Bureau Veritas Job #: C162508
Report Date: 2021/12/24

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

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEO150	AEO151	AEO152		AEO153	AEO153		
Sampling Date		2021/08/19 14:19	2021/08/19 14:20	2021/08/19 14:27		2021/08/19 11:25	2021/08/19 11:25		
COC Number		644511-24-01	644511-24-01	644511-24-01		644511-24-01	644511-24-01		
	UNITS	TP21-138-01	TP21-138-03	TP21-138-06	QC Batch	DUPJ	DUPJ Lab-Dup	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	130	<10	<10	A335207	<10	N/A	10	A335207
F3 (C16-C34 Hydrocarbons)	mg/kg	300	<50	<50	A335207	<50	N/A	50	A335207
F4 (C34-C50 Hydrocarbons)	mg/kg	99	<50	<50	A335207	<50	N/A	50	A335207
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	A335207	Yes	N/A	N/A	A335207
Physical Properties									
Moisture	%	13	5.3	17	A335210	15	14	0.30	A335214
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	A333395	<0.045	N/A	0.045	A333395
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	A333395	<10	N/A	10	A333395
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	A334575	<0.0050	N/A	0.0050	A334575
Toluene	mg/kg	<0.050	<0.050	<0.050	A334575	0.36	N/A	0.050	A334575
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	A334575	<0.010	N/A	0.010	A334575
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	A334575	<0.040	N/A	0.040	A334575
o-Xylene	mg/kg	<0.020	<0.020	<0.020	A334575	<0.020	N/A	0.020	A334575
F1 (C6-C10)	mg/kg	<10	<10	<10	A334575	<10	N/A	10	A334575
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	94	96	94	A334575	95	N/A	N/A	A334575
4-Bromofluorobenzene (sur.)	%	97	97	97	A334575	99	N/A	N/A	A334575
D10-o-Xylene (sur.)	%	106	104	105	A334575	104	N/A	N/A	A334575
D4-1,2-Dichloroethane (sur.)	%	105	104	102	A334575	106	N/A	N/A	A334575
O-TERPHENYL (sur.)	%	100	89	97	A335207	93	N/A	N/A	A335207

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

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Bureau Veritas Job #: C162508
Report Date: 2021/12/24

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

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEO183		AEO184	AEO184	AEO185	AEO186		
Sampling Date		2021/08/19 15:04		2021/08/19 15:05	2021/08/19 15:05	2021/08/19 15:08	2021/08/19 09:39		
COC Number		644511-25-01		644511-25-01	644511-25-01	644511-25-01	644511-25-01		
	UNITS	**TP21-146-02**	**QC Batch**	**TP21-146-03**	**TP21-146-03 Lab-Dup**	**TP21-146-05**	**TP21-114-01**	**RDL**	**QC Batch**
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	19	A335377	3700	N/A	<10	32	10	A335377
F3 (C16-C34 Hydrocarbons)	mg/kg	160	A335377	1100	N/A	<50	250	50	A335377
F4 (C34-C50 Hydrocarbons)	mg/kg	55	A335377	130	N/A	<50	<50	50	A335377
Reached Baseline at C50	mg/kg	Yes	A335377	Yes	N/A	Yes	Yes	N/A	A335377
Physical Properties									
Moisture	%	14	A335403	4.6	N/A	5.1	7.6	0.30	A335403
Volatiles									
Xylenes (Total)	mg/kg	<0.045	A333395	<0.045	N/A	<0.045	<0.045	0.045	A333395
F1 (C6-C10) - BTEX	mg/kg	<10	A333395	270	N/A	<10	<10	10	A333395
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	A334575	<0.0050	<0.0050	0.010	<0.0050	0.0050	A334583
Toluene	mg/kg	<0.050	A334575	<0.050	<0.050	<0.050	<0.050	0.050	A334583
Ethylbenzene	mg/kg	<0.010	A334575	<0.010	<0.010	0.020	<0.010	0.010	A334583
m & p-Xylene	mg/kg	<0.040	A334575	<0.040	<0.040	<0.040	<0.040	0.040	A334583
o-Xylene	mg/kg	<0.020	A334575	<0.020	<0.020	0.026	<0.020	0.020	A334583
F1 (C6-C10)	mg/kg	<10	A334575	270	240	<10	<10	10	A334583
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	94	A334575	96	91	92	93	N/A	A334583
4-Bromofluorobenzene (sur.)	%	100	A334575	109	105	101	101	N/A	A334583
D10-o-Xylene (sur.)	%	102	A334575	136	125	119	101	N/A	A334583
D4-1,2-Dichloroethane (sur.)	%	104	A334575	116	113	112	114	N/A	A334583
O-TERPHENYL (sur.)	%	91	A335377	96	N/A	94	95	N/A	A335377

