All remaining field QC samples are within alert limits.
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: September 13, 2021





Your P.O. #: 20368099-7000-1001  
 Your Project #: 20368099-6000-1001  
 Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-58-01, 644511-70-01, 644511-49-01

**Report Date: 2021/12/24**  
 Report #: R3113760  
 Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C164648**

**Received: 2021/09/01, 08:35**

Sample Matrix: Soil  
 # Samples Received: 28

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	24	N/A	2021/09/08 AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	4	N/A	2021/09/09 AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	28	N/A	2021/09/09	Auto Calc
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 3)	1	2021/09/03	2021/09/07 AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	17	2021/09/03	2021/09/07 AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	3	2021/09/03	2021/09/08 AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	8	2021/09/04	2021/09/08 AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 5)	1	N/A	2021/12/23	Auto Calc
CCME Hydrocarbons (F4G in soil) (1, 4)	2	2021/09/03	2021/09/09 AB SOP-00036 AB SOP-00040	CCME PHC-CWS m
Moisture (1)	20	N/A	2021/09/04 AB SOP-00002	CCME PHC-CWS m
Moisture (1)	8	N/A	2021/09/05 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. #: 20368099-7000-1001  
Your Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories

**Attention: Aurelie Belavance**

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

Your C.O.C. #: 644511-58-01, 644511-70-01, 644511-49-01

**Report Date: 2021/12/24**

Report #: R3113760

Version: 2 - Revision

**CERTIFICATE OF ANALYSIS – REVISED REPORT**

**BV LABS JOB #: C164648**

**Received: 2021/09/01, 08:35**

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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 Laboratories 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.
- (4) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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) All CCME results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories 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  
24 Dec 2021 12:52:00

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

=====  
BV Labs 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.



AT1 BTEX AND F1-F4 IN SOIL (VIALS)

<b>Bureau Veritas ID</b>		AFA064	AFA064		AFA067			AFA069		
<b>Sampling Date</b>		2021/08/26 08:36	2021/08/26 08:36		2021/08/26 09:06			2021/08/26 09:16		
<b>COC Number</b>		644511-58-01	644511-58-01		644511-58-01			644511-58-01		
	<b>UNITS</b>	<b>TP21-171-02</b>	<b>TP21-171-02 Lab-Dup</b>	<b>RDL</b>	<b>TP21-170-02</b>	<b>RDL</b>	<b>QC Batch</b>	<b>TP21-169-01</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Ext. Pet. Hydrocarbon</b>										
F2 (C10-C16 Hydrocarbons)	mg/kg	1400 (1)	1600	22	130	10	A342026	84 (1)	36	A342026
F3 (C16-C34 Hydrocarbons)	mg/kg	2400 (1)	2000	110	720	50	A342026	450 (1)	180	A342026
F4 (C34-C50 Hydrocarbons)	mg/kg	660 (2)	440	110	260	50	A342026	<180 (1)	180	A342026
Reached Baseline at C50	mg/kg	No	No	N/A	Yes	N/A	A342026	Yes	N/A	A342026
<b>Physical Properties</b>										
Moisture	%	54	N/A	0.30	30	0.30	A341991	72	0.30	A342024
<b>Volatiles</b>										
Xylenes (Total)	mg/kg	1.1	N/A	0.12	<0.045	0.045	A340894	<0.57	0.57	A340894
F1 (C6-C10) - BTEX	mg/kg	<28	N/A	28	<10	10	A340894	41	24	A340894
<b>Field Preserved Volatiles</b>										
Benzene	mg/kg	<0.014 (3)	N/A	0.014	0.025	0.0050	A343194	<0.016 (4)	0.016	A343194
Toluene	mg/kg	<0.080 (4)	N/A	0.080	<0.050	0.050	A343194	<0.080 (4)	0.080	A343194
Ethylbenzene	mg/kg	0.070 (3)	N/A	0.028	0.026	0.010	A343194	0.14 (4)	0.034	A343194
m & p-Xylene	mg/kg	0.27 (3)	N/A	0.11	<0.040	0.040	A343194	<0.51 (3)	0.51	A343194
o-Xylene	mg/kg	0.80 (3)	N/A	0.055	0.036	0.020	A343194	<0.26 (3)	0.26	A343194
F1 (C6-C10)	mg/kg	<28 (3)	N/A	28	<10	10	A343194	42 (4)	24	A343194
<b>Surrogate Recovery (%)</b>										
1,4-Difluorobenzene (sur.)	%	93	N/A	N/A	91	N/A	A343194	90	N/A	A343194
4-Bromofluorobenzene (sur.)	%	87	N/A	N/A	87	N/A	A343194	87	N/A	A343194
D10-o-Xylene (sur.)	%	78	N/A	N/A	89	N/A	A343194	95	N/A	A343194
D4-1,2-Dichloroethane (sur.)	%	84	N/A	N/A	82	N/A	A343194	83	N/A	A343194
O-TERPHENYL (sur.)	%	111	106	N/A	107	N/A	A342026	109	N/A	A342026

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 due to high moisture content, sample contains => 50% moisture.  
 Matrix spike exceeds acceptance limits due to matrix interference.  
 (3) Detection limits raised based on sample weight used for analysis.  
 (4) Detection limits raised based on MDL and sample weight used for analysis.



BUREAU  
VERITAS

Bureau Veritas Job #: C164648  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: .

### AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AFA071		AFA072		AFA073	AFA073	AFA074		
Sampling Date		2021/08/26 09:18		2021/08/26 09:25		2021/08/26 09:35	2021/08/26 09:35	2021/08/26 09:41		
COC Number		644511-58-01		644511-58-01		644511-58-01	644511-58-01	644511-58-01		
	UNITS	TP21-169-02	RDL	TP21-168-02	RDL	TP21-167-01	TP21-167-01 Lab-Dup	TP21-167-03	RDL	QC Batch

Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	45	10	15	10	53	N/A	33	10	A342026
F3 (C16-C34 Hydrocarbons)	mg/kg	1100	50	270	50	720	N/A	640	50	A342026
F4 (C34-C50 Hydrocarbons)	mg/kg	380	50	89	50	290	N/A	230	50	A342026
Reached Baseline at C50	mg/kg	No	N/A	Yes	N/A	Yes	N/A	Yes	N/A	A342026

Physical Properties										
Moisture	%	37	0.30	39	0.30	46	47	26	0.30	A342024

Volatiles										
Xylenes (Total)	mg/kg	<0.045	0.045	<0.093	0.093	<0.045	N/A	<0.045	0.045	A340894
F1 (C6-C10) - BTEX	mg/kg	<10	10	<21	21	<10	N/A	<10	10	A340894

Field Preserved Volatiles										
Benzene	mg/kg	0.0098	0.0050	<0.010 (1)	0.010	<0.0050	N/A	<0.0050	0.0050	A343194
Toluene	mg/kg	0.16	0.050	<0.10 (1)	0.10	<0.050	N/A	<0.050	0.050	A343194
Ethylbenzene	mg/kg	<0.010	0.010	<0.021 (1)	0.021	0.027	N/A	<0.010	0.010	A343194
m & p-Xylene	mg/kg	<0.040	0.040	<0.083 (1)	0.083	<0.040	N/A	<0.040	0.040	A343194
o-Xylene	mg/kg	<0.020	0.020	<0.041 (1)	0.041	<0.020	N/A	<0.020	0.020	A343194
F1 (C6-C10)	mg/kg	<10	10	<21 (1)	21	<10	N/A	<10	10	A343194

Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	92	N/A	99	N/A	90	N/A	91	N/A	A343194
4-Bromofluorobenzene (sur.)	%	88	N/A	82	N/A	89	N/A	89	N/A	A343194
D10-o-Xylene (sur.)	%	78	N/A	66	N/A	91	N/A	82	N/A	A343194
D4-1,2-Dichloroethane (sur.)	%	83	N/A	75	N/A	84	N/A	85	N/A	A343194
O-TERPHENYL (sur.)	%	102	N/A	110	N/A	100	N/A	107	N/A	A342026

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



BUREAU  
VERITAS

Bureau Veritas Job #: C164648  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: .

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

<b>Bureau Veritas ID</b>		AFA075			AFA076	AFA076		AFA077		
<b>Sampling Date</b>		2021/08/26 09:47			2021/08/26 10:20	2021/08/26 10:20		2021/08/26 10:23		
<b>COC Number</b>		644511-58-01			644511-58-01	644511-58-01		644511-58-01		
	<b>UNITS</b>	<b>TP21-166-02</b>	<b>RDL</b>	<b>QC Batch</b>	<b>TP21-11-01</b>	<b>TP21-11-01 Lab-Dup</b>	<b>RDL</b>	<b>TP21-11-03</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Ext. Pet. Hydrocarbon</b>										
F2 (C10-C16 Hydrocarbons)	mg/kg	44 (1)	28	A342026	26	N/A	10	59 (1)	33	A342026
F3 (C16-C34 Hydrocarbons)	mg/kg	990 (1)	140	A342026	230	N/A	50	640 (1)	170	A342026
F4 (C34-C50 Hydrocarbons)	mg/kg	350 (1)	140	A342026	<50	N/A	50	<170 (1)	170	A342026
Reached Baseline at C50	mg/kg	Yes	N/A	A342026	Yes	N/A	N/A	Yes	N/A	A342026
<b>Physical Properties</b>										
Moisture	%	65	0.30	A342024	18	N/A	0.30	70	0.30	A342024
<b>Volatiles</b>										
Xylenes (Total)	mg/kg	<0.16	0.16	A340894	1.1	N/A	0.045	0.44	0.22	A340894
F1 (C6-C10) - BTEX	mg/kg	<24	24	A340894	110	N/A	10	<24	24	A340894
<b>Field Preserved Volatiles</b>										
Benzene	mg/kg	<0.018 (2)	0.018	A343194	0.20	0.19	0.0050	<0.024 (2)	0.024	A343203
Toluene	mg/kg	0.21 (2)	0.18	A343194	<0.050	<0.050	0.050	0.50 (2)	0.24	A343203
Ethylbenzene	mg/kg	<0.037 (2)	0.037	A343194	0.49	0.48	0.010	<0.049 (2)	0.049	A343203
m & p-Xylene	mg/kg	<0.15 (2)	0.15	A343194	0.60	0.58	0.040	0.31 (2)	0.20	A343203
o-Xylene	mg/kg	<0.073 (2)	0.073	A343194	0.53	0.44	0.020	0.14 (2)	0.097	A343203
F1 (C6-C10)	mg/kg	<24 (3)	24	A343194	120	120	10	<24 (3)	24	A343203
<b>Surrogate Recovery (%)</b>										
1,4-Difluorobenzene (sur.)	%	90	N/A	A343194	100	101	N/A	100	N/A	A343203
4-Bromofluorobenzene (sur.)	%	89	N/A	A343194	90	87	N/A	87	N/A	A343203
D10-o-Xylene (sur.)	%	85	N/A	A343194	93	90	N/A	87	N/A	A343203
D4-1,2-Dichloroethane (sur.)	%	84	N/A	A343194	78	77	N/A	78	N/A	A343203
O-TERPHENYL (sur.)	%	103	N/A	A342026	106	N/A	N/A	105	N/A	A342026
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 limits raised based on MDL and sample weight used for analysis.										



BUREAU VERITAS

Bureau Veritas Job #: C164648  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: .

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

Bureau Veritas ID		AFA078	AFA079		AFA080		AFA081		
Sampling Date		2021/08/26 10:24	2021/08/26 10:24		2021/08/26 10:35		2021/08/26 10:36		
COC Number		644511-70-01	644511-70-01		644511-70-01		644511-70-01		
	UNITS	TP21-11-06	DUP-DD	RDL	TP21-10-01	RDL	TP21-10-03	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	10	68 (1)	29	<38 (1)	38	A342026
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	50	2000 (1)	150	550 (1)	190	A342026
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	50	730 (1)	150	190 (1)	190	A342026
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	Yes	N/A	Yes	N/A	A342026
<b>Physical Properties</b>									
Moisture	%	19	17	0.30	66	0.30	74	0.30	A342024
<b>Volatiles</b>									
Xylenes (Total)	mg/kg	<0.045	<0.045	0.045	<0.20	0.20	<0.24	0.24	A340894
F1 (C6-C10) - BTEX	mg/kg	<10	<10	10	<24	24	<24	24	A340894
<b>Field Preserved Volatiles</b>									
Benzene	mg/kg	0.0076	0.0076	0.0050	0.030 (2)	0.022	0.18 (2)	0.027	A343203
Toluene	mg/kg	<0.050	<0.050	0.050	<0.080 (3)	0.080	<0.27 (2)	0.27	A343203
Ethylbenzene	mg/kg	<0.010	<0.010	0.010	<0.044 (2)	0.044	<0.053 (2)	0.053	A343203
m & p-Xylene	mg/kg	<0.040	<0.040	0.040	<0.18 (2)	0.18	<0.21 (2)	0.21	A343203
o-Xylene	mg/kg	<0.020	<0.020	0.020	<0.088 (2)	0.088	<0.11 (2)	0.11	A343203
F1 (C6-C10)	mg/kg	<10	<10	10	<24 (3)	24	<24 (3)	24	A343203
<b>Surrogate Recovery (%)</b>									
1,4-Difluorobenzene (sur.)	%	99	100	N/A	99	N/A	99	N/A	A343203
4-Bromofluorobenzene (sur.)	%	85	86	N/A	88	N/A	86	N/A	A343203
D10-o-Xylene (sur.)	%	78	76	N/A	75	N/A	80	N/A	A343203
D4-1,2-Dichloroethane (sur.)	%	78	78	N/A	77	N/A	76	N/A	A343203
O-TERPHENYL (sur.)	%	121	99	N/A	99	N/A	107	N/A	A342026
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 limits raised based on MDL and sample weight used for analysis.									



BUREAU VERITAS

Bureau Veritas Job #: C164648  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: .

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

Bureau Veritas ID		AFA082	AFA083	AFA084		AFA085		AFA086		
Sampling Date		2021/08/26 10:40	2021/08/26 13:18	2021/08/26 13:23		2021/08/26 13:31		2021/08/26 13:32		
COC Number		644511-70-01	644511-70-01	644511-70-01		644511-70-01		644511-70-01		
	UNITS	TP21-10-04	TP21-09-02	TP21-09-05	RDL	TP21-08-01	RDL	TP21-08-04	RDL	QC Batch

Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	10	9200 (1)	22	51	10	A342026
F3 (C16-C34 Hydrocarbons)	mg/kg	160	<50	<50	50	750 (1)	110	390	50	A342026
F4 (C34-C50 Hydrocarbons)	mg/kg	65	<50	<50	50	<110 (1)	110	130	50	A342026
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	N/A	Yes	N/A	Yes	N/A	A342026

Physical Properties										
Moisture	%	27	5.5	15	0.30	56	0.30	34	0.30	A342024

Volatiles										
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	0.045	0.53	0.13	0.17	0.045	A340894
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	10	1100	30	<10	10	A340894

Field Preserved Volatiles										
Benzene	mg/kg	0.075	<0.0050	0.012	0.0050	0.026 (2)	0.015	0.28	0.0050	A343203
Toluene	mg/kg	<0.050	<0.050	<0.050	0.050	<0.080 (3)	0.080	<0.050	0.050	A343203
Ethylbenzene	mg/kg	<0.010	<0.010	0.018	0.010	0.062 (2)	0.030	0.11	0.010	A343203
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	0.040	0.31 (2)	0.12	0.17	0.040	A343203
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	0.22 (2)	0.060	<0.020	0.020	A343203
F1 (C6-C10)	mg/kg	<10	<10	<10	10	1100 (2)	30	<10	10	A343203

Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	99	99	98	N/A	102	N/A	98	N/A	A343203
4-Bromofluorobenzene (sur.)	%	87	86	86	N/A	86	N/A	88	N/A	A343203
D10-o-Xylene (sur.)	%	68	75	82	N/A	78	N/A	84	N/A	A343203
D4-1,2-Dichloroethane (sur.)	%	78	78	78	N/A	80	N/A	76	N/A	A343203
O-TERPHENYL (sur.)	%	110	92	104	N/A	98	N/A	108	N/A	A342026

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 limits raised based on MDL and sample weight used for analysis.





BUREAU  
VERITAS

Bureau Veritas Job #: C164648  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: .

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

<b>Bureau Veritas ID</b>		AFA087		AFA091	AFA091	AFA092	AFA093		
<b>Sampling Date</b>		2021/08/26 13:35		2021/08/26 13:35	2021/08/26 13:35	2021/08/26 13:49	2021/08/26 13:50		
<b>COC Number</b>		644511-70-01		644511-49-01	644511-49-01	644511-49-01	644511-49-01		
	<b>UNITS</b>	<b>TP21-08-05</b>	<b>QC Batch</b>	<b>DUP-EE</b>	<b>DUP-EE Lab-Dup</b>	<b>TP21-07-01</b>	<b>TP21-07-03</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Ext. Pet. Hydrocarbon</b>									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	A342026	<10	<10	140	340	10	A342388
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	A342026	<50	<50	330	390	50	A342388
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	A342026	<50	<50	53	<50	50	A342388
Reached Baseline at C50	mg/kg	Yes	A342026	Yes	Yes	Yes	Yes	N/A	A342388
<b>Physical Properties</b>									
Moisture	%	16	A342024	17	N/A	12	15	0.30	A342380
<b>Volatiles</b>									
Xylenes (Total)	mg/kg	0.052	A340894	0.056	N/A	<0.045	0.12	0.045	A340894
F1 (C6-C10) - BTEX	mg/kg	<10	A340894	<10	N/A	<10	17	10	A340894
<b>Field Preserved Volatiles</b>									
Benzene	mg/kg	0.064	A343203	0.077	N/A	<0.0050	0.017	0.0050	A343203
Toluene	mg/kg	<0.050	A343203	<0.050	N/A	<0.050	0.30	0.050	A343203
Ethylbenzene	mg/kg	0.13	A343203	0.14	N/A	<0.010	0.031	0.010	A343203
m & p-Xylene	mg/kg	0.052	A343203	0.056	N/A	<0.040	0.073	0.040	A343203
o-Xylene	mg/kg	<0.020	A343203	<0.020	N/A	<0.020	0.050	0.020	A343203
F1 (C6-C10)	mg/kg	<10	A343203	<10	N/A	<10	17	10	A343203
<b>Surrogate Recovery (%)</b>									
1,4-Difluorobenzene (sur.)	%	99	A343203	100	N/A	100	101	N/A	A343203
4-Bromofluorobenzene (sur.)	%	86	A343203	86	N/A	86	88	N/A	A343203
D10-o-Xylene (sur.)	%	86	A343203	75	N/A	70	76	N/A	A343203
D4-1,2-Dichloroethane (sur.)	%	78	A343203	77	N/A	77	78	N/A	A343203
O-TERPHENYL (sur.)	%	102	A342026	116	111	115	115	N/A	A342388
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable									



BUREAU VERITAS

Bureau Veritas Job #: C164648  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: .

**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

Bureau Veritas ID		AFA094	AFA095	AFA096	AFA096		AFA097		
Sampling Date		2021/08/26 14:00	2021/08/26 14:12	2021/08/26 14:13	2021/08/26 14:13		2021/08/26 14:13		
COC Number		644511-49-01	644511-49-01	644511-49-01	644511-49-01		644511-49-01		
	UNITS	TP21-07-06	TP21-06-02	TP21-06-03	TP21-06-03 Lab-Dup	QC Batch	DUP-FF	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	230	72	N/A	A342388	200	10	A342388
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	780	190	N/A	A342388	310	50	A342388
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	190	<50	N/A	A342388	<50	50	A342388
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	N/A	A342388	Yes	N/A	A342388
<b>Physical Properties</b>									
Moisture	%	13	43	18	15	A342380	14	0.30	A342384
<b>Volatiles</b>									
Xylenes (Total)	mg/kg	<0.045	0.43	<0.045	N/A	A340894	<0.045	0.045	A340894
F1 (C6-C10) - BTEX	mg/kg	<10	26	14	N/A	A340894	14	10	A340894
<b>Field Preserved Volatiles</b>									
Benzene	mg/kg	0.023	<0.0050	<0.0050	N/A	A343203	<0.0050	0.0050	A343203
Toluene	mg/kg	<0.050	0.70	<0.050	N/A	A343203	<0.050	0.050	A343203
Ethylbenzene	mg/kg	<0.010	0.071	<0.010	N/A	A343203	<0.010	0.010	A343203
m & p-Xylene	mg/kg	<0.040	0.23	<0.040	N/A	A343203	<0.040	0.040	A343203
o-Xylene	mg/kg	<0.020	0.20	<0.020	N/A	A343203	<0.020	0.020	A343203
F1 (C6-C10)	mg/kg	<10	27	14	N/A	A343203	14	10	A343203
<b>Surrogate Recovery (%)</b>									
1,4-Difluorobenzene (sur.)	%	99	99	99	N/A	A343203	99	N/A	A343203
4-Bromofluorobenzene (sur.)	%	87	85	87	N/A	A343203	85	N/A	A343203
D10-o-Xylene (sur.)	%	65	80	84	N/A	A343203	82	N/A	A343203
D4-1,2-Dichloroethane (sur.)	%	77	78	79	N/A	A343203	77	N/A	A343203
O-TERPHENYL (sur.)	%	103	104	100	N/A	A342388	117	N/A	A342388
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable									



**AT1 BTEX AND F1-F4 IN SOIL (VIALS)**

<b>Bureau Veritas ID</b>		AFA098		
<b>Sampling Date</b>		2021/08/26 14:15		
<b>COC Number</b>		644511-49-01		
	<b>UNITS</b>	<b>TP21-06-05</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Ext. Pet. Hydrocarbon</b>				
F2 (C10-C16 Hydrocarbons)	mg/kg	330	10	A342388
F3 (C16-C34 Hydrocarbons)	mg/kg	240	50	A342388
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	A342388
Reached Baseline at C50	mg/kg	Yes	N/A	A342388
<b>Physical Properties</b>				
Moisture	%	19	0.30	A342384
<b>Volatiles</b>				
Xylenes (Total)	mg/kg	<0.045	0.045	A340894
F1 (C6-C10) - BTEX	mg/kg	17	10	A340894
<b>Field Preserved Volatiles</b>				
Benzene	mg/kg	<0.0050	0.0050	A343203
Toluene	mg/kg	0.23	0.050	A343203
Ethylbenzene	mg/kg	<0.010	0.010	A343203
m & p-Xylene	mg/kg	<0.040	0.040	A343203
o-Xylene	mg/kg	0.033	0.020	A343203
F1 (C6-C10)	mg/kg	17	10	A343203
<b>Surrogate Recovery (%)</b>				
1,4-Difluorobenzene (sur.)	%	100	N/A	A343203
4-Bromofluorobenzene (sur.)	%	89	N/A	A343203
D10-o-Xylene (sur.)	%	82	N/A	A343203
D4-1,2-Dichloroethane (sur.)	%	79	N/A	A343203
O-TERPHENYL (sur.)	%	111	N/A	A342388
RDL = Reportable Detection Limit N/A = Not Applicable				



**PETROLEUM HYDROCARBONS (CCME)**

Bureau Veritas ID		AFA064	AFA064		AFA071	AFA081		
Sampling Date		2021/08/26 08:36	2021/08/26 08:36		2021/08/26 09:18	2021/08/26 10:36		
COC Number		644511-58-01	644511-58-01		644511-58-01	644511-70-01		
	UNITS	TP21-171-02	TP21-171-02 Lab-Dup	RDL	TP21-169-02	TP21-10-03	RDL	QC Batch
<b>Ext. Pet. Hydrocarbon</b>								
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	N/A	N/A	N/A	<38 (1)	38	A457151
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	N/A	N/A	N/A	480	270	A453392
F3A (C16-C22)	mg/kg	N/A	N/A	N/A	N/A	<190 (1)	190	A457151
F3B (C22-C34)	mg/kg	N/A	N/A	N/A	N/A	480 (1)	190	A457151
F2% (BIC)	mg/kg	N/A	N/A	N/A	N/A	3.8	N/A	A453392
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	4000 (2)	3700 (2)	1100	3000	N/A	500	A345342
<b>Surrogate Recovery (%)</b>								
O-TERPHENYL (sur.)	%	N/A	N/A	N/A	N/A	107	N/A	A457151
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 due to high moisture content, samples contain => 50% moisture.								