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

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AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEO187		AEO188	AEO189	AEO189		
Sampling Date		2021/08/19 09:41		2021/08/19 09:42	2021/08/19 09:57	2021/08/19 09:57		
COC Number		644511-25-01		644511-25-01	644511-25-01	644511-25-01		
	UNITS	TP21-114-04	RDL	TP21-114-06	TP21-13-02	TP21-13-02 Lab-Dup	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	29	10	<10	270	N/A	10	A335377
F3 (C16-C34 Hydrocarbons)	mg/kg	270	50	<50	74	N/A	50	A335377
F4 (C34-C50 Hydrocarbons)	mg/kg	78	50	<50	<50	N/A	50	A335377
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	Yes	N/A	N/A	A335377
Physical Properties								
Moisture	%	40	0.30	12	6.6	6.3	0.30	A335404
Volatiles								
Xylenes (Total)	mg/kg	<0.13	0.13	<0.045	0.12	N/A	0.045	A333395
F1 (C6-C10) - BTEX	mg/kg	<19	19	<10	31	N/A	10	A333395
Field Preserved Volatiles								
Benzene	mg/kg	<0.013 (1)	0.013	<0.0050	<0.0050	N/A	0.0050	A334583
Toluene	mg/kg	0.18 (2)	0.14	<0.050	<0.050	N/A	0.050	A334583
Ethylbenzene	mg/kg	<0.023 (1)	0.023	<0.010	0.014 (3)	N/A	0.010	A334583
m & p-Xylene	mg/kg	<0.12 (2)	0.12	<0.040	0.071	N/A	0.040	A334583
o-Xylene	mg/kg	<0.058 (2)	0.058	<0.020	0.053	N/A	0.020	A334583
F1 (C6-C10)	mg/kg	<19 (1)	19	<10	31	N/A	10	A334583
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	92	N/A	91	92	N/A	N/A	A334583
4-Bromofluorobenzene (sur.)	%	105	N/A	104	102	N/A	N/A	A334583
D10-o-Xylene (sur.)	%	122	N/A	117	117	N/A	N/A	A334583
D4-1,2-Dichloroethane (sur.)	%	113	N/A	111	112	N/A	N/A	A334583
O-TERPHENYL (sur.)	%	95	N/A	92	88	N/A	N/A	A335377

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.
(3) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.

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AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEO190		AEO191		AEO192		AEO218		
Sampling Date		2021/08/19 09:58		2021/08/19 10:02		2021/08/19 14:27		2021/08/19 10:23		
COC Number		644511-25-01		644511-25-01		644511-25-01		644511-26-01		
	UNITS	TP21-13-03	RDL	TP21-13-05	RDL	DUP K	QC Batch	TP21-18-01	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	180 (1)	32	140	10	13	A335377	180	10	A335451
F3 (C16-C34 Hydrocarbons)	mg/kg	3100 (1)	160	110	50	<50	A335377	390	50	A335451
F4 (C34-C50 Hydrocarbons)	mg/kg	1100 (1)	160	<50	50	<50	A335377	100	50	A335451
Reached Baseline at C50	mg/kg	No	N/A	Yes	N/A	Yes	A335377	Yes	N/A	A335451
Physical Properties										
Moisture	%	69	0.30	21	0.30	9.8	A335403	17	0.30	A335403
Volatiles										
Xylenes (Total)	mg/kg	9.5	0.22	130	0.10	<0.045	A333395	<0.045	0.045	A333395
F1 (C6-C10) - BTEX	mg/kg	<49	49	5600	23	<10	A333395	<10	10	A333395
Field Preserved Volatiles										
Benzene	mg/kg	2.7 (2)	0.024	0.55 (3)	0.011	<0.0050	A334583	<0.0050	0.0050	A334583
Toluene	mg/kg	0.70 (2)	0.24	6.3 (2)	0.11	<0.050	A334583	0.072	0.050	A334583
Ethylbenzene	mg/kg	1.6 (2)	0.049	27 (2)	0.023	<0.010	A334583	<0.010	0.010	A334583
m & p-Xylene	mg/kg	6.3 (2)	0.19	75 (2)	0.090	<0.040	A334583	<0.040	0.040	A334583
o-Xylene	mg/kg	3.2 (2)	0.097	59 (2)	0.045	<0.020	A334583	<0.020	0.020	A334583
F1 (C6-C10)	mg/kg	63 (2)	49	5700 (2)	23	<10	A334583	<10	10	A334583
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	92	N/A	92	N/A	92	A334583	88	N/A	A334583
4-Bromofluorobenzene (sur.)	%	102	N/A	94	N/A	102	A334583	101	N/A	A334583
D10-o-Xylene (sur.)	%	118	N/A	127	N/A	118	A334583	109	N/A	A334583
D4-1,2-Dichloroethane (sur.)	%	113	N/A	112	N/A	115	A334583	112	N/A	A334583
O-TERPHENYL (sur.)	%	91	N/A	91	N/A	90	A335377	101	N/A	A335451

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) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high. Detection limits raised based on sample weight used for analysis.

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AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEO219	AEO220		AEO221	AEO222	AEO223		
Sampling Date		2021/08/19 10:24	2021/08/19 10:25		2021/08/19 10:36	2021/08/19 10:37	2021/08/19 10:38		
COC Number		644511-26-01	644511-26-01		644511-26-01	644511-26-01	644511-26-01		
	UNITS	**TP21-18-03**	**TP21-18-06**	**QC Batch**	**TP21-43-01**	**TP21-43-03**	**TP21-43-05**	**RDL**	**QC Batch**
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	80	<10	A335451	82	150	<10	10	A335377
F3 (C16-C34 Hydrocarbons)	mg/kg	590	<50	A335451	320	330	<50	50	A335377
F4 (C34-C50 Hydrocarbons)	mg/kg	200	<50	A335451	83	96	<50	50	A335377
Reached Baseline at C50	mg/kg	Yes	Yes	A335451	Yes	Yes	Yes	N/A	A335377
Physical Properties									
Moisture	%	25	20	A335403	17	12	15	0.30	A335403
Volatiles									
Xylenes (Total)	mg/kg	0.11	0.55	A333395	<0.045	0.091	<0.045	0.045	A333395
F1 (C6-C10) - BTEX	mg/kg	<10	13	A333395	<10	<10	<10	10	A333395
Field Preserved Volatiles									
Benzene	mg/kg	0.78	0.59	A334583	<0.0050	0.0076	<0.0050	0.0050	A334583
Toluene	mg/kg	0.85	<0.050	A334583	<0.050	0.10	<0.050	0.050	A334583
Ethylbenzene	mg/kg	0.037	0.31	A334583	<0.010	0.017	<0.010	0.010	A334583
m & p-Xylene	mg/kg	0.064	0.13	A334583	<0.040	0.063	<0.040	0.040	A334583
o-Xylene	mg/kg	0.046	0.42	A334583	<0.020	0.028	<0.020	0.020	A334583
F1 (C6-C10)	mg/kg	<10	14	A334583	<10	<10	<10	10	A334583
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	90	92	A334583	90	90	92	N/A	A334583
4-Bromofluorobenzene (sur.)	%	101	102	A334583	101	101	101	N/A	A334583
D10-o-Xylene (sur.)	%	119	127	A334583	118	115	115	N/A	A334583
D4-1,2-Dichloroethane (sur.)	%	112	112	A334583	116	115	114	N/A	A334583
O-TERPHENYL (sur.)	%	113	99	A335451	98	102	99	N/A	A335377

RDL = Reportable Detection Limit
N/A = Not Applicable

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AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEO224	AEO225	AEO226	AEO227		AEO229		
Sampling Date		2021/08/19 11:04	2021/08/19 11:05	2021/08/19 11:06	2021/08/19 11:07		2021/08/19 15:08		
COC Number		644511-26-01	644511-26-01	644511-26-01	644511-26-01		644511-28-01		
	UNITS	TP21-49-02	TP21-49-03	TP21-49-06	TP21-49-05	QC Batch	DUP L	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	66	55	11	23	A335451	<10	10	A335377
F3 (C16-C34 Hydrocarbons)	mg/kg	190	160	<50	760	A335451	<50	50	A335377
F4 (C34-C50 Hydrocarbons)	mg/kg	52	50	<50	260	A335451	<50	50	A335377
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	A335451	Yes	N/A	A335377
Physical Properties									
Moisture	%	17	14	14	37	A335403	5.3	0.30	A335403
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	A333395	0.049	0.045	A333395
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	A333395	<10	10	A333395
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	A334583	0.012	0.0050	A334583
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	A334583	<0.050	0.050	A334583
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	A334583	0.034	0.010	A334583
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	A334583	0.049	0.040	A334583
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	A334583	<0.020	0.020	A334583
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	A334583	<10	10	A334583
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	92	92	91	90	A334583	92	N/A	A334583
4-Bromofluorobenzene (sur.)	%	104	101	101	104	A334583	105	N/A	A334583
D10-o-Xylene (sur.)	%	125	137	110	121	A334583	114	N/A	A334583
D4-1,2-Dichloroethane (sur.)	%	114	115	114	114	A334583	115	N/A	A334583
O-TERPHENYL (sur.)	%	100	105	100	109	A335451	89	N/A	A335377

RDL = Reportable Detection Limit
N/A = Not Applicable

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AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEO229		
Sampling Date		2021/08/19 15:08		
COC Number		644511-28-01		
	UNITS	DUP L Lab-Dup	RDL	QC Batch
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	A335377
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	50	A335377
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	A335377
Reached Baseline at C50	mg/kg	Yes	N/A	A335377
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	89	N/A	A335377