### GENERAL COMMENTS

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

Package 1	4.7°C
Package 2	9.3°C
Package 3	5.7°C
Package 4	4.7°C
Package 5	6.0°C
Package 6	5.7°C
Package 7	5.7°C
Package 8	5.7°C
Package 9	5.3°C

Version #2: Report reissued to include results for F3A/F3B/Chromatogram on sample TP21-10-03/AFA081 as per client request received 2021/12/16.

#### HYDROCARBON RESEMBLANCE

The reported hydrocarbon resemblance was obtained by visual comparison of the sample chromatogram with a library of reference product chromatograms. Since variables such as the degree and type of weathering and the presence of non-petrogenic hydrocarbons cannot be duplicated in reference spectra, the resemblance information must be regarded as approximate and qualitative and as such, Bureau Veritas Laboratories can assume no liability for any conclusions drawn from these data.

Sample AFA081 [TP21-10-03] : 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 C18 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.

**Results relate only to the items tested.**



BUREAU  
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Bureau Veritas Job #: C164648  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: .

### QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A341991	WLE	Method Blank	Moisture	2021/09/04	<0.30		%	
A341991	WLE	RPD	Moisture	2021/09/04	0.78		%	20
A342024	ARV	Method Blank	Moisture	2021/09/04	<0.30		%	
A342024	ARV	RPD [AFA073-01]	Moisture	2021/09/04	3.9		%	20
A342026	GG3	Matrix Spike [AFA064-01]	O-TERPHENYL (sur.)	2021/09/07		120	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/07		NC	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/07		NC	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/07		56 (1)	%	60 - 140
A342026	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/09/07		110	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/07		107	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/07		100	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/07		99	%	60 - 140
A342026	GG3	Method Blank	O-TERPHENYL (sur.)	2021/09/07		113	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/07	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/07	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/07	<50		mg/kg	
A342026	GG3	RPD [AFA064-01]	F2 (C10-C16 Hydrocarbons)	2021/09/07	13		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/07	17		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/07	39		%	40
A342380	ARV	Method Blank	Moisture	2021/09/05	<0.30		%	
A342380	ARV	RPD [AFA096-01]	Moisture	2021/09/05	18		%	20
A342384	ARV	Method Blank	Moisture	2021/09/05	<0.30		%	
A342384	ARV	RPD	Moisture	2021/09/05	0.61		%	20
A342388	GG3	Matrix Spike [AFA091-01]	O-TERPHENYL (sur.)	2021/09/08		124	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08		115	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/08		107	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/08		106	%	60 - 140
A342388	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/09/08		95	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08		103	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/08		95	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/08		92	%	60 - 140
A342388	GG3	Method Blank	O-TERPHENYL (sur.)	2021/09/08		112	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/08	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/08	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/08	<50		mg/kg	
A342388	GG3	RPD [AFA091-01]	F2 (C10-C16 Hydrocarbons)	2021/09/08	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/08	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/08	NC		%	40
A343194	PKL	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/08		91	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/08		89	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/08		73	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/08		79	%	50 - 140
			Benzene	2021/09/08		77	%	50 - 140
			Toluene	2021/09/08		91	%	50 - 140
			Ethylbenzene	2021/09/08		93	%	50 - 140
			m & p-Xylene	2021/09/08		98	%	50 - 140
			o-Xylene	2021/09/08		97	%	50 - 140
			F1 (C6-C10)	2021/09/08		97	%	60 - 140
A343194	PKL	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/08		100	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/08		97	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/08		80	%	50 - 140



BUREAU  
VERITAS

Bureau Veritas Job #: C164648  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: .

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A343194	PKL	Method Blank	D4-1,2-Dichloroethane (sur.)	2021/09/08		94	%	50 - 140
			Benzene	2021/09/08		79	%	60 - 130
			Toluene	2021/09/08		85	%	60 - 130
			Ethylbenzene	2021/09/08		79	%	60 - 130
			m & p-Xylene	2021/09/08		80	%	60 - 130
			o-Xylene	2021/09/08		79	%	60 - 130
			F1 (C6-C10)	2021/09/08		86	%	60 - 140
			1,4-Difluorobenzene (sur.)	2021/09/08		93	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/08		88	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/08		74	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/08		84	%	50 - 140
			Benzene	2021/09/08	<0.0050		mg/kg	
			Toluene	2021/09/08	<0.050		mg/kg	
			Ethylbenzene	2021/09/08	<0.010		mg/kg	
A343194	PKL	RPD	m & p-Xylene	2021/09/08	<0.040		mg/kg	
			o-Xylene	2021/09/08	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/08	<10		mg/kg	
			Benzene	2021/09/08	NC		%	50
			Toluene	2021/09/08	NC		%	50
			Ethylbenzene	2021/09/08	NC		%	50
A343203	PKL	Matrix Spike [AFA076-02]	m & p-Xylene	2021/09/08	NC		%	50
			o-Xylene	2021/09/08	NC		%	50
			F1 (C6-C10)	2021/09/08	NC		%	30
			1,4-Difluorobenzene (sur.)	2021/09/08		99	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/08		90	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/08		91	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/08		78	%	50 - 140
			Benzene	2021/09/08		80	%	50 - 140
			Toluene	2021/09/08		87	%	50 - 140
			Ethylbenzene	2021/09/08		88	%	50 - 140
A343203	PKL	Spiked Blank	m & p-Xylene	2021/09/08		92	%	50 - 140
			o-Xylene	2021/09/08		94	%	50 - 140
			F1 (C6-C10)	2021/09/08		99	%	60 - 140
			1,4-Difluorobenzene (sur.)	2021/09/08		113	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/08		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/08		76	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/08		92	%	50 - 140
			Benzene	2021/09/08		75	%	60 - 130
			Toluene	2021/09/08		84	%	60 - 130
			Ethylbenzene	2021/09/08		77	%	60 - 130
A343203	PKL	Method Blank	m & p-Xylene	2021/09/08		83	%	60 - 130
			o-Xylene	2021/09/08		78	%	60 - 130
			F1 (C6-C10)	2021/09/08		99	%	60 - 140
			1,4-Difluorobenzene (sur.)	2021/09/08		101	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/08		86	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/08		68	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/08		79	%	50 - 140
			Benzene	2021/09/08	<0.0050		mg/kg	
			Toluene	2021/09/08	<0.050		mg/kg	
Ethylbenzene	2021/09/08	<0.010		mg/kg				
m & p-Xylene	2021/09/08	<0.040		mg/kg				





QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A343203	PKL	RPD [AFA076-02]	o-Xylene	2021/09/08	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/08	<10		mg/kg	
			Benzene	2021/09/08	4.9		%	50
			Toluene	2021/09/08	NC		%	50
			Ethylbenzene	2021/09/08	2.5		%	50
			m & p-Xylene	2021/09/08	4.1		%	50
A345342	JB9	Spiked Blank	o-Xylene	2021/09/08	18		%	50
			F1 (C6-C10)	2021/09/08	5.4		%	30
			F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/09		109	%	60 - 140
A345342	JB9	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/09	<500		mg/kg	
A345342	JB9	RPD [AFA064-01]	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/09	7.1 (2)		%	40
A457151	MHF	Spiked Blank	O-TERPHENYL (sur.)	2021/08/24		106	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/24		108	%	60 - 140
			F3A (C16-C22)	2021/08/24		109	%	60 - 140
			F3B (C22-C34)	2021/08/24		112	%	60 - 140
			O-TERPHENYL (sur.)	2021/08/24		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/24	<10		mg/kg	
A457151	MHF	Method Blank	F3A (C16-C22)	2021/08/24	<50		mg/kg	
			F3B (C22-C34)	2021/08/24	<50		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 (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 limits raised due to high moisture content, samples contain => 50% moisture.



BUREAU  
VERITAS

Bureau Veritas Job #: C164648  
Report Date: 2021/12/24

GOLDER ASSOCIATES LTD.  
Client Project #: 20368099-6000-1001  
Site Location: Camp Farewell and Unipkat I-22, Northwest  
Territories  
Your P.O. #: 20368099-7000-1001  
Sampler Initials: .

### 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

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BV Labs 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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<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #254 GOLDER ASSOCIATES LTD.	Company Name: #6340 GOLDER ASSOCIATES LTD.	Quotation #: C00480	BV Labs Job #: C164648	Bottle Order #: 		544511	
Attention: ACCOUNTS PAYABLE	Attention: Aurelie Belavance	P.O. #: 20368099-7000-1001	Project: 20368099-6000-1001		COC #:		Project Manager:
Address: 2800, 700 -2nd Street SW	Address: 2800, 700 -2nd Street SW	Project Name:	Site #:				Carmen McKay
Address: CALGARY AB T2P 2W2	Address: CALGARY AB T2P 2W2	Sampled By:	C#544511-58-01				
Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel: (403) 299-5600 Fax:						
Email: canadaaccounts payableinvoices@golder.com	Email: abellavance@golder.com						

Regulatory Criteria: <input type="checkbox"/> ATI <input checked="" type="checkbox"/> CCME <input type="checkbox"/> Other	Special Instructions: email: shelldgr@golder.com Facility code: 41259544	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)						Turnaround Time (TAT) Required: Please provide advance notice for rush projects					
		Metals Field Filtered? (Y/N)	AT1 Regulated Metals - Soils	AT2 BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample	Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details
													Job Specific Rush TAT (if applies to entire submission) Date Required: <input type="checkbox"/> Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (<-10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS						# of Bottles	Comments
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix			
1 NCA	TP21-171-02	21/08/26	8:36	SOIL	✓	3	
2	TP21-170-02	21/08/26	9:06		✓	3	
3	TP21-169-01		9:16		✓	3	
4	TP21-169-02		9:18		✓	3	
5	TP21-168-02		9:25		✓	3	
6	TP21-167-01		9:35		✓	3	
7	TP21-167-03		9:41		✓	3	
8	TP21-166-02		9:47		✓	3	Received in Yellowknife By: J. McBean @ 8:25 AM AUG 31 2021 See ACTR Temp: / /
9	TP21-11-01		10:20		✓	3	
10	TP21-11-03		10:23		✓	3	

* RELINQUISHED BY: (Signature/Print) A. Bellavance	Date: (YY/MM/DD) 21/08/26	Time 16:00	RECEIVED BY: (Signature/Print) D. Dawit Kibreab	Date: (YY/MM/DD) 2021/09/01	Time 15:00	# jars used and not submitted	Laboratory Use Only	
						Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt See ACTR	Custody Seal Intact on Cooler? <input type="checkbox"/> Yes <input type="checkbox"/> No

\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.  
\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.  
\*\* ALL SAMPLES ARE HELD FOR 90 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER





INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name: #254 GOLDER ASSOCIATES LTD.		Company Name: #6340 GOLDER ASSOCIATES LTD.		Quotation #: C00480		BV Labs Job #: C164648	
Attention: ACCOUNTS PAYABLE		Attention: Aurelie Belavance		P.O. #: 20368099-7000-1001		Bottle Order #: 644511	
Address: 2800, 700 -2nd Street SW		Address: 2800, 700 -2nd Street SW		Project: 20368099-6000-1001		COC #: [Barcode]	
Address: CALGARY AB T2P 2W2		Address: CALGARY AB T2P 2W2		Project Name:		Project Manager: Carmen McKay	
Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606		Tel: (403) 299-5600 Fax:		Site #:		C#644511-70-01	
Email: canadaaccounts payableinvoices@golder.com		Email: abellavance@golder.com		Sampled By:			

Regulatory Criteria: <input type="checkbox"/> ATI <input checked="" type="checkbox"/> CCME <input type="checkbox"/> Other	Special Instructions: email: shellblg@golder.com Facility code: 41259544	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)						Turnaround Time (TAT) Required: Please provide advance notice for rush projects					
		Metals Field Filtered? (Y/N)	Regulated Metals - Solids	BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample	Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS													Job Specific Rush TAT (if applies to entire submission) Date Required: [ ] Rush Confirmation Number: [ ] (call lab for #)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered? (Y/N)	Regulated Metals - Solids	BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample	# of Bottles	Comments
N/A	TP21-11-06	21/08/26	10:24	Soil			✓									3	
	<del>TP21</del> DUP-DD		10:24				✓									3	
	TP21-10-01		10:35				✓									3	
	TP21-10-03		10:36				✓									3	
	TP21-10-04		10:40				✓									3	
	TP21-09-02		13:18				✓									3	
	TP21-09-05		13:23				✓									3	
	TP21-08-01		13:31				✓									3	
	TP21-08-04		13:32				✓									3	
	TP21-08-05		13:35				✓									3	

* RELINQUISHED BY: (Signature/Print) A. Bellavance	Date: (YY/MM/DD) 21/08/26	Time 16:00	RECEIVED BY: (Signature/Print) Davit Libre ab	Date: (YY/MM/DD) 2021/08/10	Time 15:20	# jars used and not submitted	Laboratory Use Only		
							Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt See ACTR	Custody Seal Intact on Cooler? <input type="checkbox"/> Yes <input type="checkbox"/> No

\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.  
\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.  
\*\* ALL SAMPLES ARE HELD FOR 90 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER



2/3

<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #254 GOLDER ASSOCIATES LTD.	Company Name: #6340 GOLDER ASSOCIATES LTD.	Quotation #: C00480	Company Name: #6340 GOLDER ASSOCIATES LTD.	Project: 20368099-7000-1001	Project: 20368099-6000-1001	BV Labs Job #: C164648	Bottle Order #: 644511
Attention: ACCOUNTS PAYABLE	Attention: Aurelie Belavance	P.O. #: 2800, 700 -2nd Street SW	Attention: Aurelie Belavance	Project Name:	Project Name:	COC #:	Project Manager:
Address: 2800, 700 -2nd Street SW	Address: 2800, 700 -2nd Street SW	Project:	Address: 2800, 700 -2nd Street SW	Site #:	Site #:		Carmen McKay
Address: CALGARY AB T2P 2W2	Address: CALGARY AB T2P 2W2	Project:	Address: CALGARY AB T2P 2W2	Sampled By:	Sampled By:		
Tel: (905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel: (403) 299-5600 Fax:	Email: abellavance@golder.com		Email: abellavance@golder.com		C#644511-49-01	

Regulatory Criteria: <input type="checkbox"/> ATI <input checked="" type="checkbox"/> CCME <input type="checkbox"/> Other	Special Instructions: emcol. shelldog@golder.com Facility code: 41259544	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): Metals Field Filtered? (Y/N) Regulated Metals - Soils AT4 BTEX and F1-F4 in Soil (Wats) BIC SCALE Analysis (F2/F2+F3B) in soil Sulphate / nitrate Barium on ICP using Fusion Extraction (True Barium) CCME BTEX and F1-F2 in Water Routine Water Regulated Metals (CCME/ATI) - Dissolved PAH in Water by GC/MS Limited Sample	Turnaround Time (TAT) Required: Please provide advance notice for rush projects Regular (Standard) TAT: <input checked="" type="checkbox"/> (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details Job Specific Rush TAT (if applies to entire submission): Date Required: <input type="checkbox"/> Rush Confirmation Number: _____ (call lab for #)
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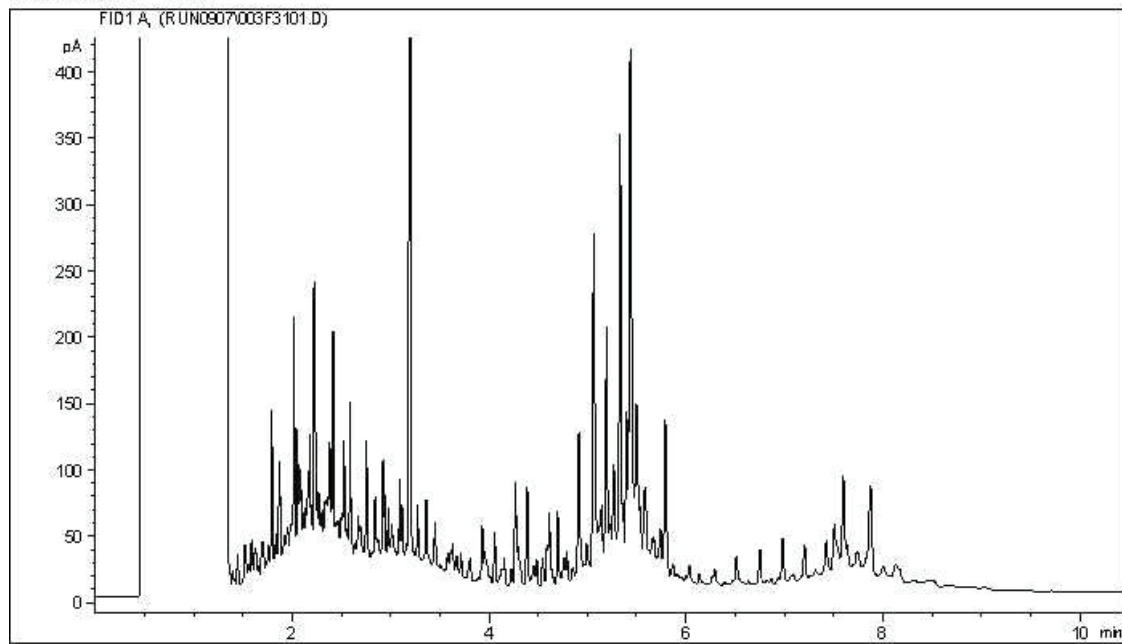
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS						Metals Field Filtered? (Y/N)	AT4 Regulated Metals - Soils	AT4 BTEX and F1-F4 in Soil (Wats)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fusion Extraction (True Barium)	CCME BTEX and F1-F2 in Water	Routine Water	Regulated Metals (CCME/ATI) - Dissolved	PAH in Water by GC/MS	Limited Sample	# of Bottles	Comments
1	N/A	<del>TP21</del> DUP-EE	26 AUG 21	13:35	SOIL		✓									3		
2		TP21 - 07-01		13:49			✓									3		
3		TP21 - 07-03		13:50			✓									3		
4		TP21 - 07-06		14:00			✓									3		
5		TP21 - 06-02		14:12			✓									3		
6		TP21 - 06-03		14:13			✓									3		
7		<del>TP21</del> DUP-FF		14:13			✓									3	Received in Yellowknife By: J. MERAN @ 8:35 AM AUG 31 2021 See ACTR Temp: / /	
8		TP21 - 06-05		14:15			✓									3		
9		<del>TP21</del>																
10		<del>TP21</del>																

RELINQUISHED BY: (Signature/Print) A Bellavance	Date: (YY/MM/DD) 21/08/26	Time 16:00	RECEIVED BY: (Signature/Print) Dan Dawit Kibreab	Date: (YY/MM/DD) 2021/09/01	Time 15:00	# jars used and not submitted	Laboratory Use Only Time Sensitive: <input type="checkbox"/> Temperature (°C) on Receipt: See ACTR Custody Seal intact on Cooler?: <input type="checkbox"/> Yes <input type="checkbox"/> No
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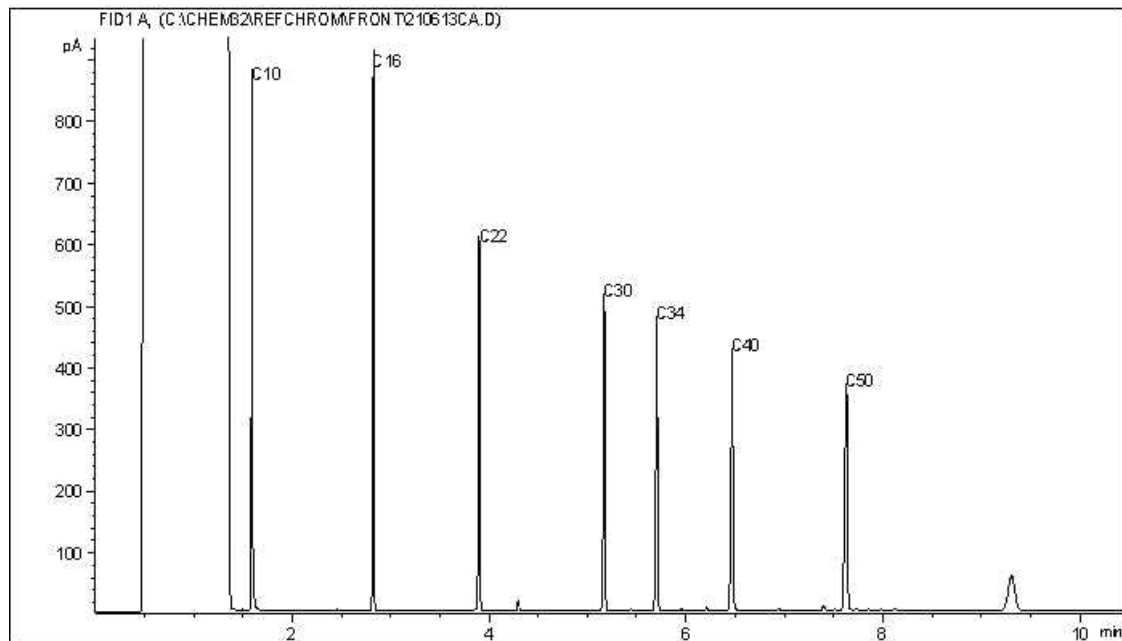
\* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.  
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\*\* ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT. FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER.