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

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PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		AEO129		AEO134	AEO134	AEO187		
Sampling Date		2021/08/19 15:35		2021/08/19 11:25	2021/08/19 11:25	2021/08/19 09:41		
COC Number		644511-27-01		644511-27-01	644511-27-01	644511-25-01		
	UNITS	TP21-147-01	QC Batch	TP21-TP19-24-05	TP21-TP19-24-05 Lab-Dup	TP21-114-04	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F3 (C16-C34 Hydrocarbons)	mg/kg	380	A454255	N/A	N/A	N/A	71	A454255
F3A (C16-C22)	mg/kg	<50	A457151	<50	<50	<50	50	A335211
F3B (C22-C34)	mg/kg	380	A457151	<50	<50	230	50	A335211
F2% (BIC)	mg/kg	1.3	A454255	NC	N/A	NC	N/A	A333320
Reached Baseline at C50	mg/kg	N/A	N/A	Yes	Yes	Yes	N/A	A335211
Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	84	A457151	N/A	N/A	N/A	N/A	N/A

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

Bureau Veritas ID		AEO190		AEO222		AEO227		
Sampling Date		2021/08/19 09:58		2021/08/19 10:37		2021/08/19 11:07		
COC Number		644511-25-01		644511-26-01		644511-26-01		
	UNITS	TP21-13-03	RDL	TP21-43-03	QC Batch	TP21-49-05	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	71	N/A	A454255	760	71	A454259
F3A (C16-C22)	mg/kg	310 (1)	160	110	A335211	68	50	A457151
F3B (C22-C34)	mg/kg	2800 (1)	160	220	A335211	690	50	A457151
F2% (BIC)	mg/kg	NC	N/A	NC	A333320	3.2	N/A	A454259
Reached Baseline at C50	mg/kg	No	N/A	Yes	A335211	N/A	N/A	N/A
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	13000	500	N/A	A337167	N/A	N/A	N/A
Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	N/A	N/A	N/A	N/A	109	N/A	A457151

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

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VOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AEO131	AEO144		
Sampling Date		2021/08/19 15:10	2021/08/19 13:47		
COC Number		644511-27-01	644511-24-01		
	UNITS	TP21-147-05	TP21-136-01	RDL	QC Batch
Volatiles					
Benzene	mg/kg	<0.0050	<0.0050	0.0050	A335767
Toluene	mg/kg	<0.050	<0.050	0.050	A335767
Ethylbenzene	mg/kg	<0.010	<0.010	0.010	A335767
m & p-Xylene	mg/kg	<0.040	<0.040	0.040	A335767
o-Xylene	mg/kg	<0.020	<0.020	0.020	A335767
F1 (C6-C10)	mg/kg	<10	<10	10	A335767
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	99	98	N/A	A335767
4-Bromofluorobenzene (sur.)	%	97	98	N/A	A335767
D10-o-Xylene (sur.)	%	103	102	N/A	A335767
D4-1,2-Dichloroethane (sur.)	%	116	115	N/A	A335767

RDL = Reportable Detection Limit
N/A = Not Applicable

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GENERAL COMMENTS

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

Package 1	5.7°C
Package 2	4.0°C
Package 3	7.3°C
Package 4	5.0°C
Package 5	7.0°C

Version #2: Report reissued to include results for F3A/F3B/Chromatogram on samples listed below as per client request received 2021/12/16.

TP21-49-05/AEO227
TP21-147-01/AEO129

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 AEO129 [TP21-147-01] : The CCME F2-F4 chromatographic peak profile is consistent with a lubricating oil product (e.g. motor oil). Chromatograms of soils contaminated by heavier petroleum hydrocarbons (lubricating oils, crude oils, etc.) are typically characterized by one or more unresolved complex mixtures (UCMs or “humps”), eluting in the F3 (C16-C34), F4 (C34-C50) and sometimes greater than F4 (C50+) hydrocarbon ranges.

Sample AEO131 [TP21-147-05] : Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.