**CCME Hydrocarbons (F2-F4 in soil) Chromatogram**

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



**TYPICAL PRODUCT CARBON NUMBER RANGES**

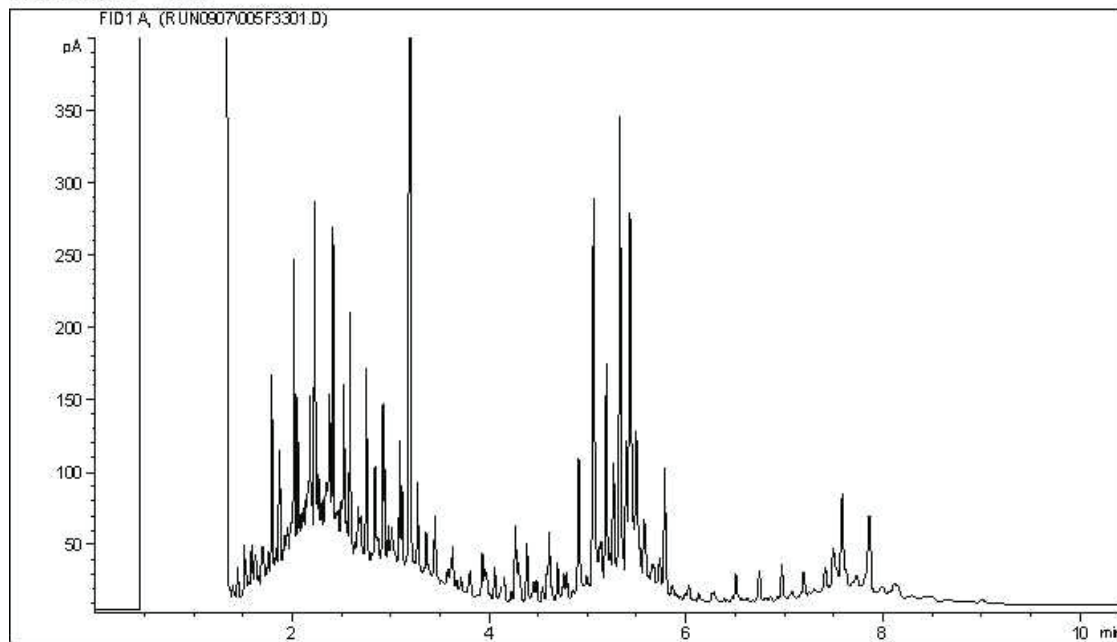
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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

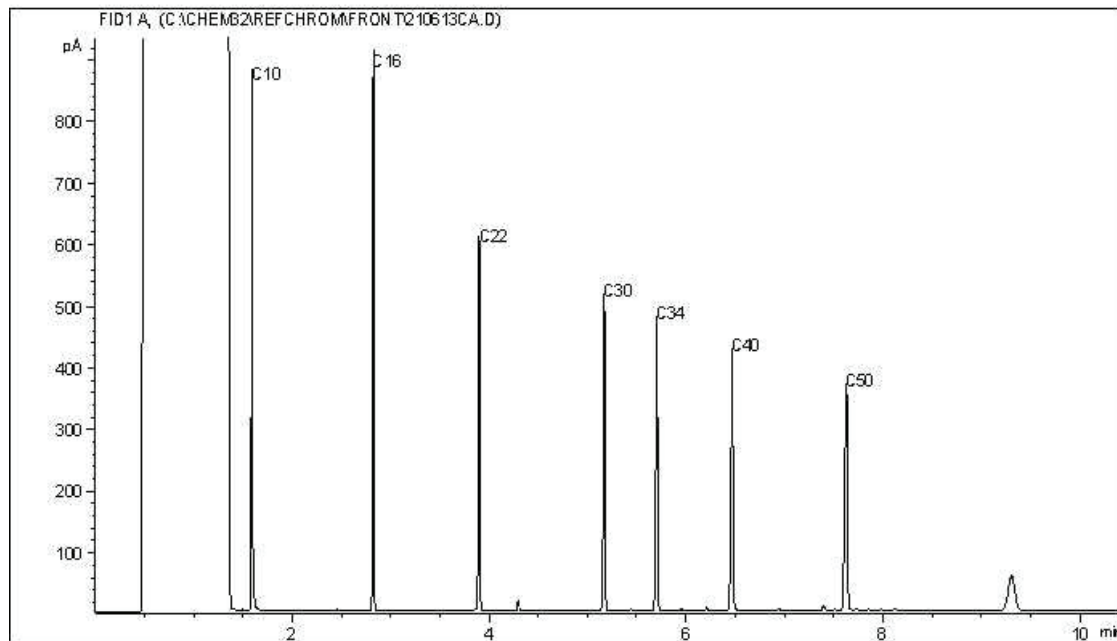


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



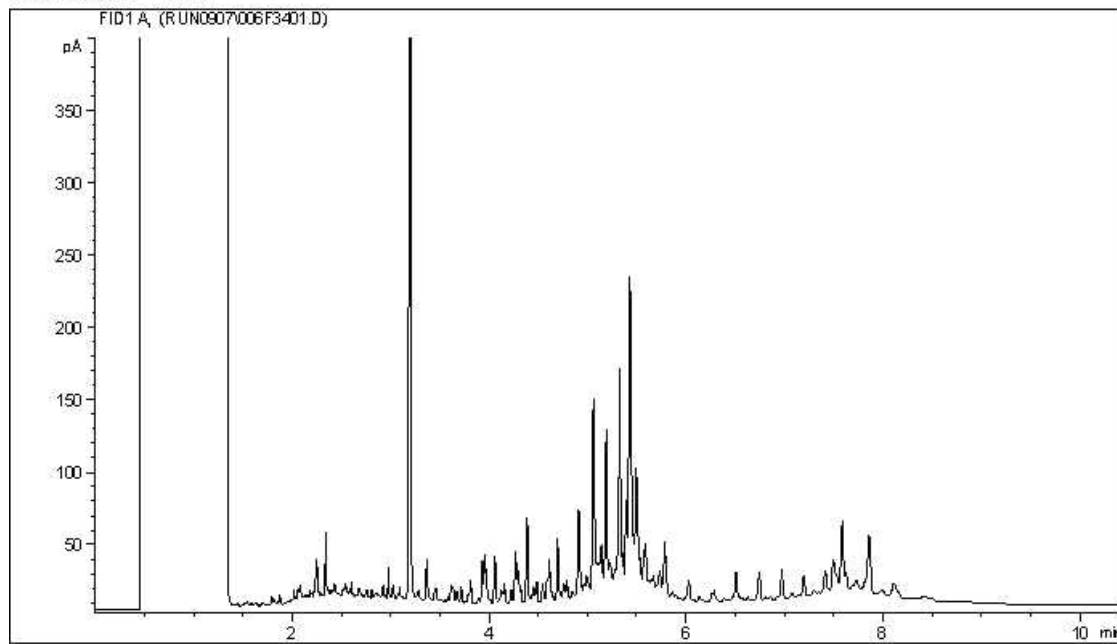
TYPICAL PRODUCT CARBON NUMBER RANGES

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

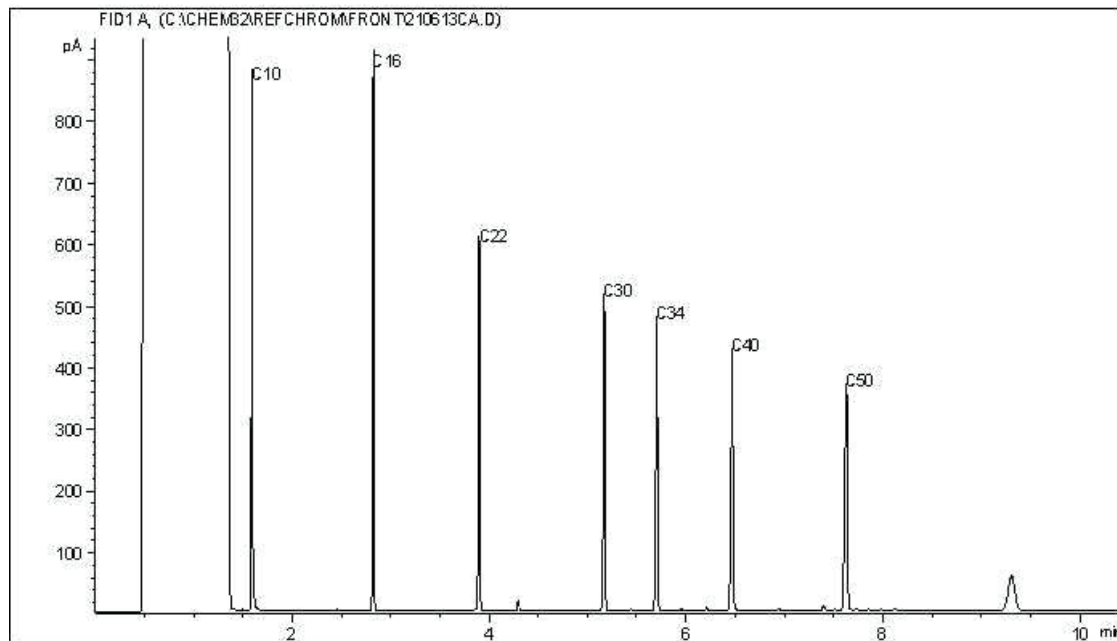
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



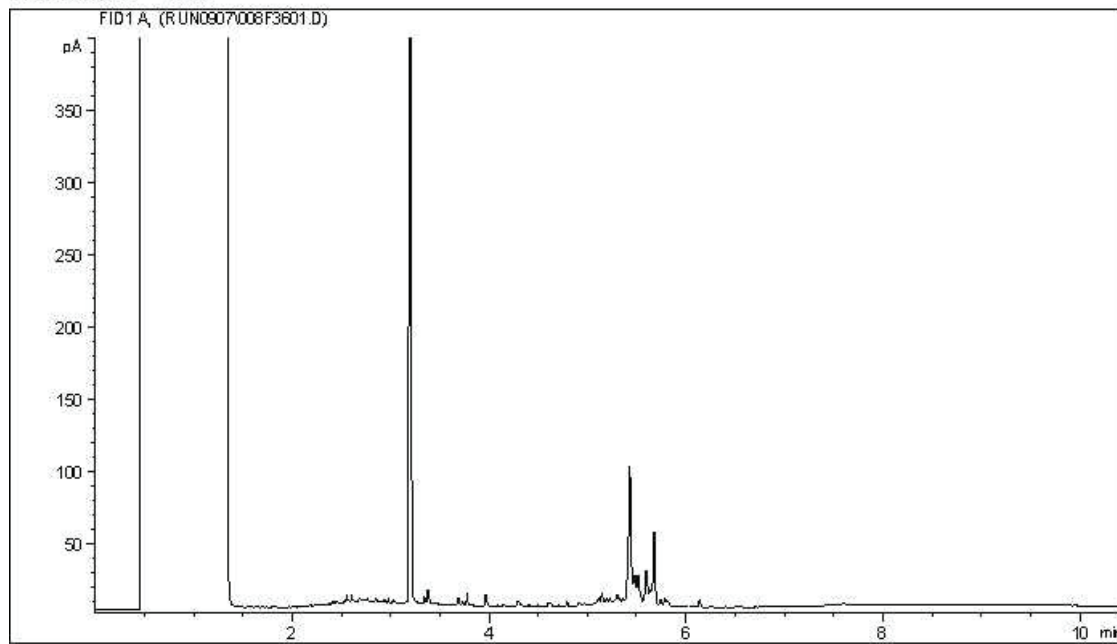
TYPICAL PRODUCT CARBON NUMBER RANGES

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

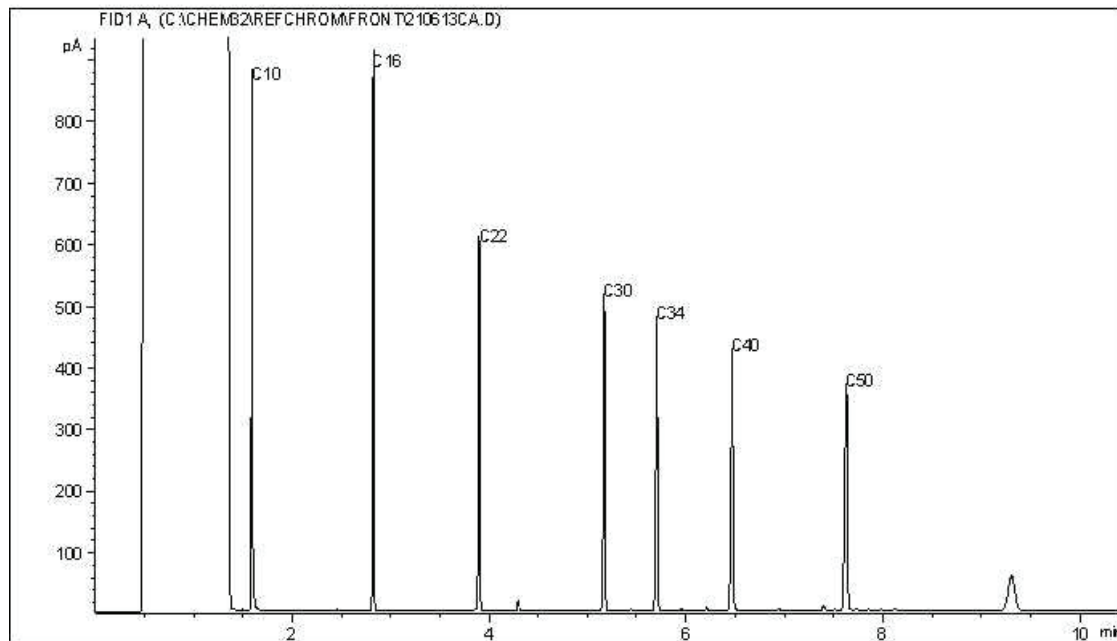
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



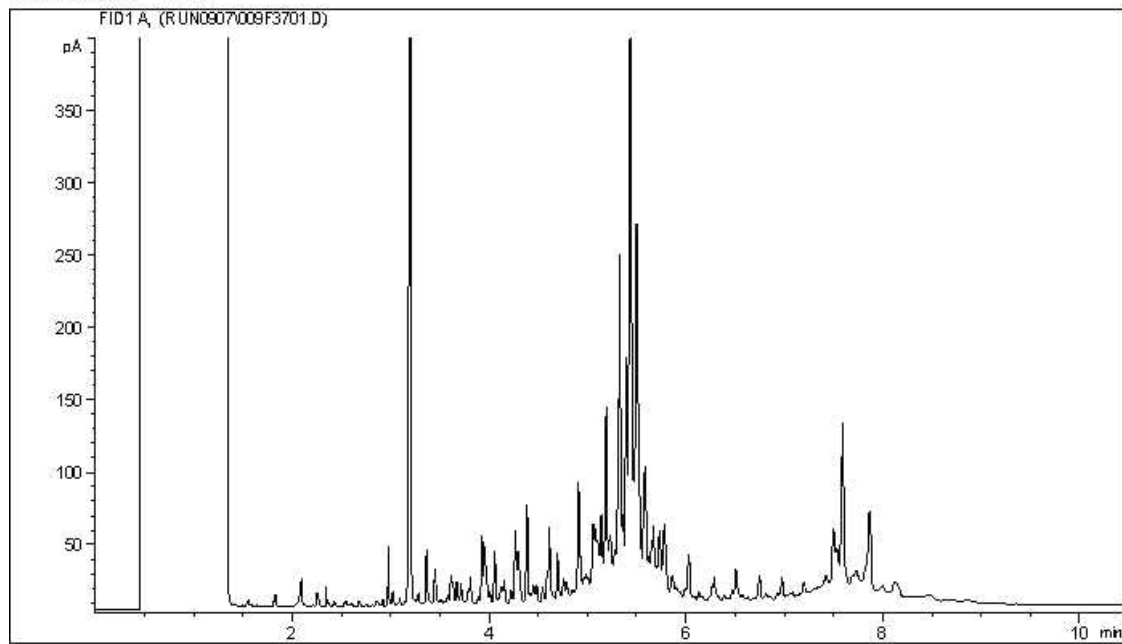
TYPICAL PRODUCT CARBON NUMBER RANGES

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

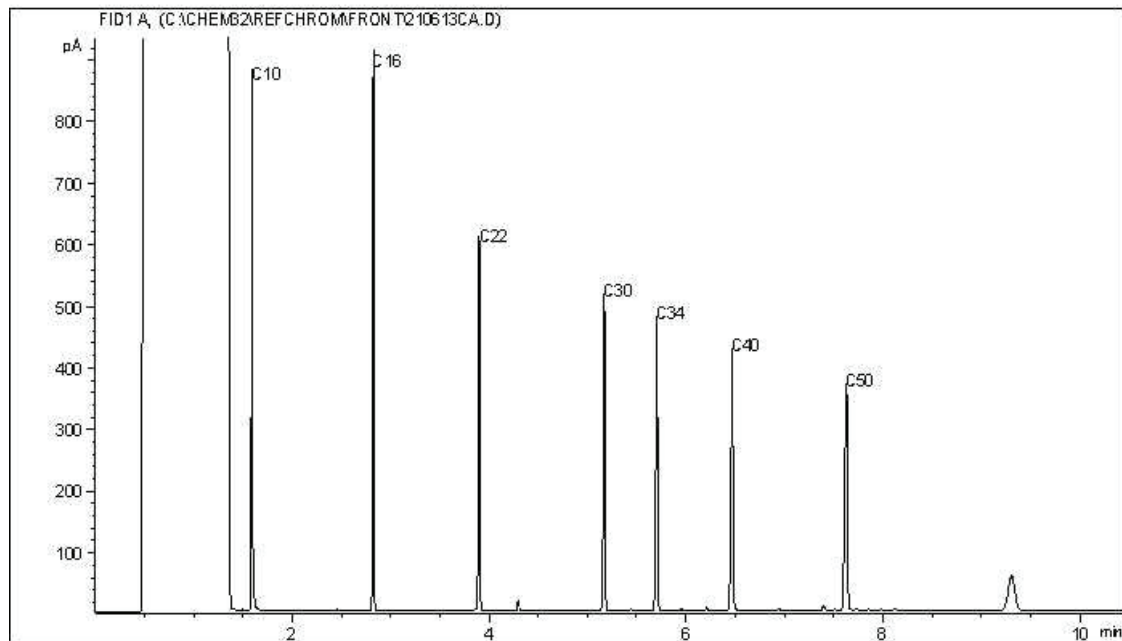
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



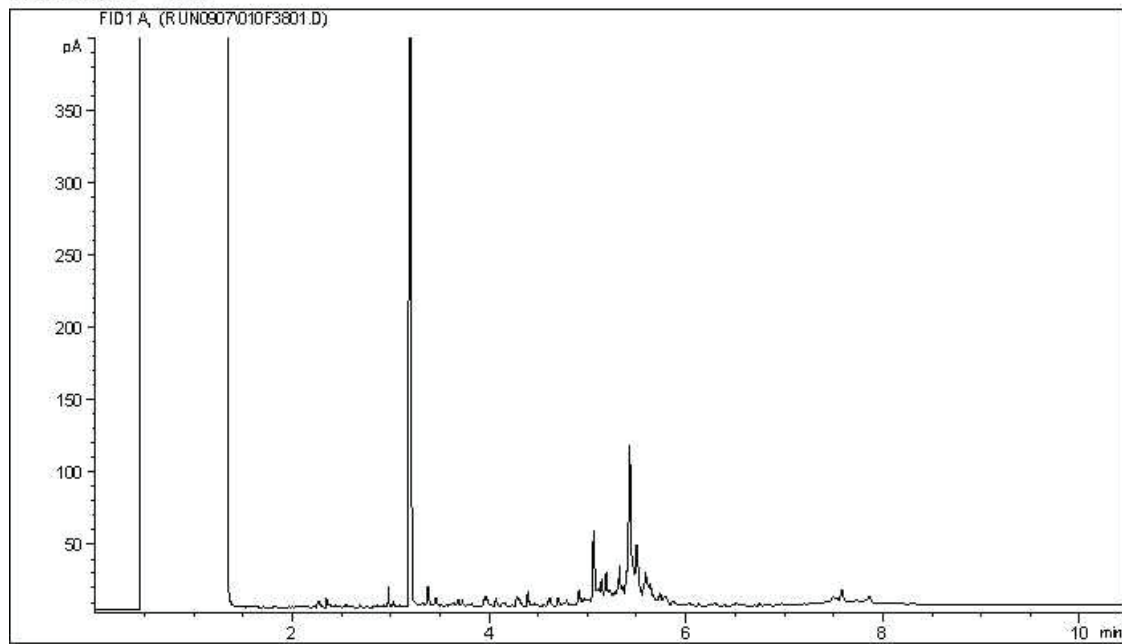
TYPICAL PRODUCT CARBON NUMBER RANGES

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

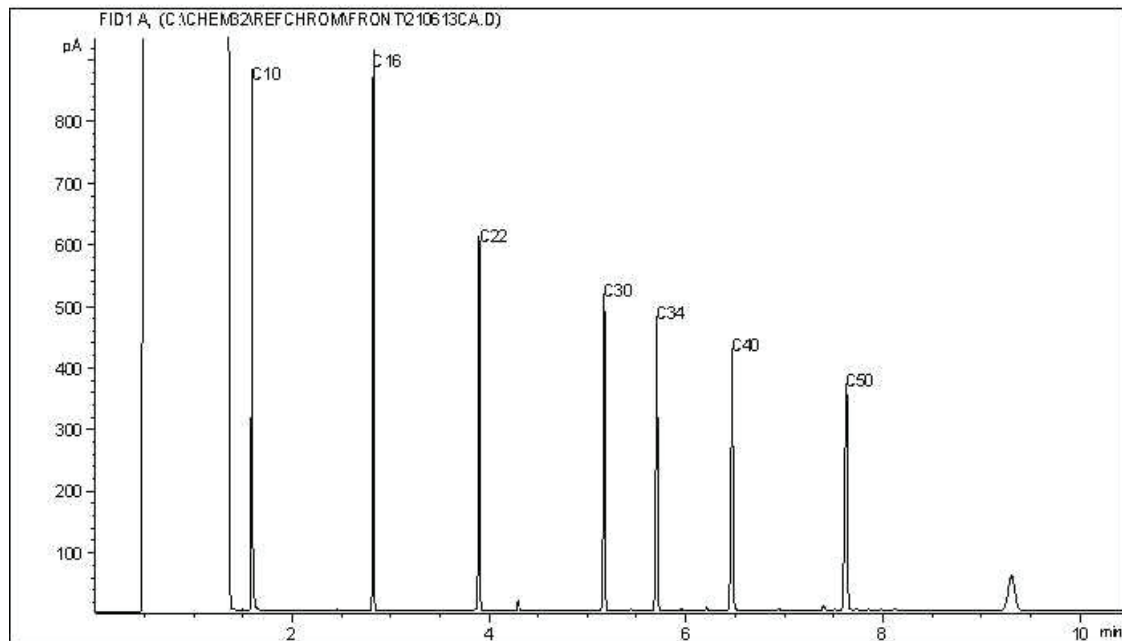
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



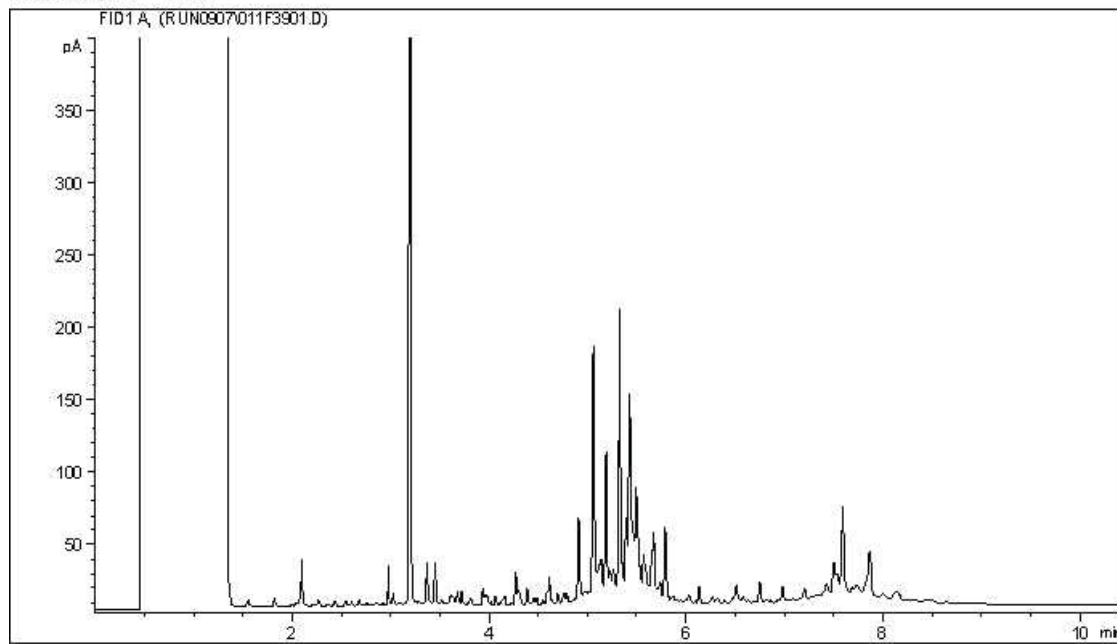
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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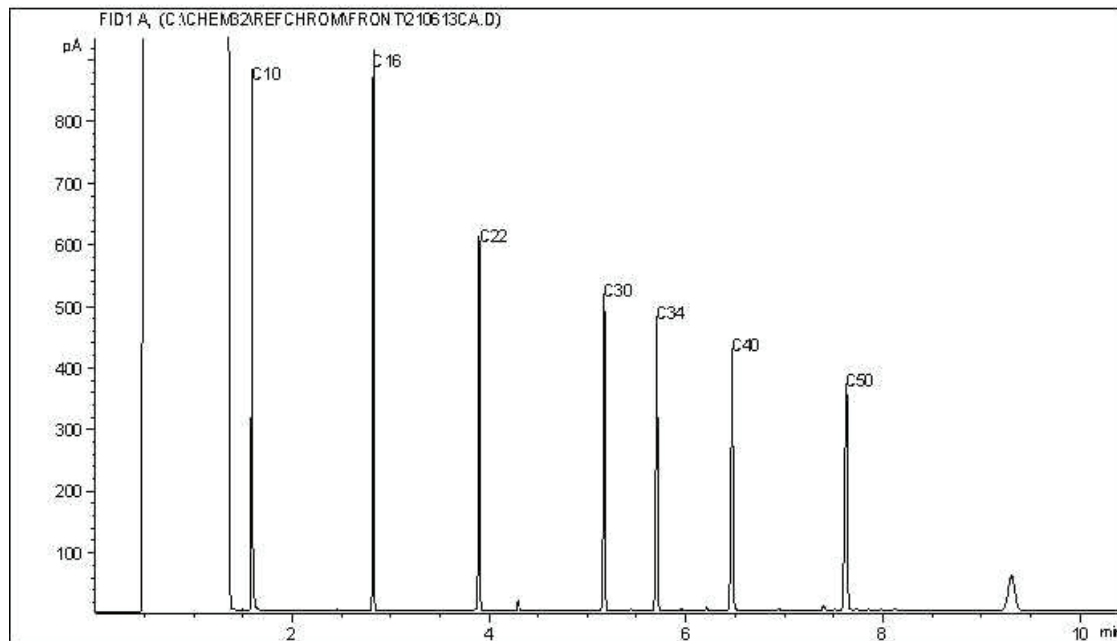
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



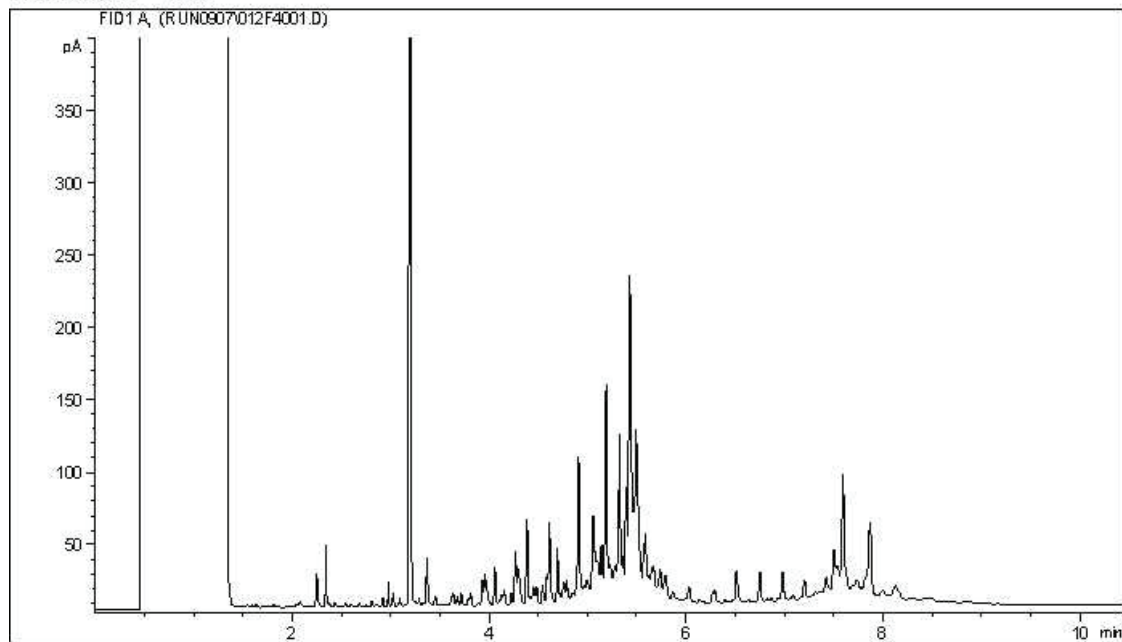
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

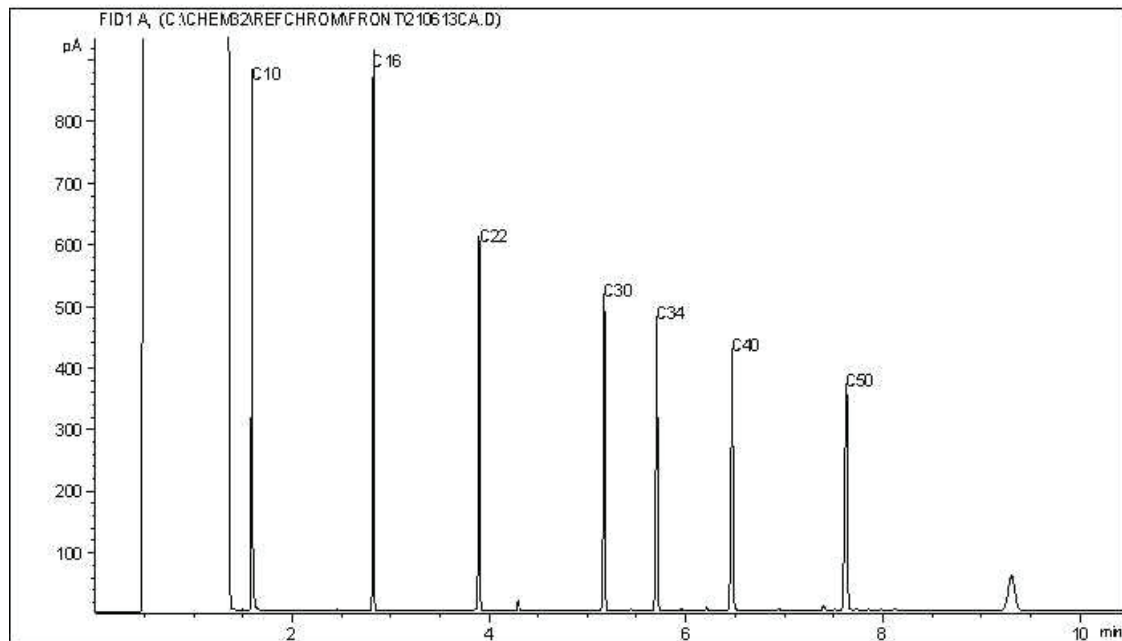
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

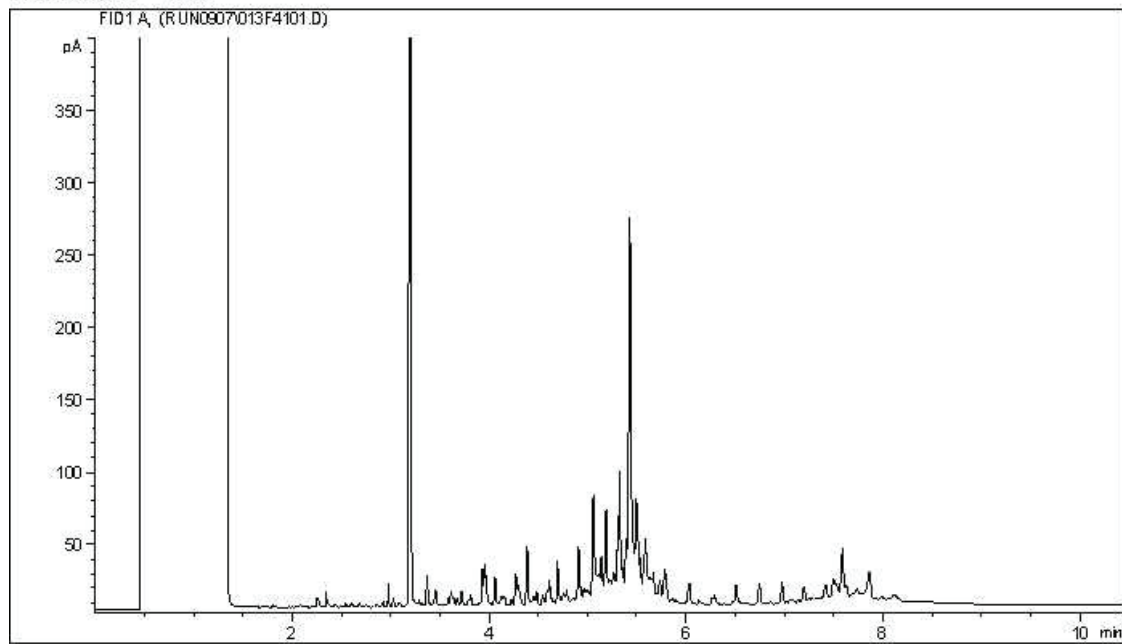
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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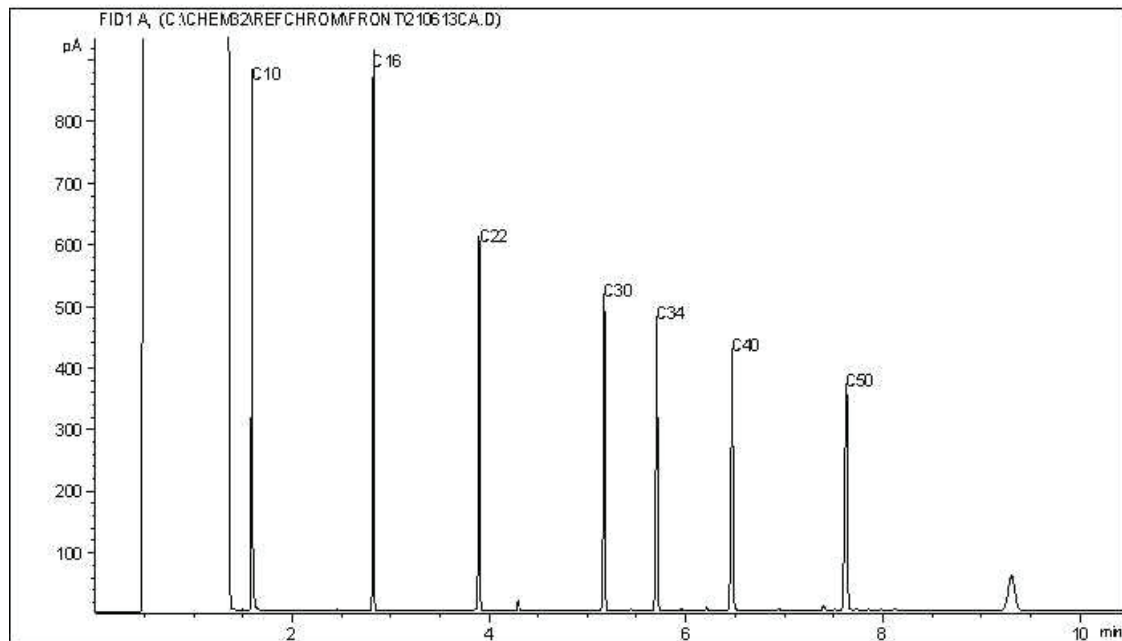


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



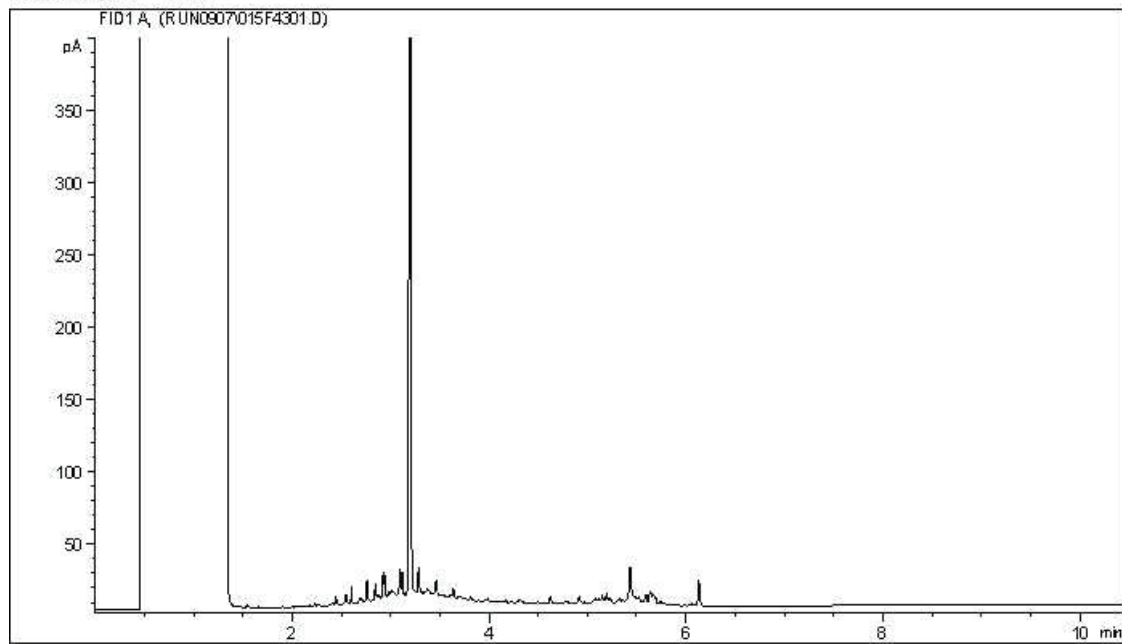
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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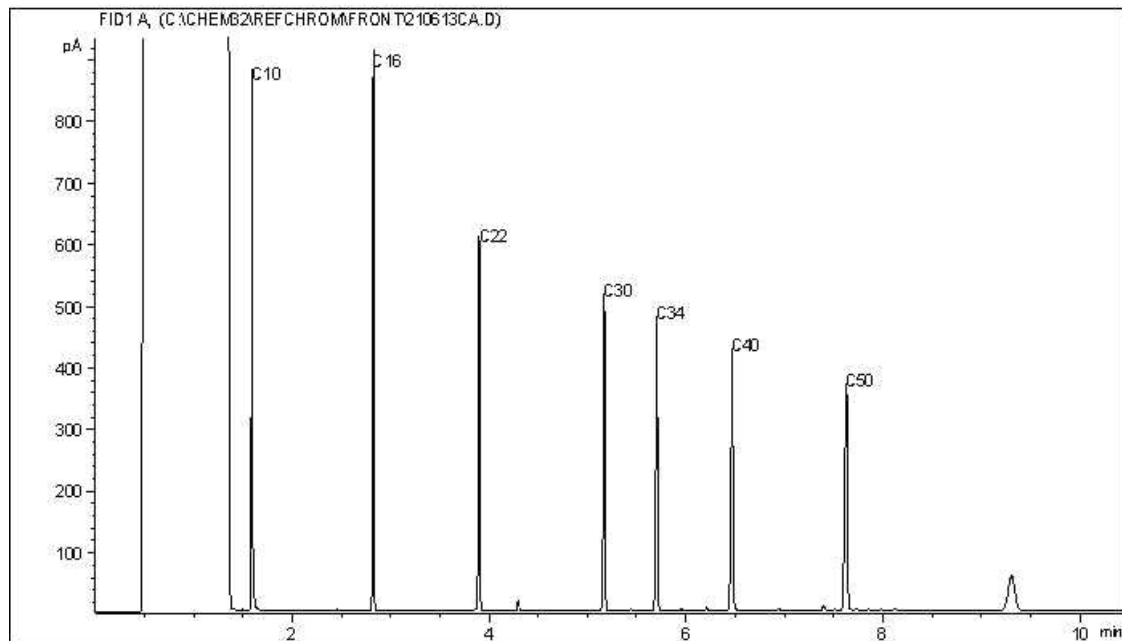
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



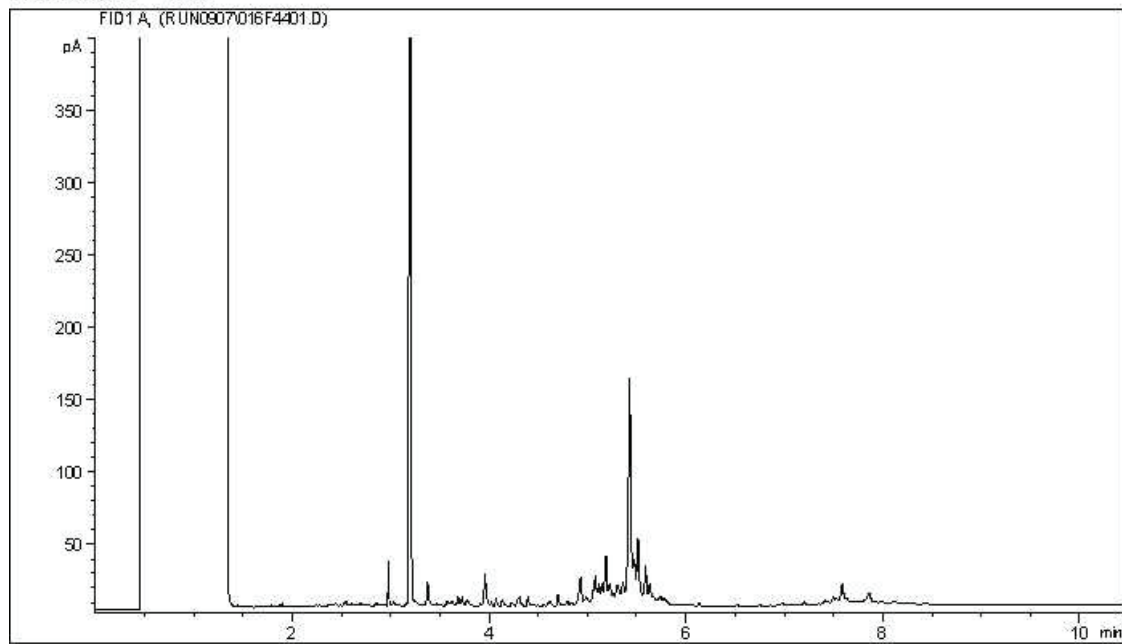
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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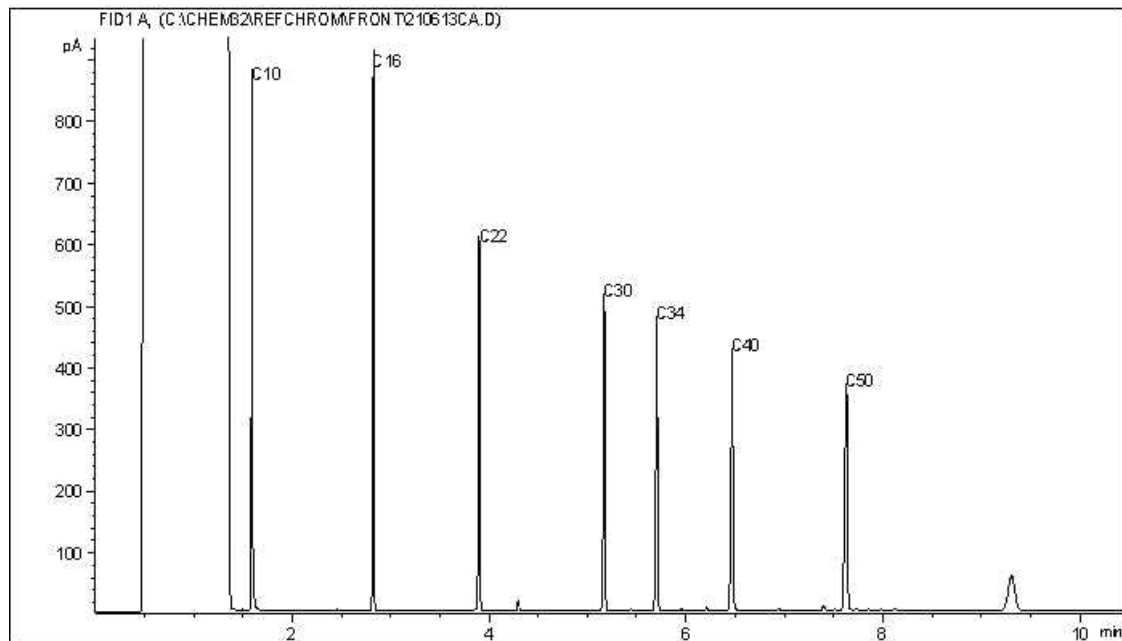
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