Sample AEO144 [TP21-136-01] : 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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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A334567	JNG	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/08/30		95	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		100	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		107	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		105	%	50 - 140
			Benzene	2021/08/30		87	%	50 - 140
			Toluene	2021/08/30		94	%	50 - 140
			Ethylbenzene	2021/08/30		98	%	50 - 140
			m & p-Xylene	2021/08/30		93	%	50 - 140
			o-Xylene	2021/08/30		89	%	50 - 140
			F1 (C6-C10)	2021/08/30		104	%	60 - 140
A334567	JNG	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/30		82	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		88	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		92	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		99	%	50 - 140
			Benzene	2021/08/30		74	%	60 - 130
			Toluene	2021/08/30		82	%	60 - 130
			Ethylbenzene	2021/08/30		81	%	60 - 130
			m & p-Xylene	2021/08/30		80	%	60 - 130
			o-Xylene	2021/08/30		70	%	60 - 130
			F1 (C6-C10)	2021/08/30		107	%	60 - 140
A334567	JNG	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/30		93	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		97	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		107	%	50 - 140
			Benzene	2021/08/30	<0.0050		mg/kg	
			Toluene	2021/08/30	<0.050		mg/kg	
			Ethylbenzene	2021/08/30	<0.010		mg/kg	
			m & p-Xylene	2021/08/30	<0.040		mg/kg	
			o-Xylene	2021/08/30	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/30	<10		mg/kg	
A334567	JNG	RPD	Benzene	2021/08/30	NC		%	50
			Toluene	2021/08/30	NC		%	50
			Ethylbenzene	2021/08/30	NC		%	50
			m & p-Xylene	2021/08/30	NC		%	50
			o-Xylene	2021/08/30	NC		%	50
			F1 (C6-C10)	2021/08/30	NC		%	30
A334575	RSU	Matrix Spike [AEO130-02]	1,4-Difluorobenzene (sur.)	2021/08/30		97	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		98	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		118	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		102	%	50 - 140
			Benzene	2021/08/30		104	%	50 - 140
			Toluene	2021/08/30		107	%	50 - 140
			Ethylbenzene	2021/08/30		109	%	50 - 140
			m & p-Xylene	2021/08/30		112	%	50 - 140
			o-Xylene	2021/08/30		112	%	50 - 140
			F1 (C6-C10)	2021/08/30		76	%	60 - 140
A334575	RSU	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/30		94	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		98	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		91	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		107	%	50 - 140
			Benzene	2021/08/30		87	%	60 - 130
			Toluene	2021/08/30		91	%	60 - 130
			Ethylbenzene	2021/08/30		91	%	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
			m & p-Xylene	2021/08/30		92	%	60 - 130
			o-Xylene	2021/08/30		86	%	60 - 130
			F1 (C6-C10)	2021/08/30		90	%	60 - 140
A334575	RSU	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/30		94	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		101	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		101	%	50 - 140
			Benzene	2021/08/30	<0.0050		mg/kg	
			Toluene	2021/08/30	<0.050		mg/kg	
			Ethylbenzene	2021/08/30	<0.010		mg/kg	
			m & p-Xylene	2021/08/30	<0.040		mg/kg	
			o-Xylene	2021/08/30	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/30	<10		mg/kg	
A334575	RSU	RPD [AEO130-02]	Benzene	2021/08/30	NC		%	50
			Toluene	2021/08/30	NC		%	50
			Ethylbenzene	2021/08/30	NC		%	50
			m & p-Xylene	2021/08/30	NC		%	50
			o-Xylene	2021/08/30	NC		%	50
			F1 (C6-C10)	2021/08/30	NC		%	30
A334583	DO1	Matrix Spike [AEO184-02]	1,4-Difluorobenzene (sur.)	2021/08/30		92	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		102	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		130	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		115	%	50 - 140
			Benzene	2021/08/30		97	%	50 - 140
			Toluene	2021/08/30		105	%	50 - 140
			Ethylbenzene	2021/08/30		108	%	50 - 140
			m & p-Xylene	2021/08/30		103	%	50 - 140
			o-Xylene	2021/08/30		98	%	50 - 140
			F1 (C6-C10)	2021/08/30		102	%	60 - 140
A334583	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/30		83	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		96	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		103	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		107	%	50 - 140
			Benzene	2021/08/30		81	%	60 - 130
			Toluene	2021/08/30		92	%	60 - 130
			Ethylbenzene	2021/08/30		91	%	60 - 130
			m & p-Xylene	2021/08/30		89	%	60 - 130
			o-Xylene	2021/08/30		79	%	60 - 130
			F1 (C6-C10)	2021/08/30		105	%	60 - 140
A334583	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/30		93	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		104	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		103	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		113	%	50 - 140
			Benzene	2021/08/30	<0.0050		mg/kg	
			Toluene	2021/08/30	<0.050		mg/kg	
			Ethylbenzene	2021/08/30	<0.010		mg/kg	
			m & p-Xylene	2021/08/30	<0.040		mg/kg	
			o-Xylene	2021/08/30	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/30	<10		mg/kg	
A334583	DO1	RPD [AEO184-02]	Benzene	2021/08/30	NC		%	50
			Toluene	2021/08/30	NC		%	50
			Ethylbenzene	2021/08/30	NC		%	50
			m & p-Xylene	2021/08/30	NC		%	50