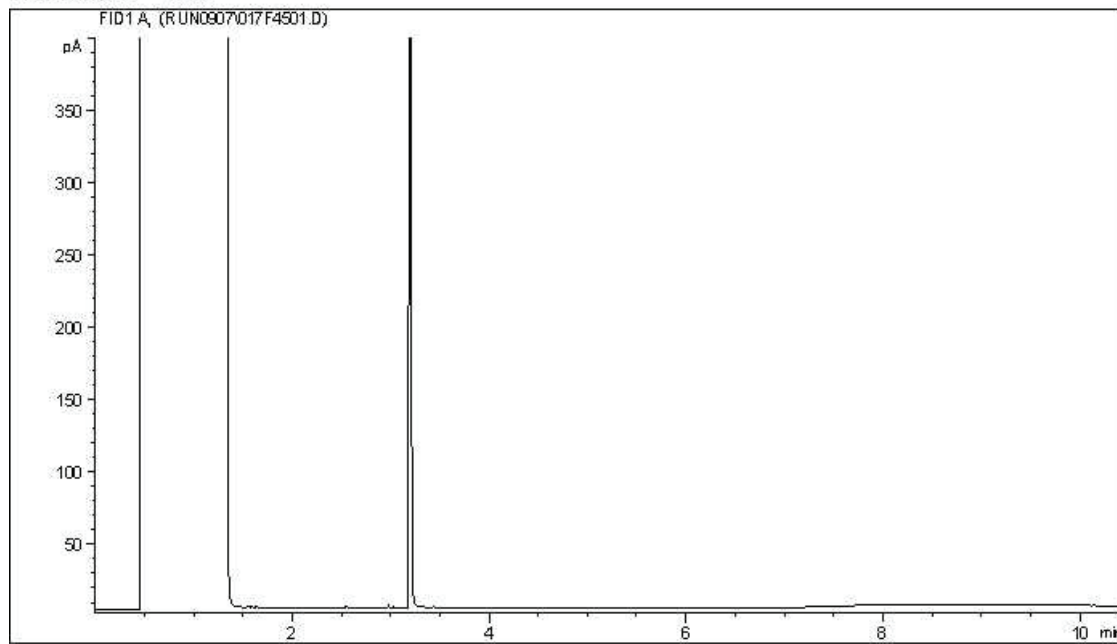
TYPICAL PRODUCT CARBON NUMBER RANGES

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

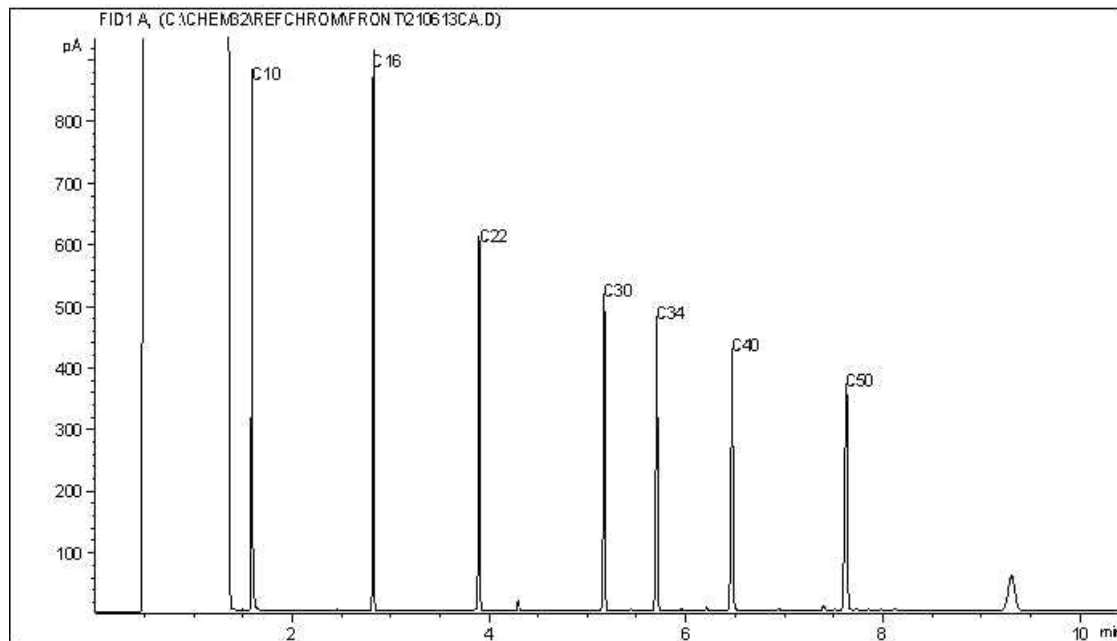
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



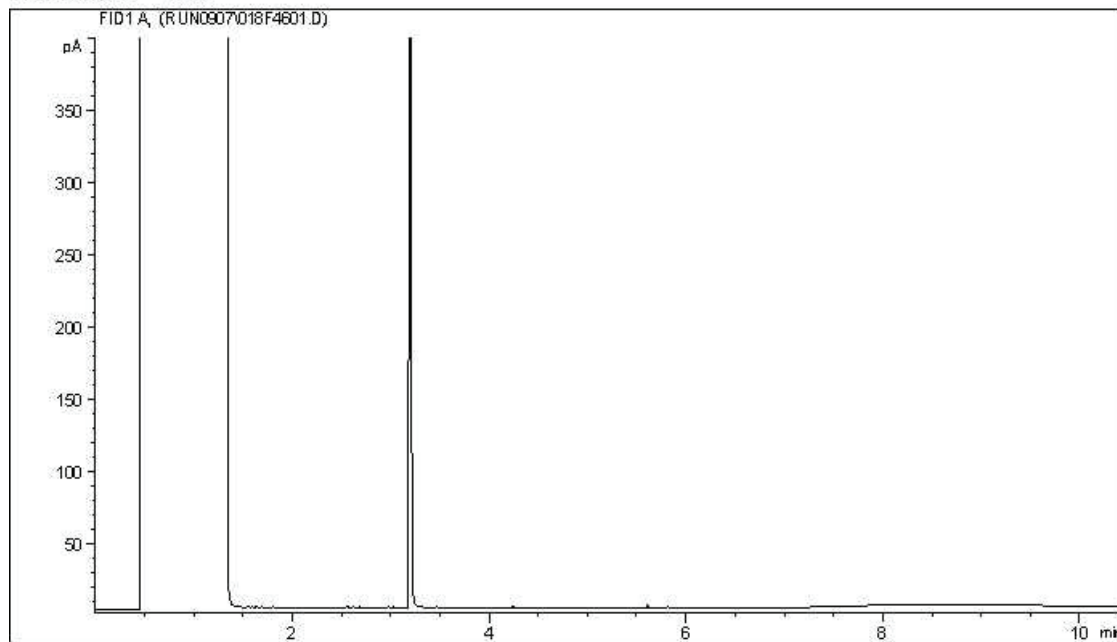
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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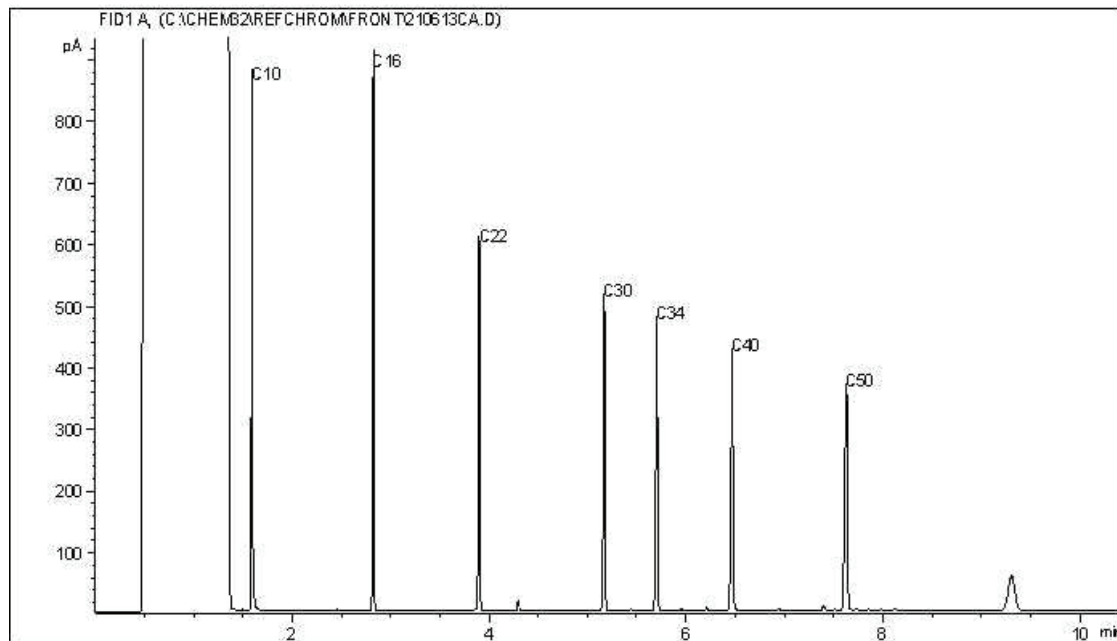
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



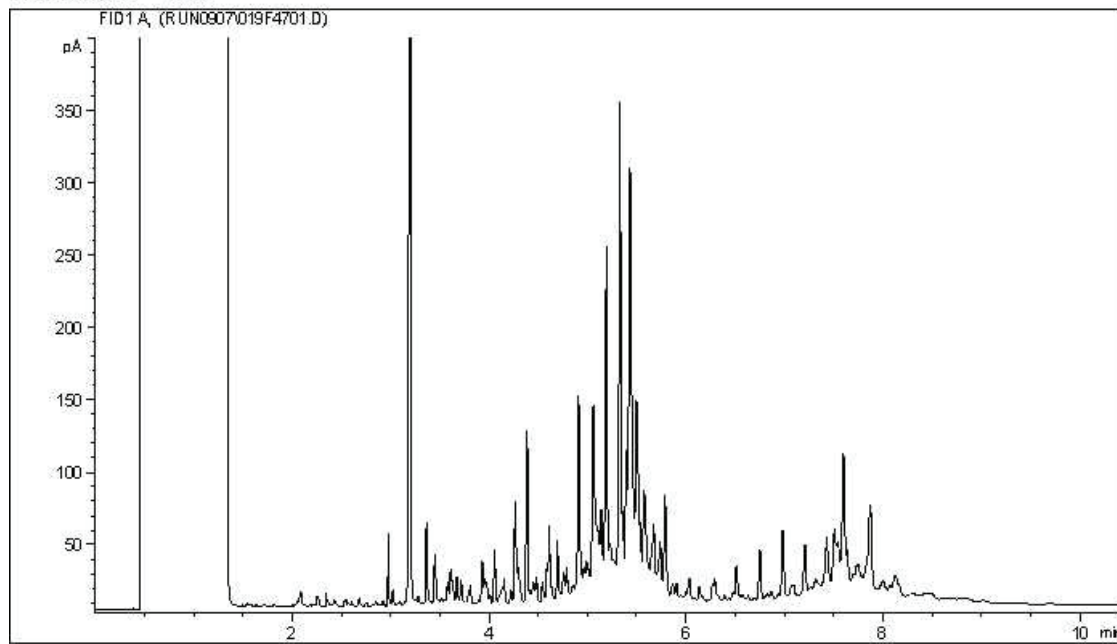
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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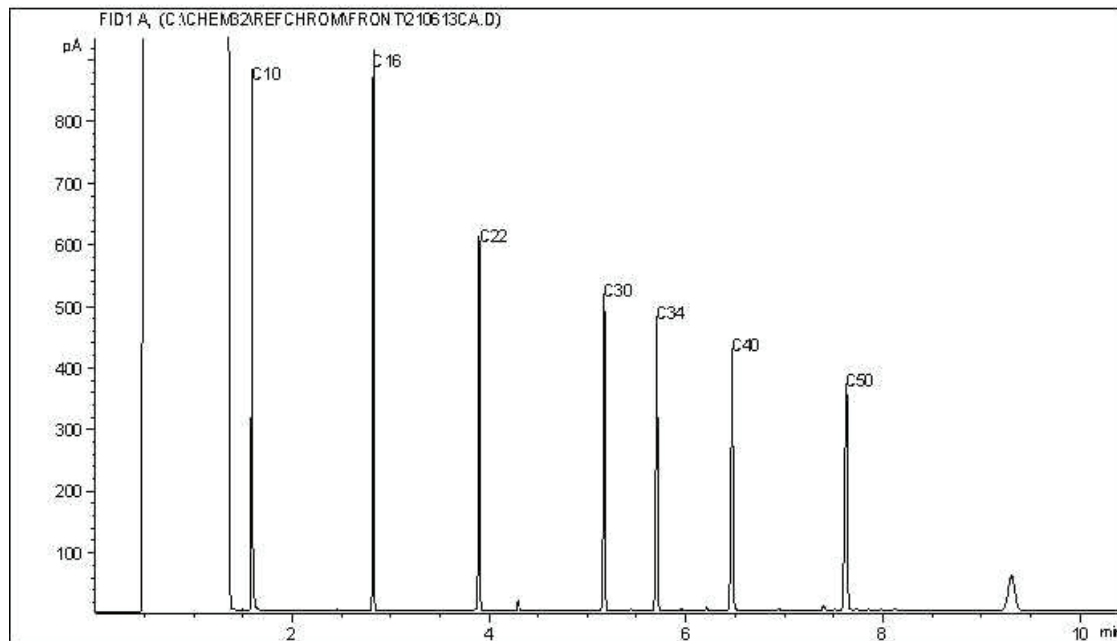
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



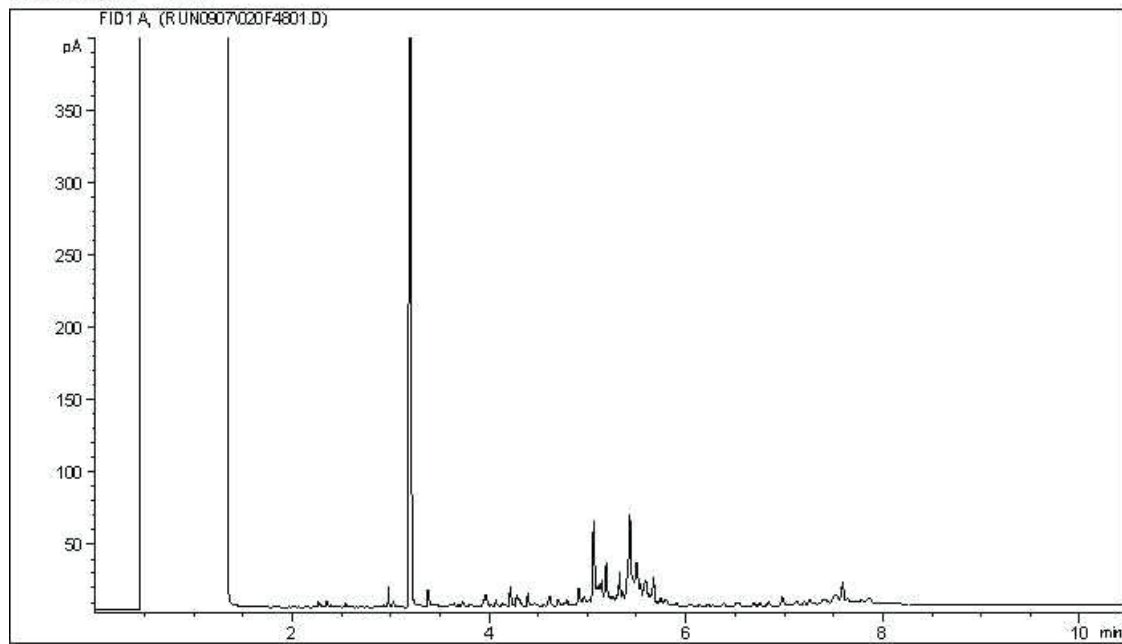
TYPICAL PRODUCT CARBON NUMBER RANGES

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

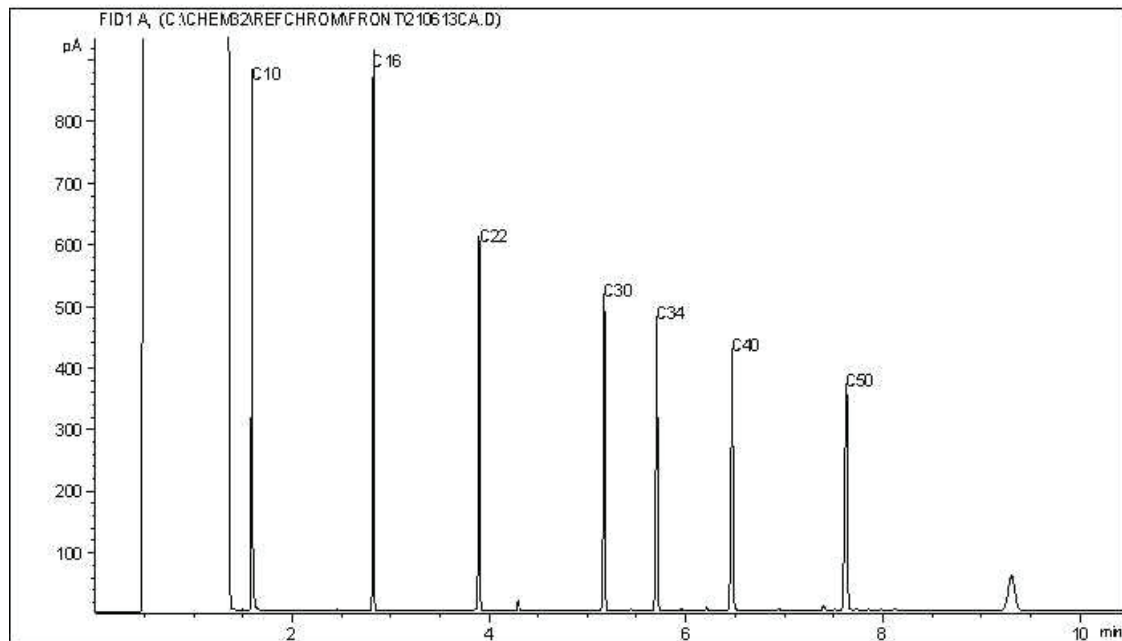
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

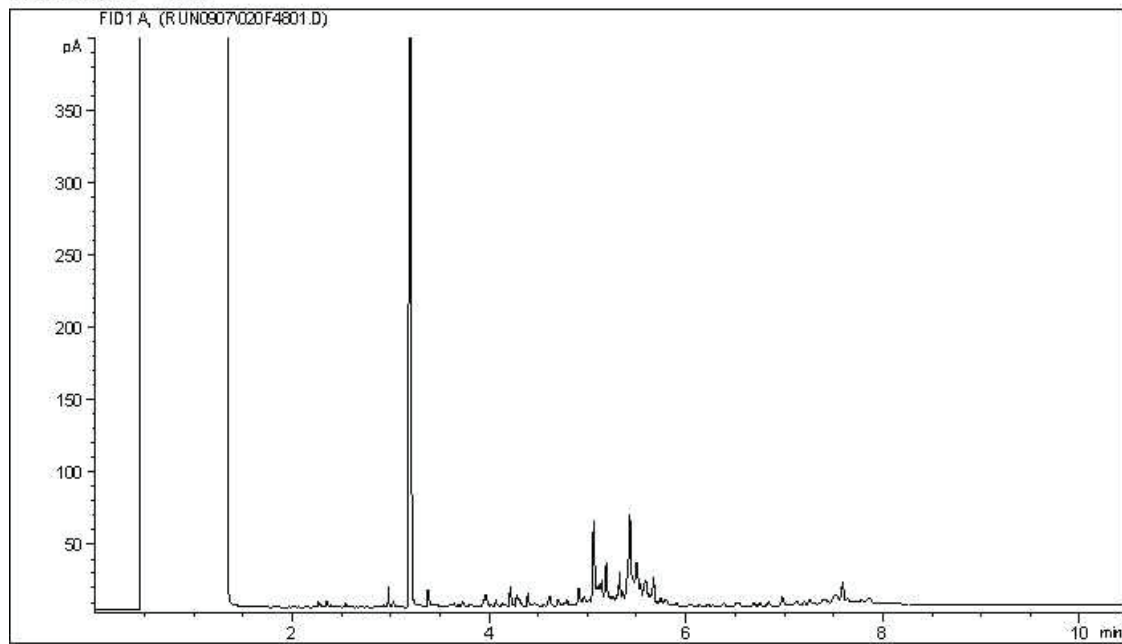
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

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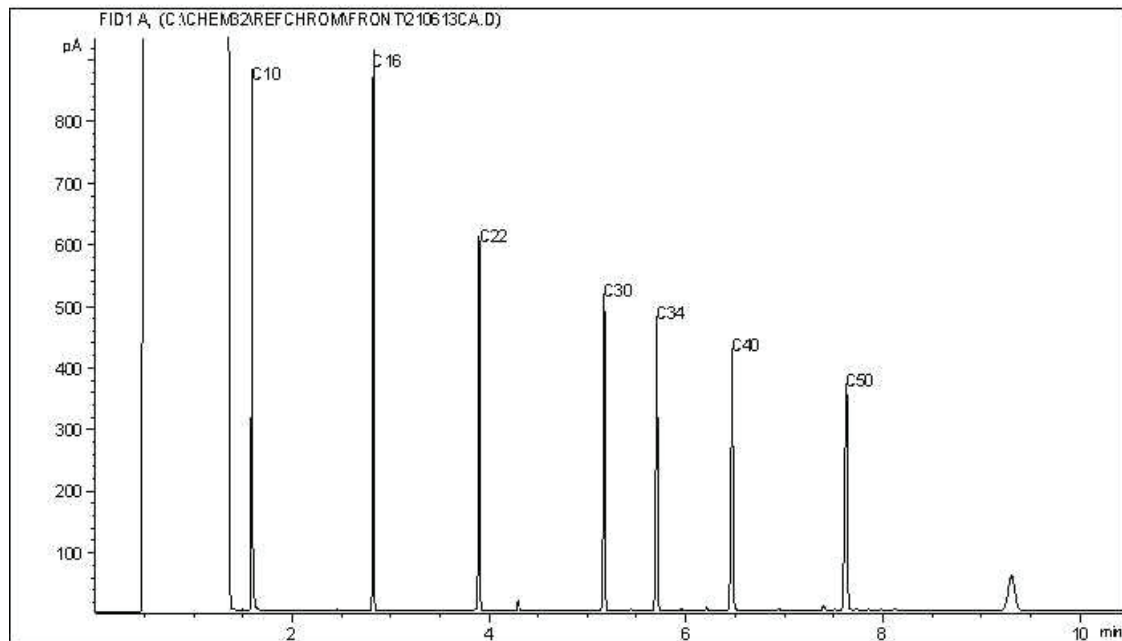


CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



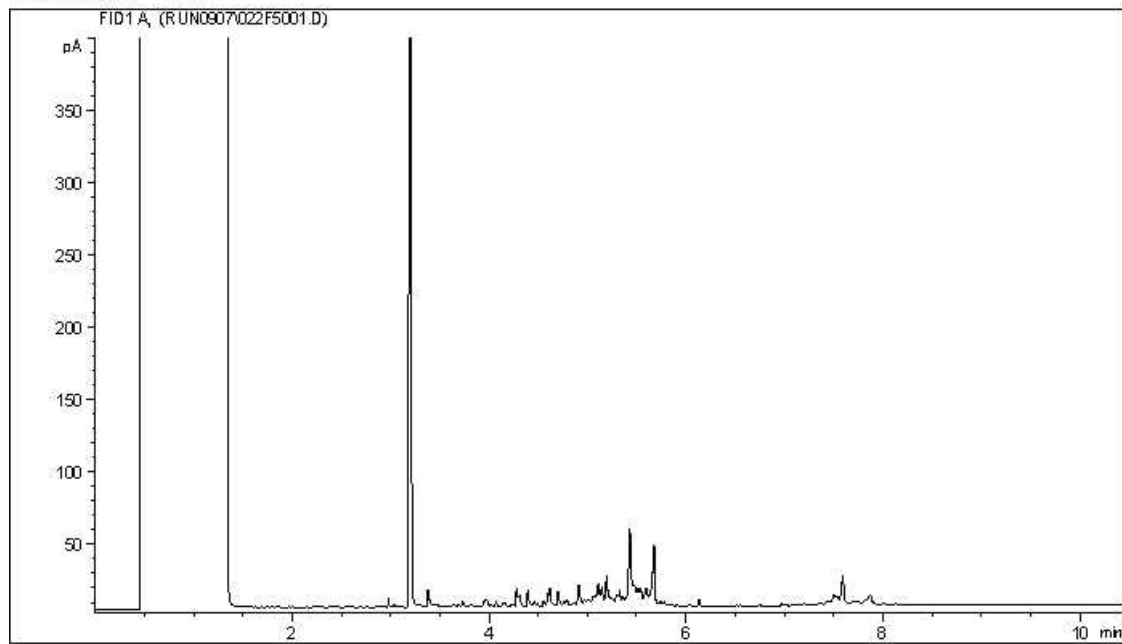
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

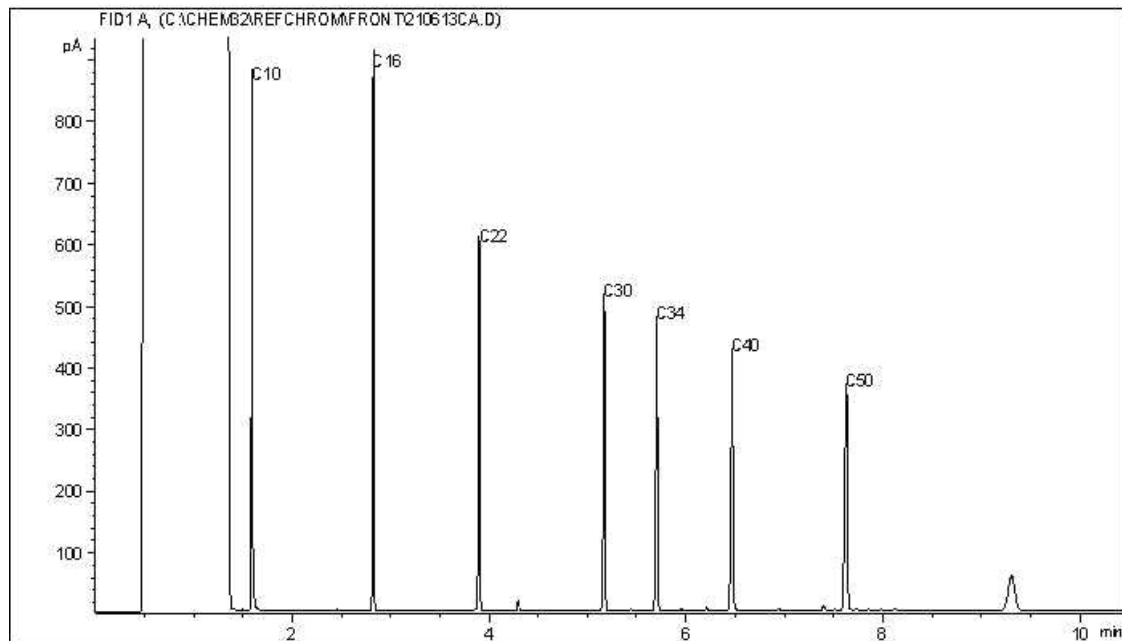
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



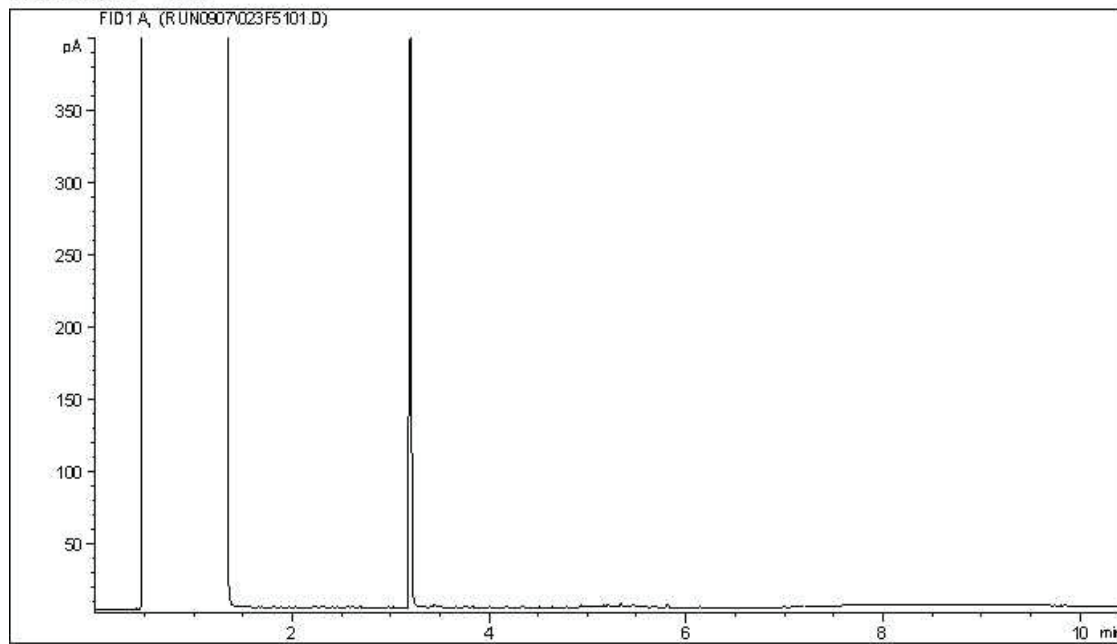
TYPICAL PRODUCT CARBON NUMBER RANGES

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

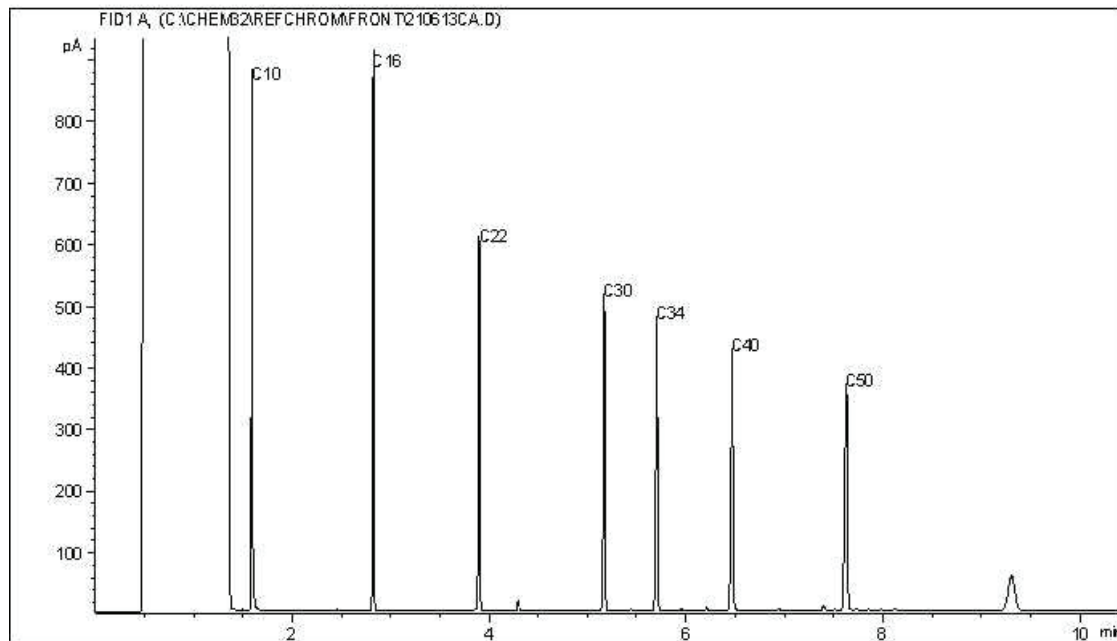
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



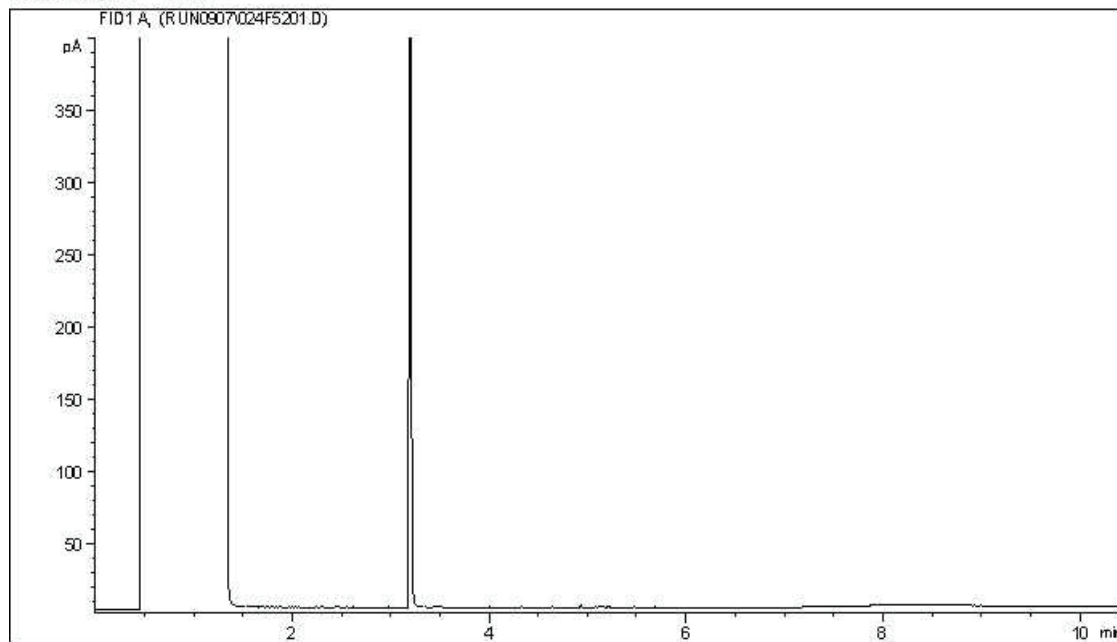
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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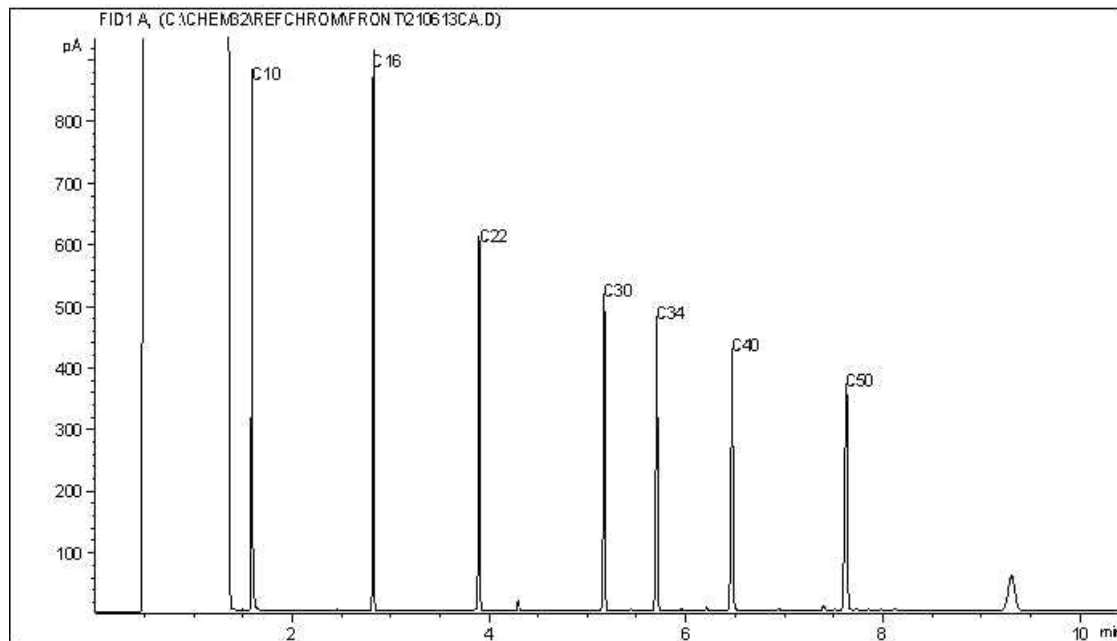
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



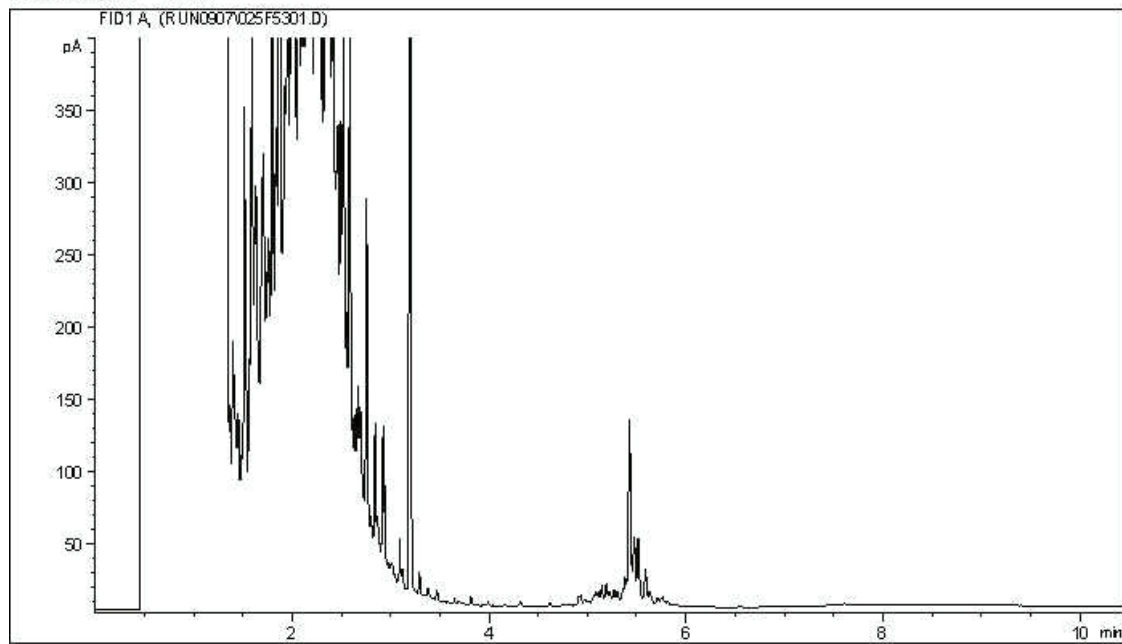
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Gasoline:	C4 - C12	Diesel:	C8 - C22
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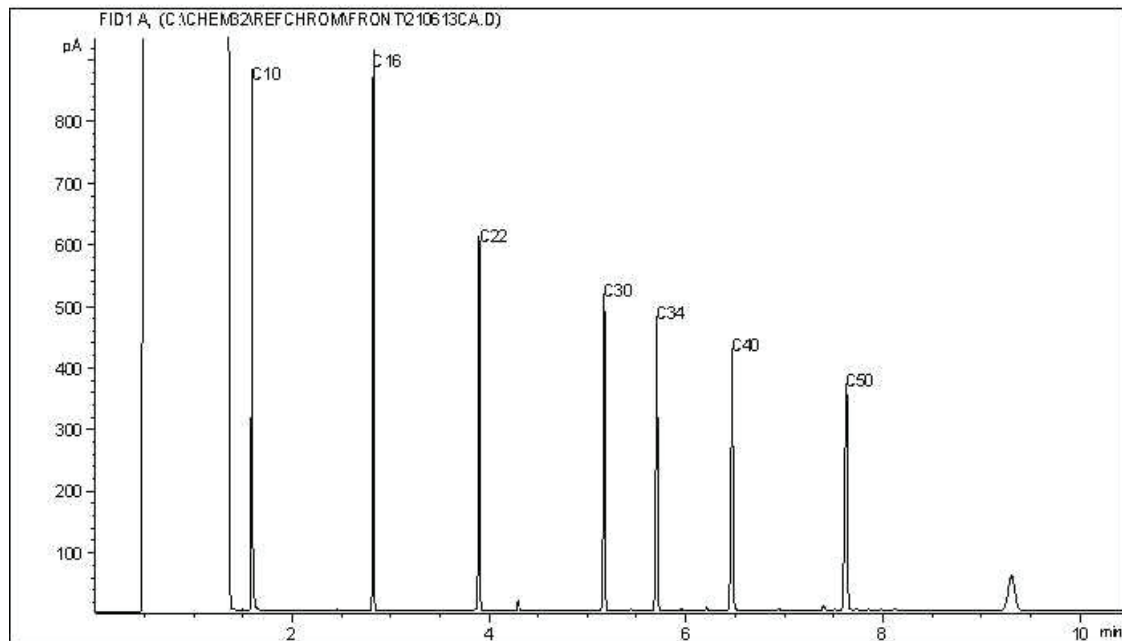
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



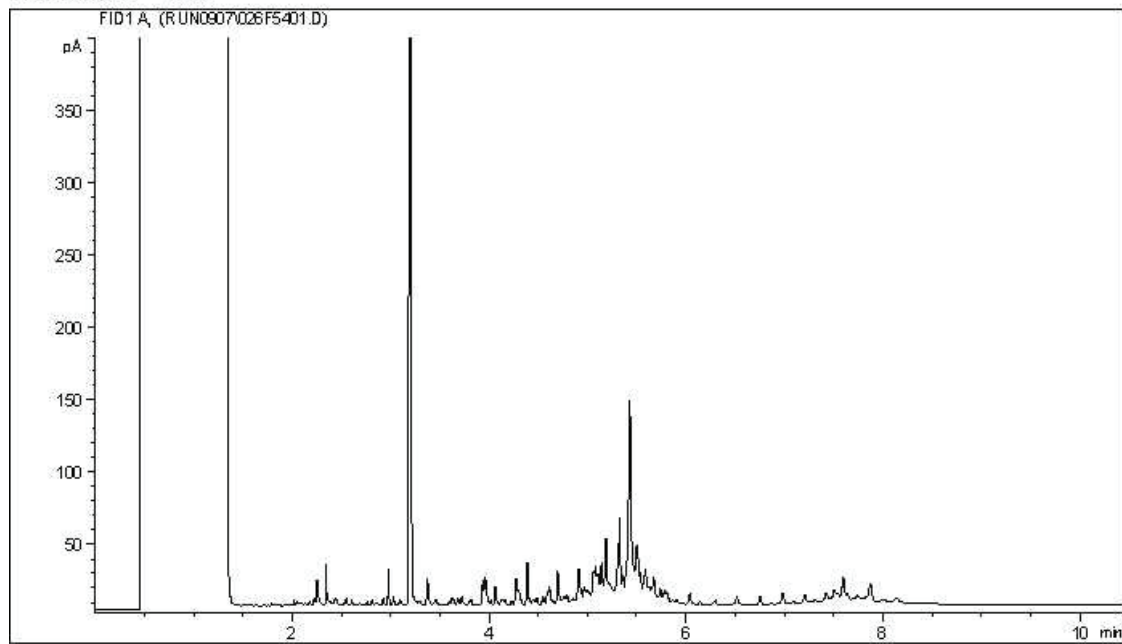
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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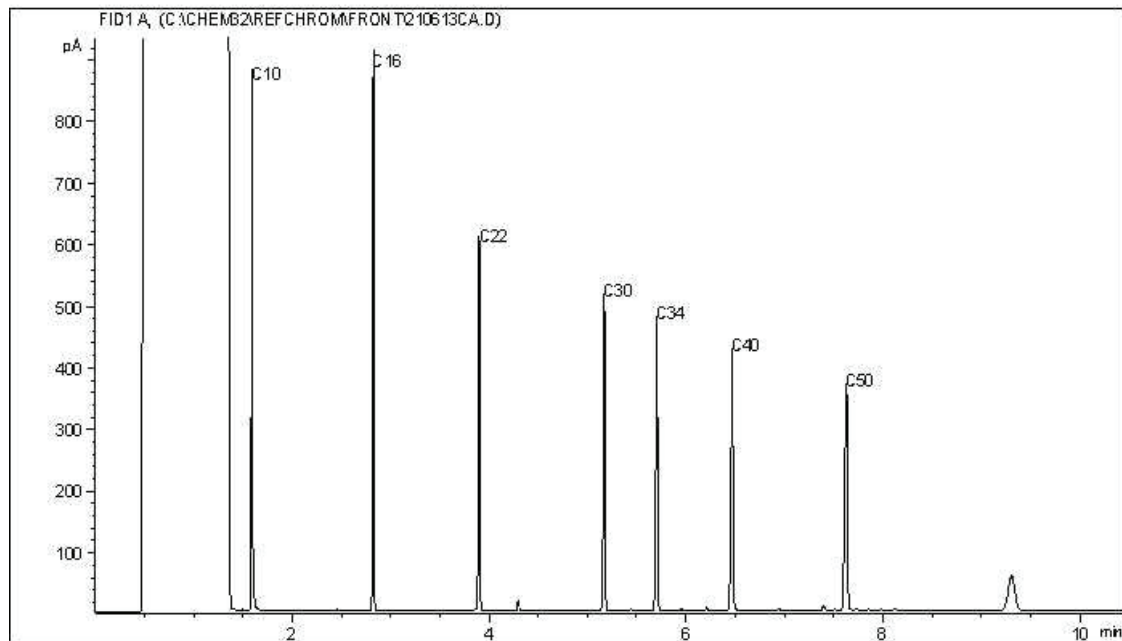
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