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			o-Xylene	2021/08/30	NC		%	50
			F1 (C6-C10)	2021/08/30	11		%	30
A335207	GG3	Matrix Spike [AEO134-01]	O-TERPHENYL (sur.)	2021/08/30		98	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		84	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		97	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		95	%	60 - 140
A335207	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/30		101	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		93	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		102	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		98	%	60 - 140
A335207	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/30		105	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/30	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/30	<50		mg/kg	
A335207	GG3	RPD [AEO134-01]	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
A335210	SNA	Method Blank	Moisture	2021/08/29	<0.30		%	
A335210	SNA	RPD [AEO133-01]	Moisture	2021/08/29	10		%	20
A335211	GG3	Matrix Spike [AEO134-01]	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 [AEO134-01]	F3A (C16-C22)	2021/08/30	NC		%	40
			F3B (C22-C34)	2021/08/30	NC		%	40
A335214	RIL	Method Blank	Moisture	2021/08/29	<0.30		%	
A335214	RIL	RPD [AEO153-01]	Moisture	2021/08/29	6.8		%	20
A335377	GG3	Matrix Spike [AEO229-01]	O-TERPHENYL (sur.)	2021/08/30		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		85	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		84	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		88	%	60 - 140
A335377	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/30		113	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		95	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		93	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		96	%	60 - 140
A335377	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/30		98	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/30	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/30	<50		mg/kg	
A335377	GG3	RPD [AEO229-01]	F2 (C10-C16 Hydrocarbons)	2021/08/30	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/30	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/30	NC		%	40
A335403	SVI	Method Blank	Moisture	2021/08/30	<0.30		%	
A335403	SVI	RPD	Moisture	2021/08/30	9.1		%	20
A335404	SVI	Method Blank	Moisture	2021/08/30	<0.30		%	
A335404	SVI	RPD [AEO189-01]	Moisture	2021/08/30	4.7		%	20
A335451	EC0	Matrix Spike	O-TERPHENYL (sur.)	2021/08/31		101	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		97	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		105	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		106	%	60 - 140
A335451	EC0	Spiked Blank	O-TERPHENYL (sur.)	2021/08/31		96	%	60 - 140

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F2 (C10-C16 Hydrocarbons)	2021/08/31		93	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		99	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		99	%	60 - 140
A335451	EC0	Method Blank	O-TERPHENYL (sur.)	2021/08/31		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/31	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/31	<50		mg/kg	
A335451	EC0	RPD	F2 (C10-C16 Hydrocarbons)	2021/08/31	10		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/31	10		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/31	8.9		%	40
A335767	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/08/30		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		104	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		115	%	50 - 140
			Benzene	2021/08/30		109	%	50 - 140
			Toluene	2021/08/30		106	%	50 - 140
			Ethylbenzene	2021/08/30		109	%	50 - 140
			m & p-Xylene	2021/08/30		108	%	50 - 140
			o-Xylene	2021/08/30		107	%	50 - 140
			F1 (C6-C10)	2021/08/30		82	%	60 - 140
A335767	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/30		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		97	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		97	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		119	%	50 - 140
			Benzene	2021/08/30		98	%	60 - 130
			Toluene	2021/08/30		98	%	60 - 130
			Ethylbenzene	2021/08/30		99	%	60 - 130
			m & p-Xylene	2021/08/30		97	%	60 - 130
			o-Xylene	2021/08/30		89	%	60 - 130
			F1 (C6-C10)	2021/08/30		109	%	60 - 140
A335767	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/30		100	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		99	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		116	%	50 - 140
			Benzene	2021/08/30	<0.0050		mg/kg	
			Toluene	2021/08/30	<0.050		mg/kg	
			Ethylbenzene	2021/08/30	<0.010		mg/kg	
			m & p-Xylene	2021/08/30	<0.040		mg/kg	
			o-Xylene	2021/08/30	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/30	<10		mg/kg	
A335767	DO1	RPD	Benzene	2021/08/30	NC		%	50
			Toluene	2021/08/30	NC		%	50
			Ethylbenzene	2021/08/30	NC		%	50
			m & p-Xylene	2021/08/30	NC		%	50
			o-Xylene	2021/08/30	NC		%	50
			F1 (C6-C10)	2021/08/30	NC		%	40
A337167	JB9	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/08/31		109	%	60 - 140
A337167	JB9	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/08/31	<500		mg/kg	
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	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			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 (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).