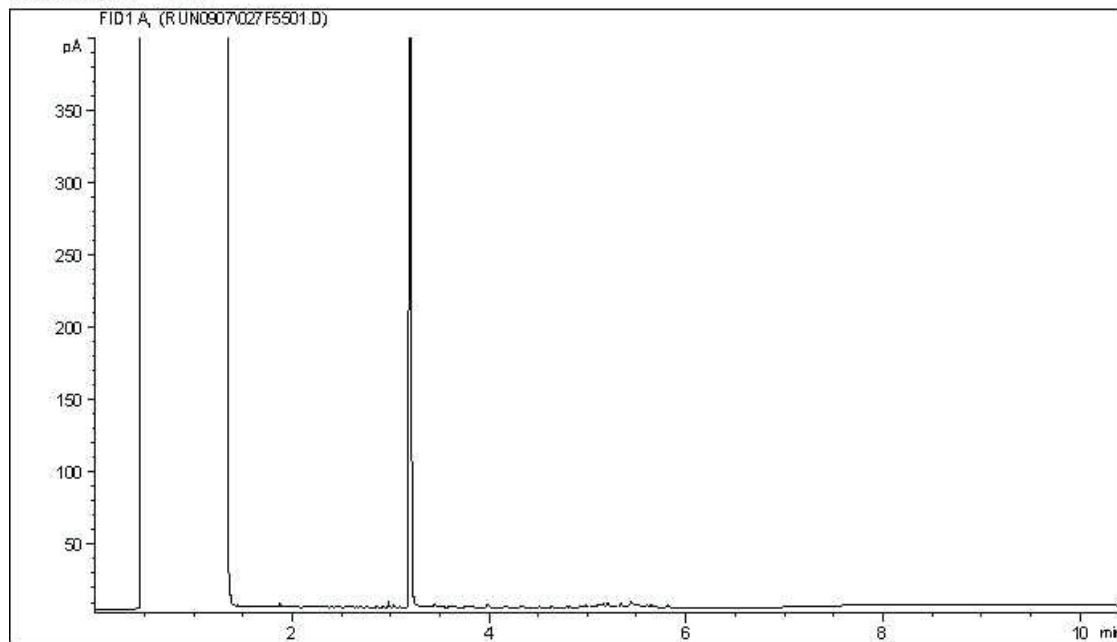
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Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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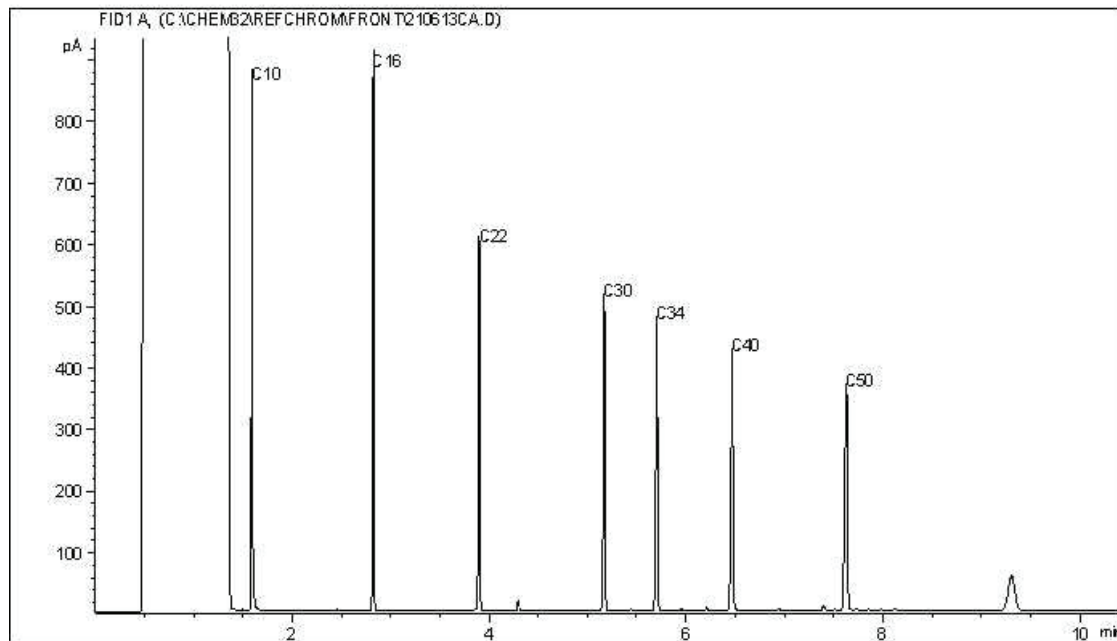
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

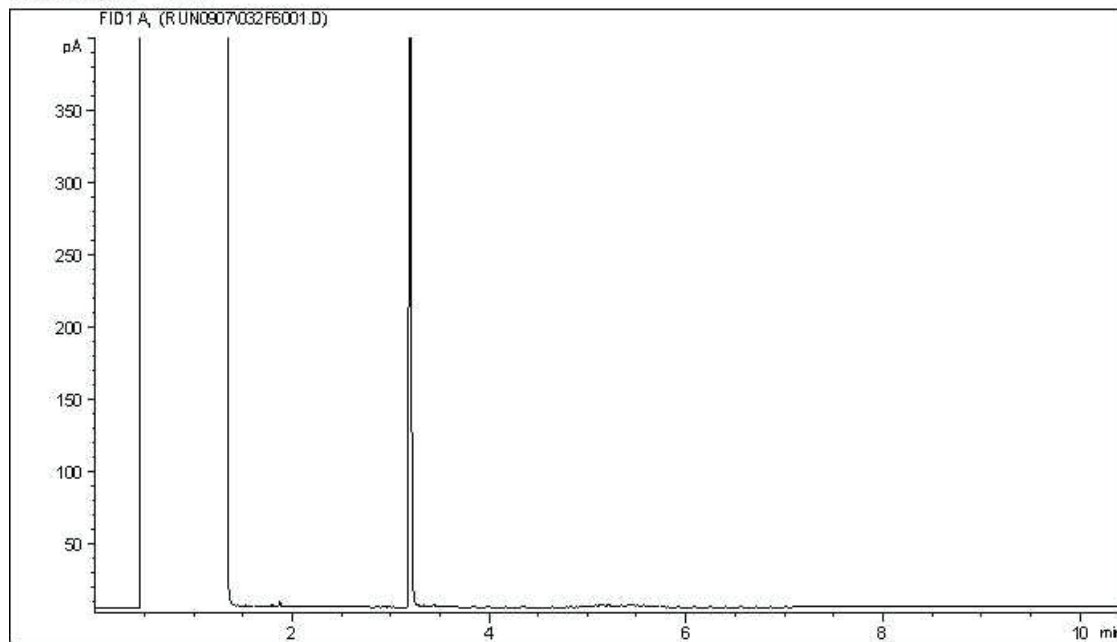
Gasoline:	C4 - C12	Diesel:	C8 - C22
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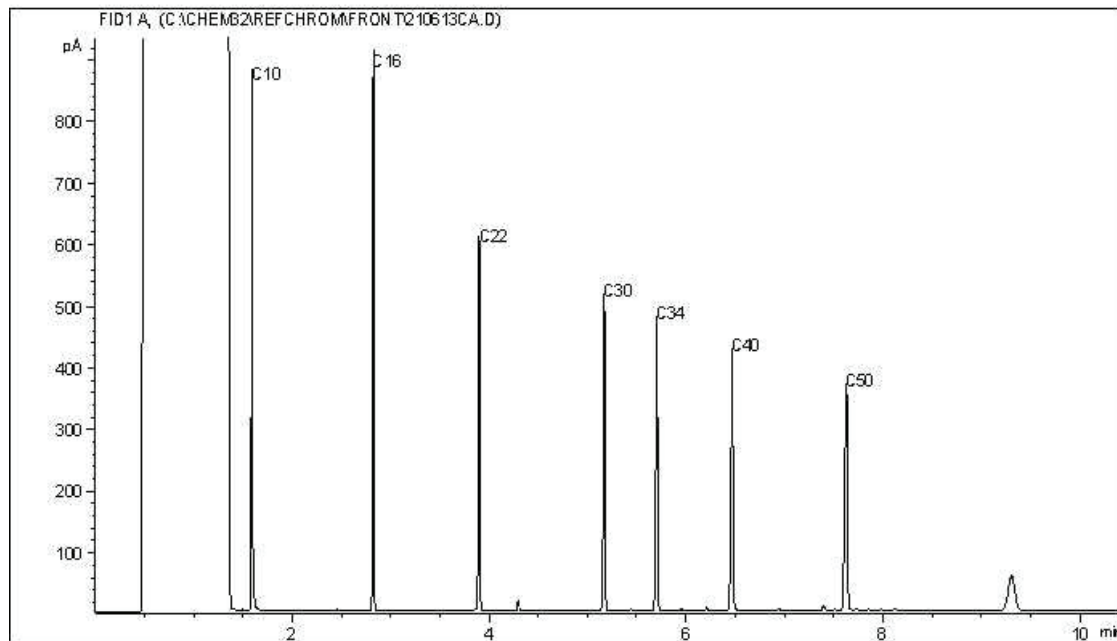


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



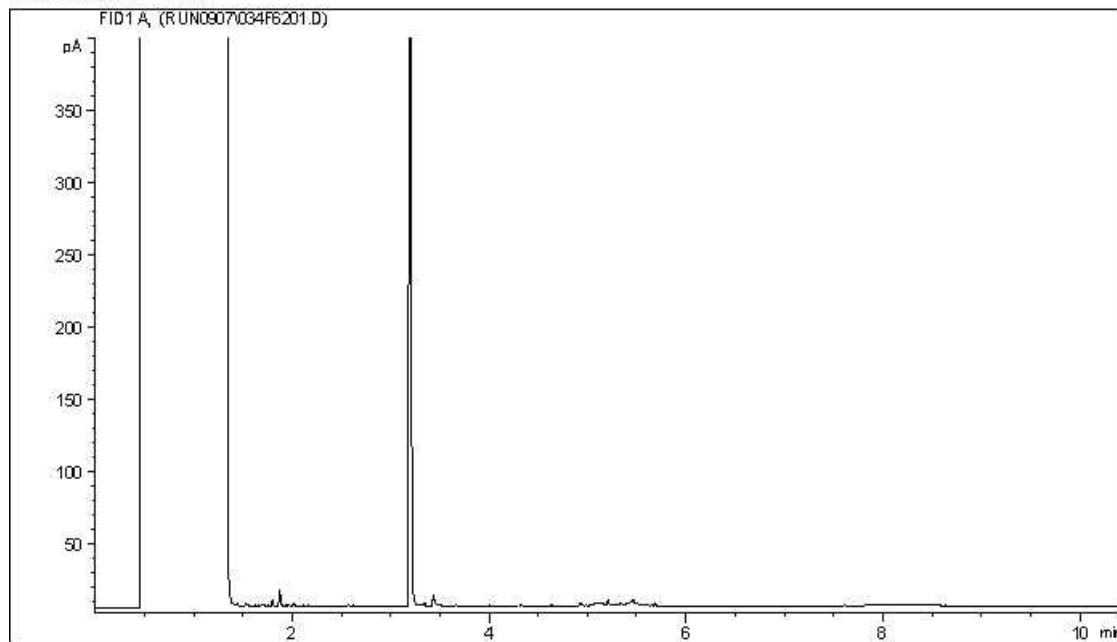
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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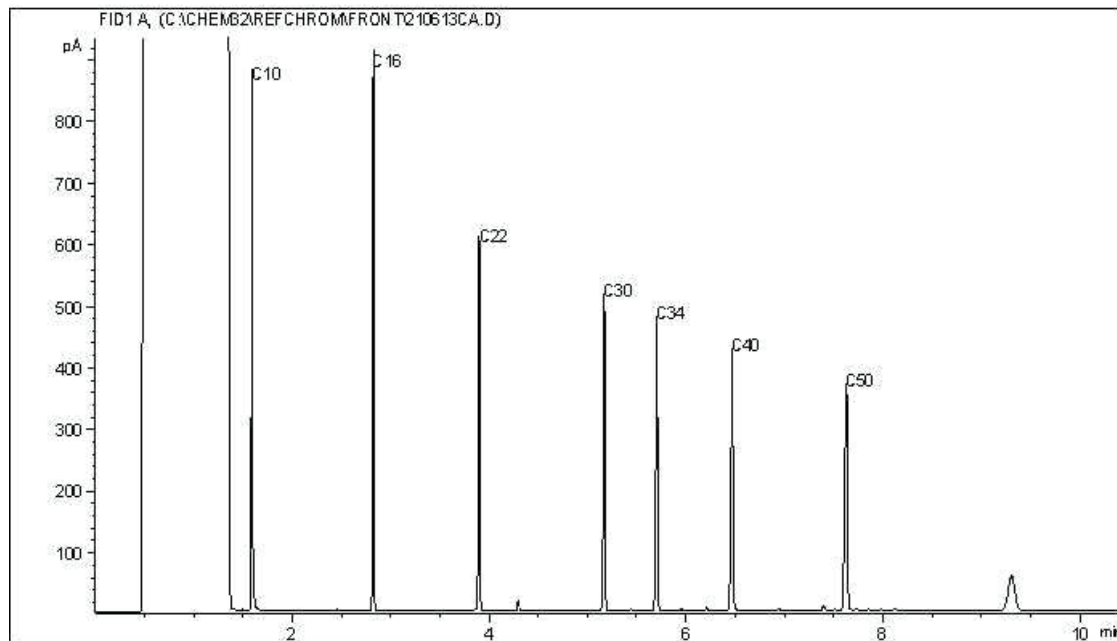
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



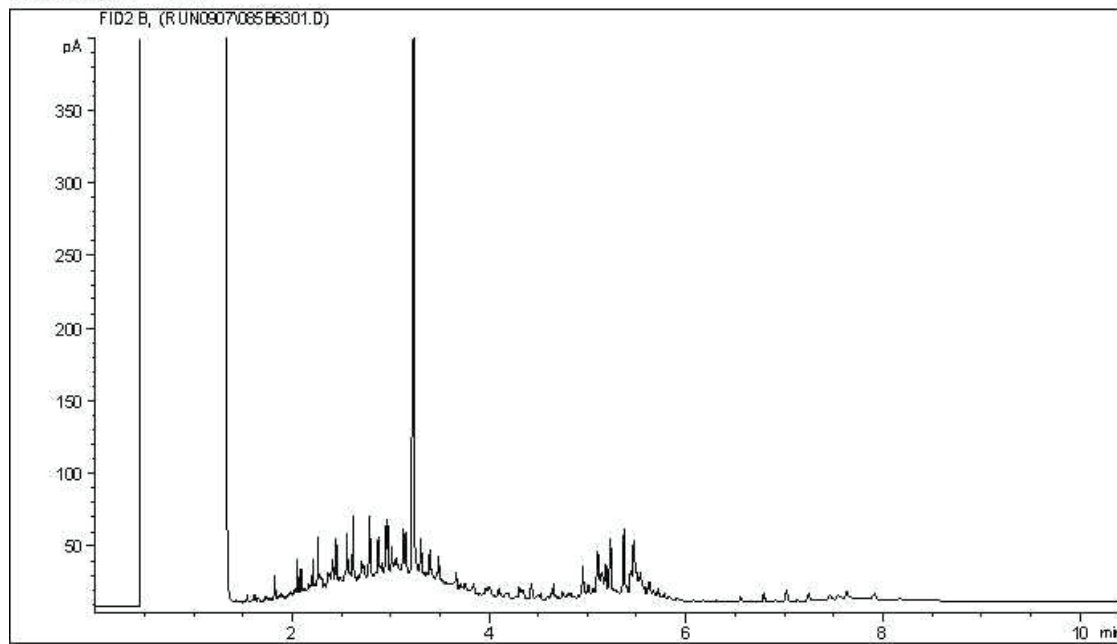
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Gasoline:	C4 - C12	Diesel:	C8 - C22
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Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

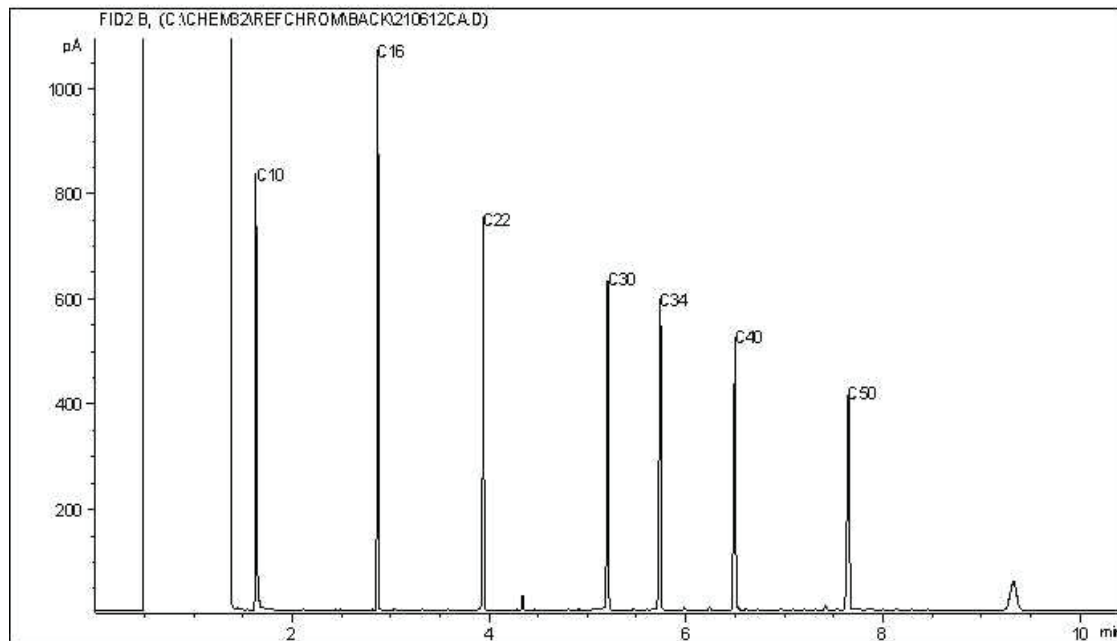
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



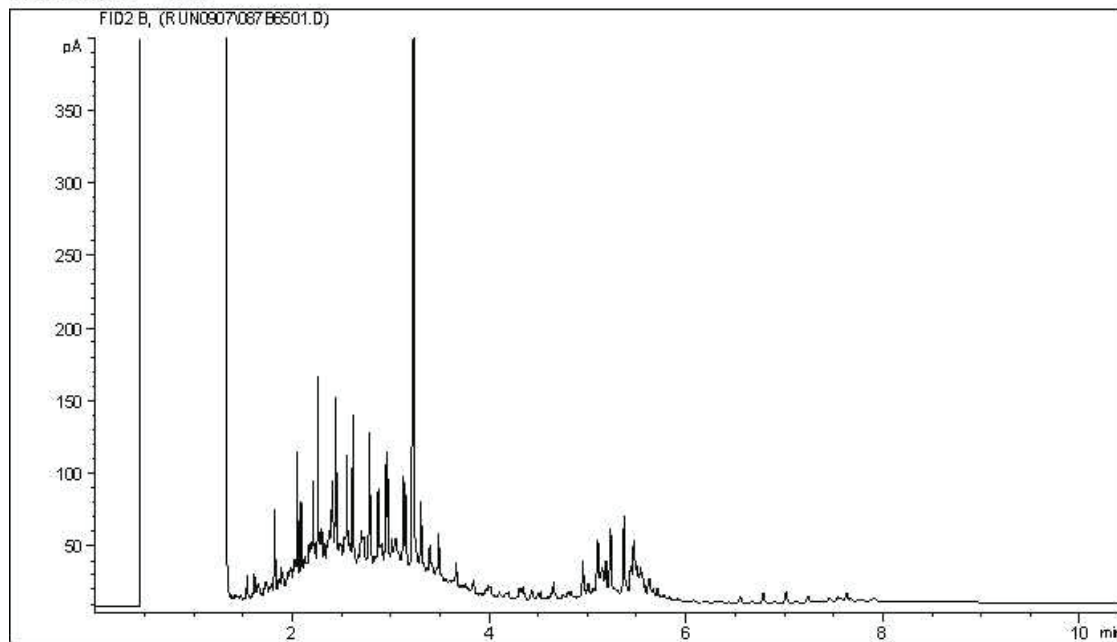
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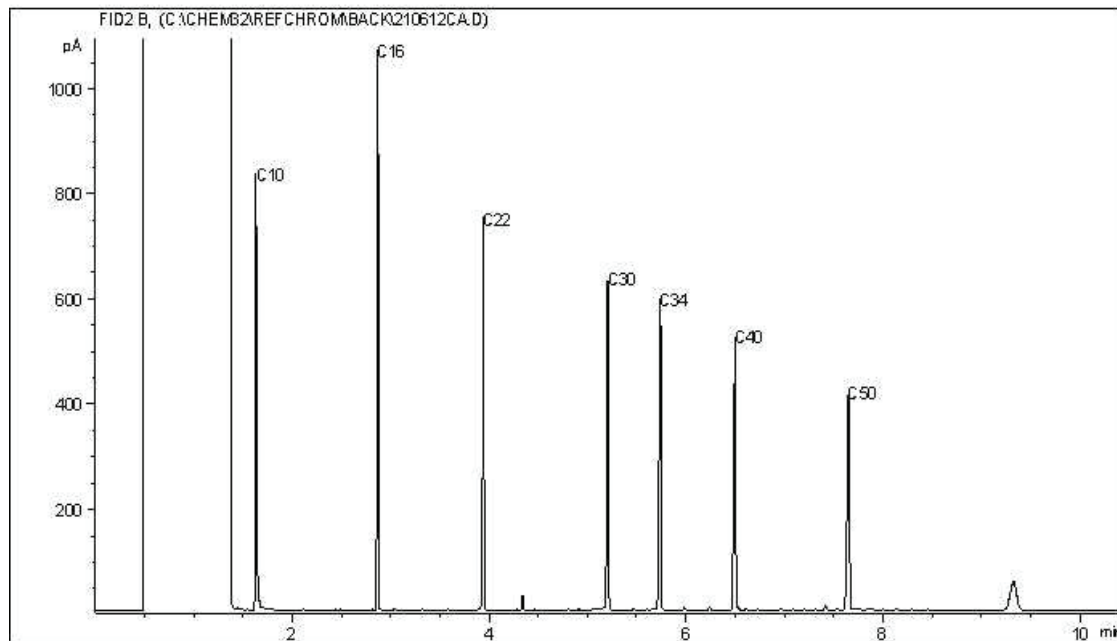
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