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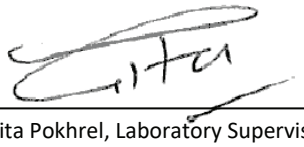
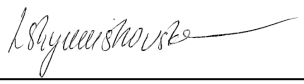
VALIDATION SIGNATURE PAGE

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



Luba Shymushovska, B.Sc., QP, Senior Analyst, Organics

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

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

Maxxam
A Bureau Veritas Group Company

MCAL

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #	
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COOLER OBSERVATIONS:

CUSTODY SEAL	YES	NO	COOLER ID	TEMP 1	TEMP 2	TEMP 3
PRESENT	✓			7	5	5
INTACT	✓					
ICE PRESENT	✓					
PRESENT	✓			4	4	4
INTACT	✓					
ICE PRESENT	✓					
PRESENT	✓			8	6	8
INTACT	✓					
ICE PRESENT	✓					
PRESENT	✓			5	5	5
INTACT	✓					
ICE PRESENT	✓					
PRESENT	✓			8	6	7
INTACT	✓					
ICE PRESENT	✓					
PRESENT						
INTACT						
ICE PRESENT						
PRESENT						
INTACT						
ICE PRESENT						
PRESENT						
INTACT						
ICE PRESENT						
PRESENT						
INTACT						
ICE PRESENT						
PRESENT						
INTACT						
ICE PRESENT						

MAXXAM JOB#:

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

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
NATASHA MUKUCHA	[signature]	2021/08/24	15:50

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ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

Page	CHAIN OF CUSTODY #
Page 1 of 1	
Page ___ of ___	
Page ___ of ___	
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COOLER OBSERVATIONS:

MAXXAM JOB#:

CUSTODY SEAL	PRESENT (YES / NO)	INTACT (YES / NO)	ICE PRESENT (YES / NO)	COOLER ID	TEMP 1	TEMP 2	TEMP 3
1	✓ YES	✓ YES	✓ YES		7	4	3
2	✓ YES	✓ YES	✓ YES		5	6	4
3	✓ YES	✓ YES	✓ YES		2	1	7
4	✓ YES	✓ YES	✓ YES		6	8	5
5	✓ YES	✓ YES	✓ YES		6	4	5
6							
7							
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10							
11							
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16							
17							
18							
19							
20							

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
J. Mercado	[signature]	2021/08/23	8:30 AM

Bureau Veritas Laboratories
4000 19st N.E. Calgary, Alberta Canada T2E 6P8 Tel:(403) 291-3077 Toll-free:800-563-6266 Fax:(403) 291-9468 www.bvlabs.com

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CHAIN OF CUSTODY RECORD

Page 1 of 5

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 #: C162508	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-27-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1187 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	ATI Regulated Metals - Soils	ATI 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	N/A	TP21-147-01	19AUG/21	1535	SOIL			✓									3	
2		TP21-147-03		1538				✓									3	
3		TP21-147-05		1540				✓									3	
4		TP21-TP19-24-01		1119				✓									3	Received in Yellowknife By: J. MCKAY @ 8:30 AM
5		TP21-TP19-24-03		1120				✓									3	
6		TP21-TP19-24-05		1125				✓	✓								3	AUG 23 2021
7		TP21-TP19-21-02		1525				✓									3	FOR ACTR
8		TP21-TP19-21-04		1526				✓									3	Temp:
9		TP21-TP19-21-06		1527				✓									3	
10		DUP 1		1002				✓									3	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
PETER TAN	21/08/19	18:00	NATASHA MVKUCHA	21/08/24	15:50	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[ ]	ACTR	[x] 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.
* 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

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st 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

Page of 2 of 5

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 #: C162508	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-24-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	~~ATI~~ Regulated Metals - Soils	~~ATI~~ 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	N/A	TP21-136-01	19AUG/21	1347	SOIL			✓									3	
2		TP21-136-03		1348				✓									3	
3		TP21-136-06		1349				✓									3	
4		TP21-137-02		1358				✓									3	
5		TP21-137-03		1359				✓									3	Received in Yellowknife By: J. McLeod
6		TP21-137-05		1409				✓									3	08:30 AUG 23 2021
7		TP21-138-01		1419				✓									3	
8		TP21-138-03		1420				✓									3	See COC Temp: / /
9		TP21-138-06		1427				✓									3	
10		DUP5		11:25				✓									3	

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: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
PETER TAN	21/08/19	18:00	NATASHA MUKUCHA	21/08/24	15:50	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
☐	ACTR	☑ Yes ☐ No

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

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st 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

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 #:	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
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:	Project Name:		COC #: C#644511-25-01	Project Manager: Carmen McKay
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	~~AT1~~ Regulated Metals - Soils	~~AT3~~ 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	N/A	TP21-146-02	19AUG/21	1504	SOIL			✓									3	
2		TP21-146-~~0003~~		1505				✓									3	
3		TP21-146-05		1508				✓									3	
4		TP21-114-01		0939				✓									3	
5		TP21-114-~~04~~		0941				✓	✓								3	
6		TP21-114-06		0942				✓									3	
7		TP21-13-02		0957				✓									3	
8		TP21-13-03		0958				✓	✓								3	
9		TP21-13-05		1002				✓									3	
10		DUP K		1427				✓									3	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