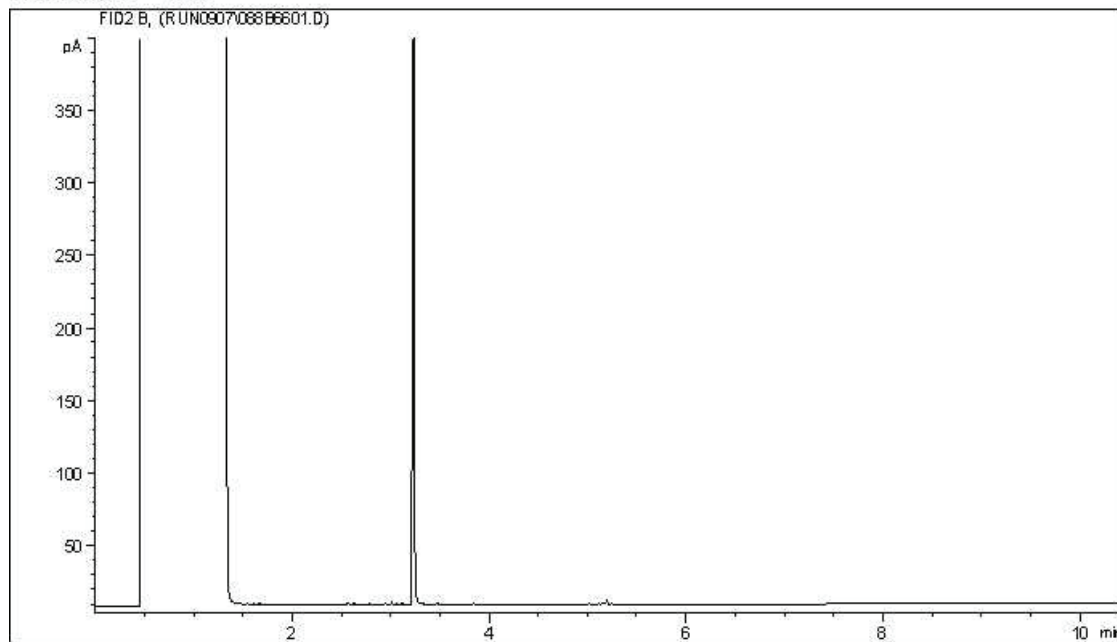
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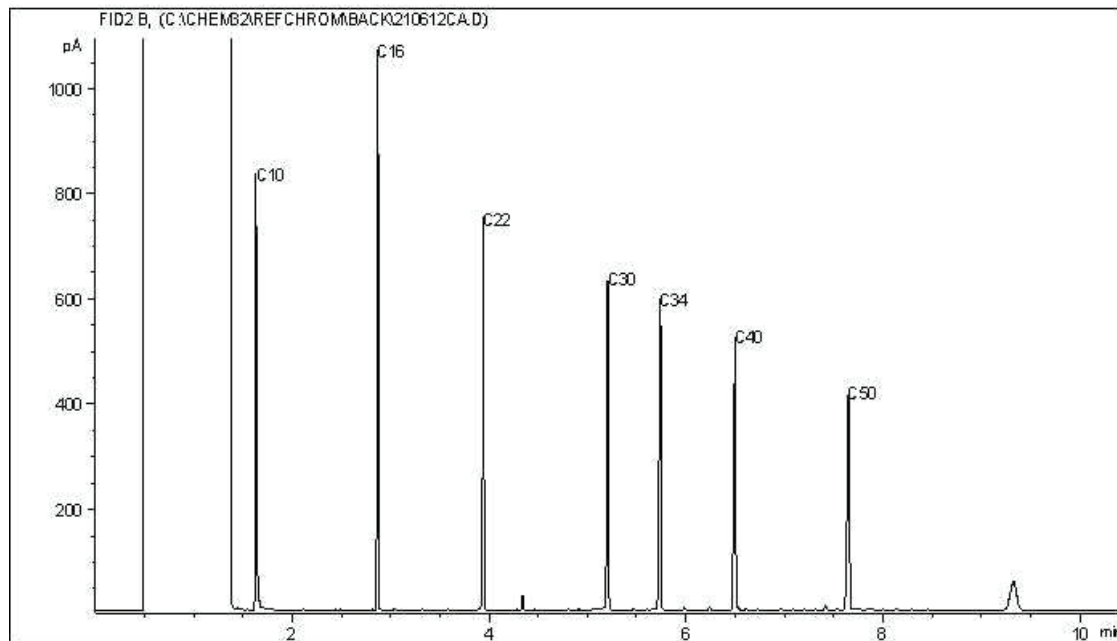
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



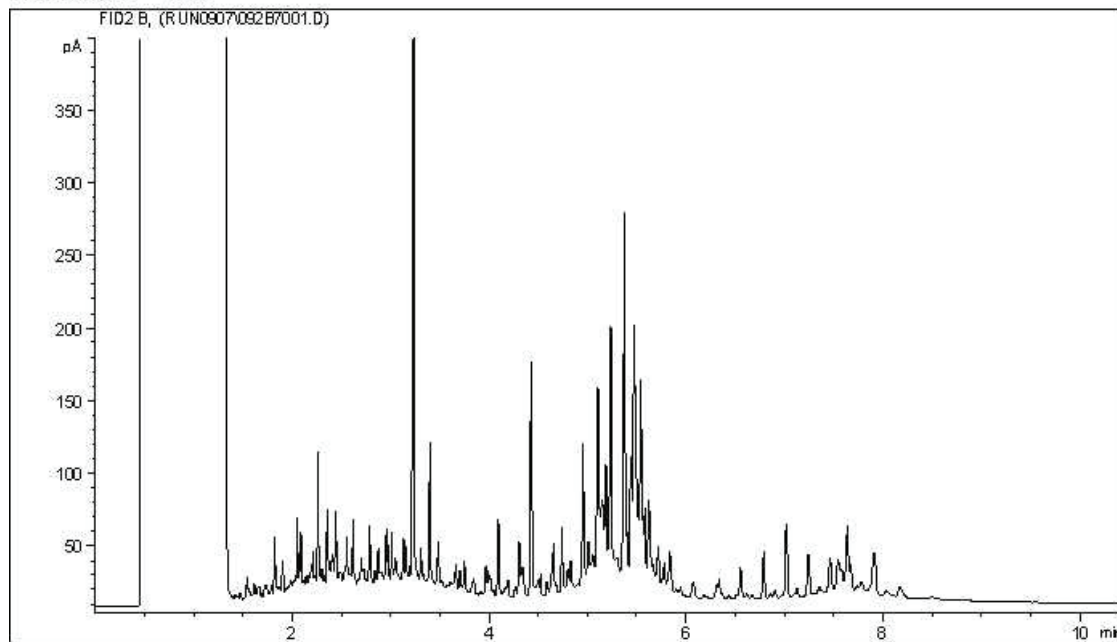
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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

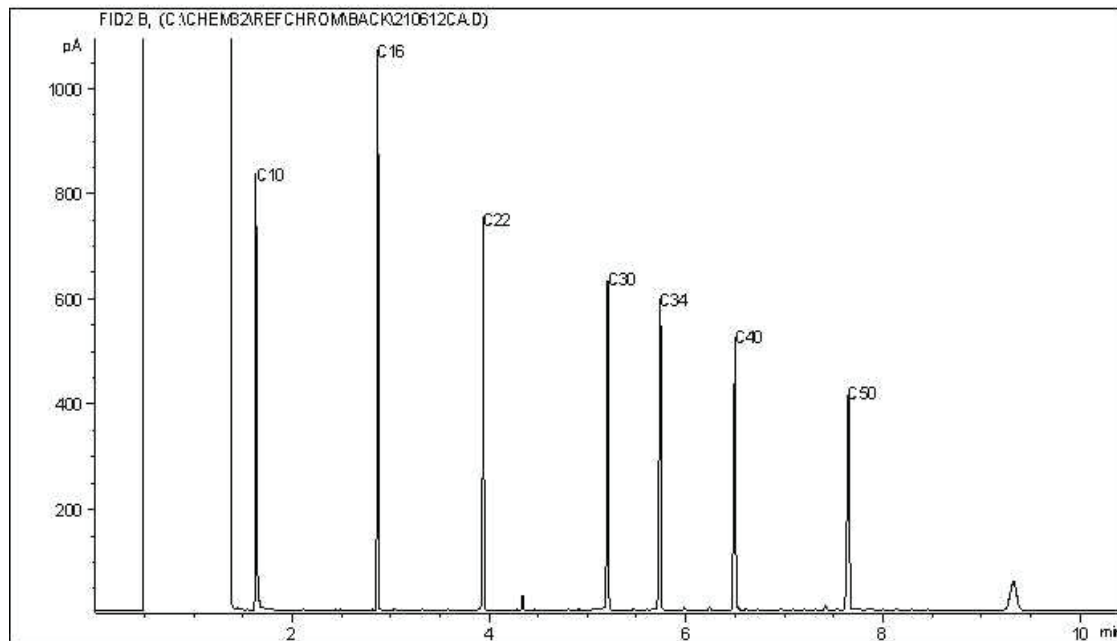
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



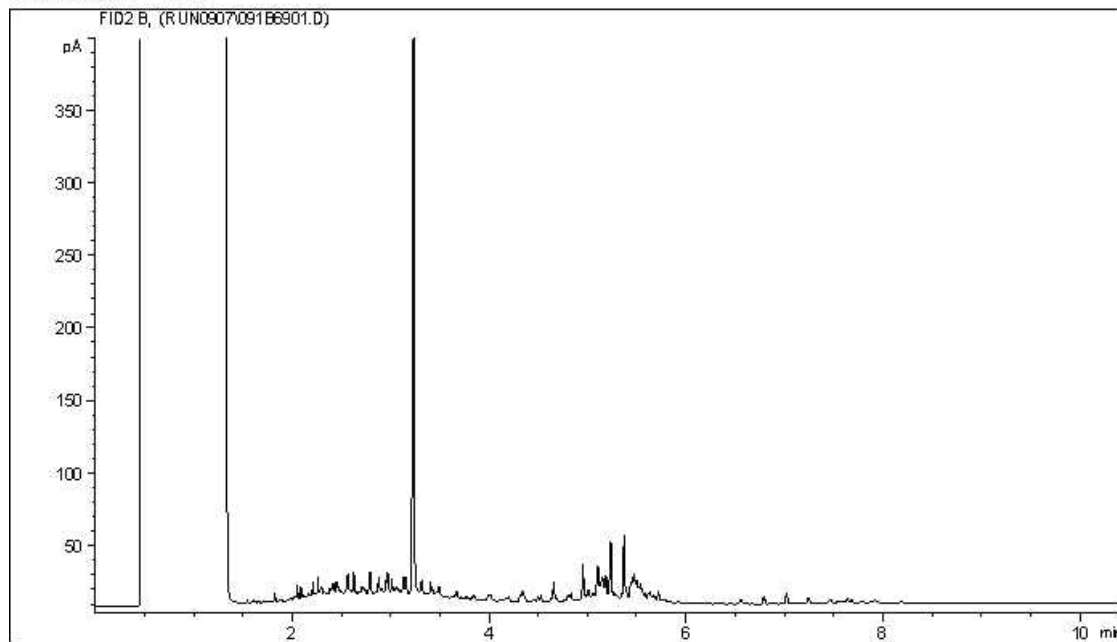
TYPICAL PRODUCT CARBON NUMBER RANGES

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

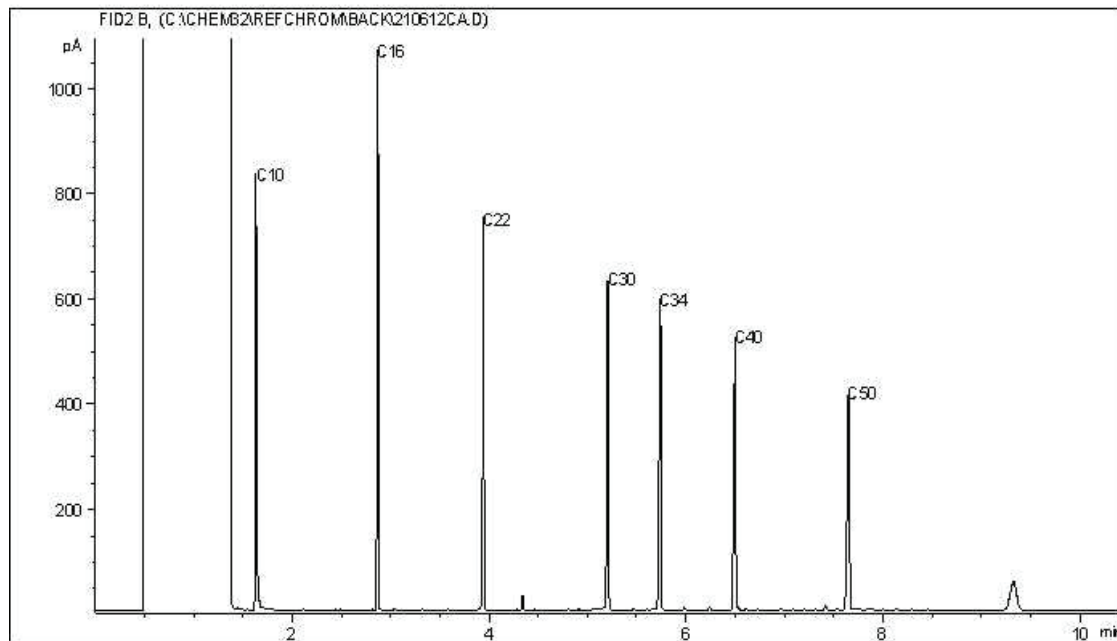
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Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

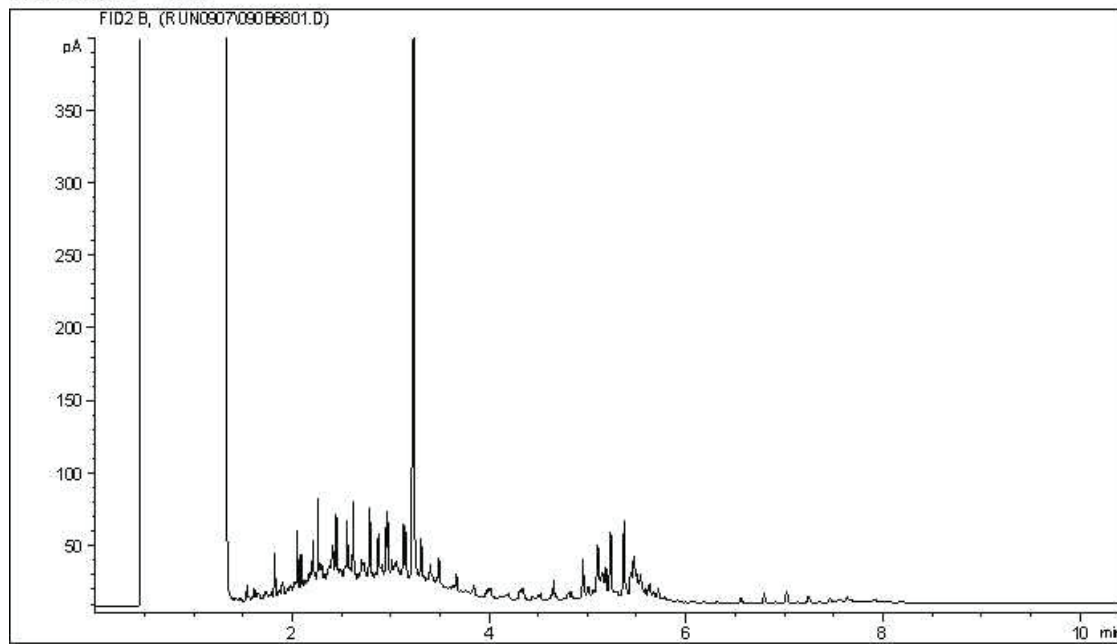
Gasoline:	C4 - C12	Diesel:	C8 - C22
Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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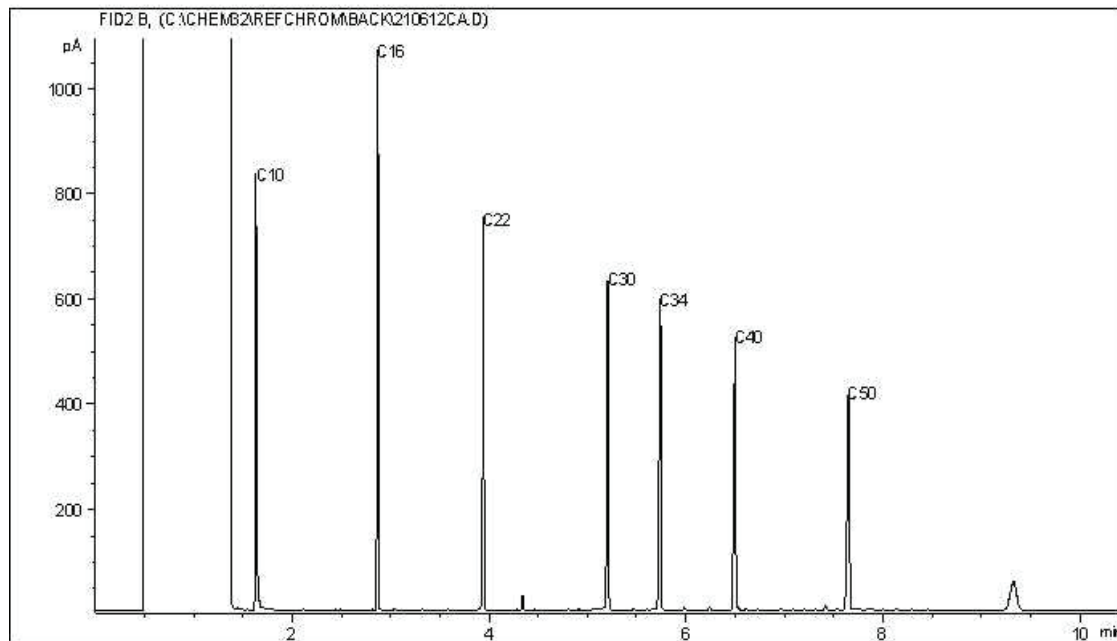


CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



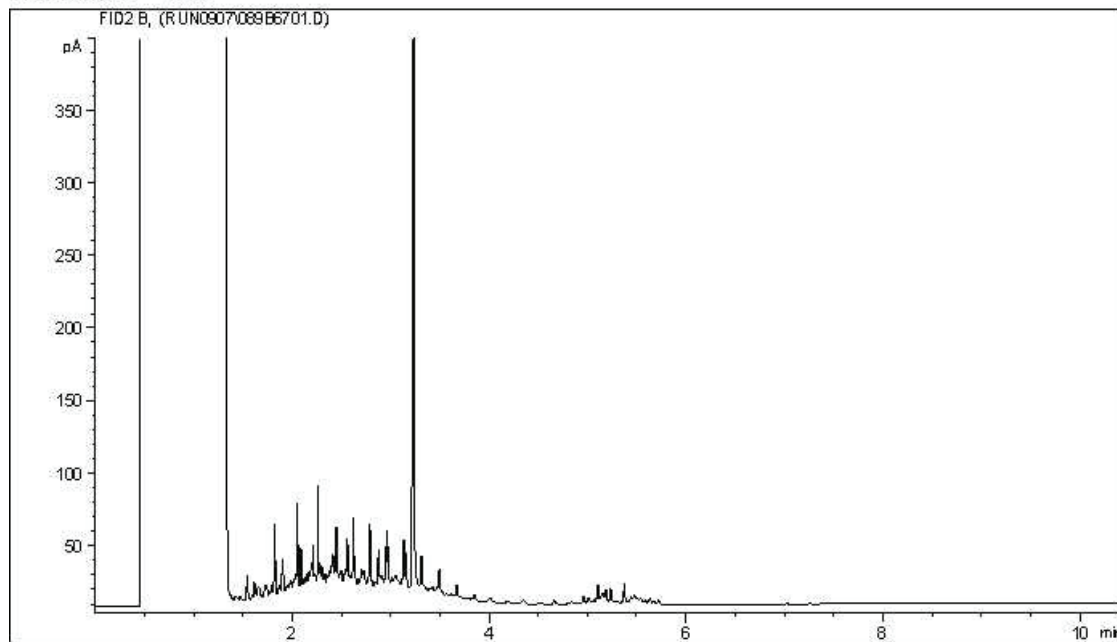
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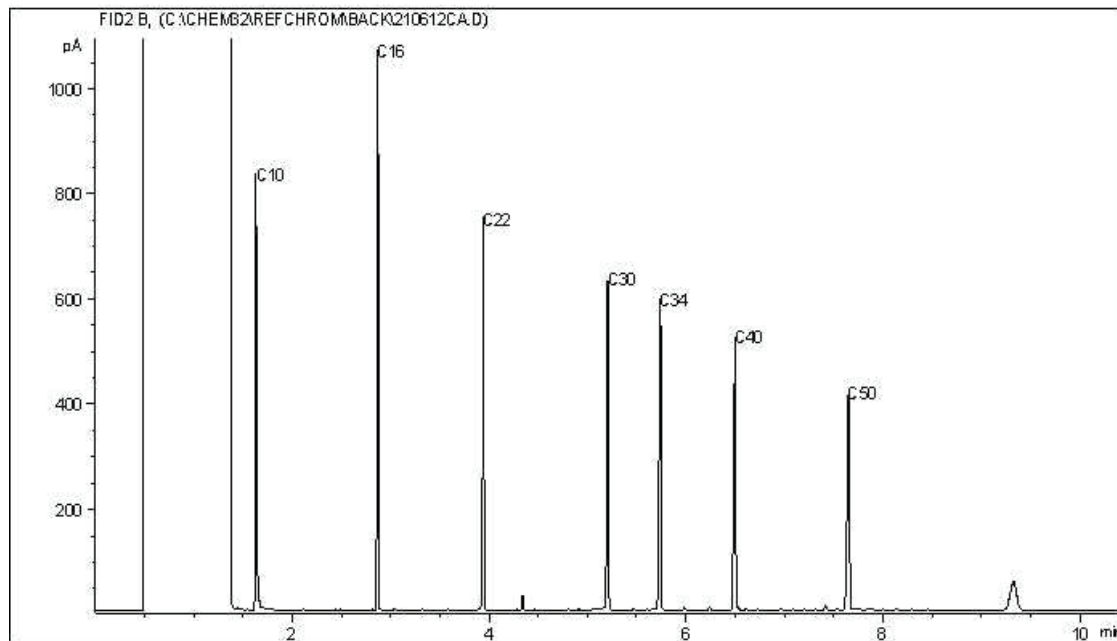
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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

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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.

**GOLDER DATA QUALITY REVIEW CHECKLIST**

Site Location: Camp Farewell

Sampling Date: August 26, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C164648

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 F4 (56%) below the acceptance criteria of (60-140%).
Method Blank Concentration	X			
Laboratory Duplicate RPD	X			All remaining laboratory QC results are within acceptance criteria.
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	Samples TP21-06-03 and DUP FF exceed the alert limit for F2 (94%).
Trip Blank Concentration			X	
Field Duplicate RPD		X		

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

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

Please see QA/QC appendix.

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: September 13, 2021