Received in Yellowknife
By: J.MERRAM
@ 8:30 AM
AUG 23 2021
STR ACTR
Temp: / /

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/19	18:00	WATAJHA MUKUCHA	21/08/24	15:50		[ ]	ACTR	[x] 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.
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** ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
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CHAIN OF CUSTODY RECORD

Page 4 of 5

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 #: C162508	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW	Address:	2800, 700 -2nd Street SW	Project:	20368099-6000-1001		
	CALGARY AB T2P 2W2		CALGARY AB T2P 2W2	Project Name:		COC #: C#644511-26-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Site #:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	~~ATI~~ Regulated Metals - Soils	~~ATI~~ 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	N/A	TP21-18-01	19AM6/21	1023	Soil			✓									3	
2		TP21-18-03		1024				✓									3	
3		TP21-18-06		1025				✓									3	
4		TP21-43-01		1036				✓									3	Received in Yellowknife
5		TP21-43-03		1037				✓	✓								3	By: J.MERRIAM @8:30 AM
6		TP21-43-05		1038				✓									3	AUG 23 2021
7		TP21-49-02		1104				✓									3	See ACTR
8		TP21-49-03		1105				✓									3	Temp:
9	✓	TP21-49-06	✓	1106	✓			✓									3	
10		TP21-49-05		1107				✓									3	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/19	18:00	NATASHA MVKULHA	21/08/24	15:50		[ ]	ACTR	[x] Yes [ ] No

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White: BV Labs Yellow: Client

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CHAIN OF CUSTODY RECORD

Page 5 of 41

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 #:	Bottle Order #:
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001	C162508	644511
Address:	2800, 700 -2nd Street SW	Address:	2800, 700 -2nd Street SW	Project:	20368099-6000-1001	COC #:	Project Manager:
	CALGARY AB T2P 2W2		CALGARY AB T2P 2W2	Project Name:		C#644511-28-01	Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Site #:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

#	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	~~ATI~~ Regulated Metals - Soils	~~ATI~~ 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	N/A	DUPL	19AUG/21	1508	SOIL			✓									3	
2																		
3																		
4																		Received in Yellowknife
5																		By: J. [illegible]
6																		08:30 AM AUG 23 2021
7																		See ACTR
8																		Temp:
9																		
10																		

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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:
(call lab for #)

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/19	18:00	NATASHA MUKULHA	21/08/24	15:50		[ ]	ACTR	[x] Yes [ ] No

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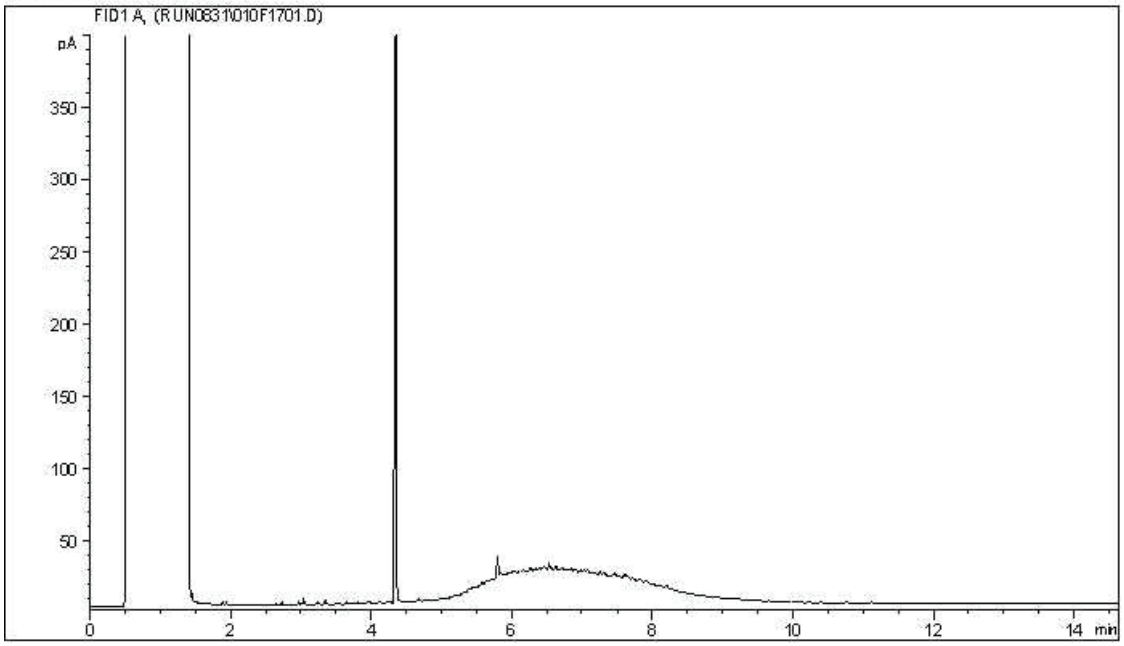
** ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER

White: BV Labs Yellow: Client

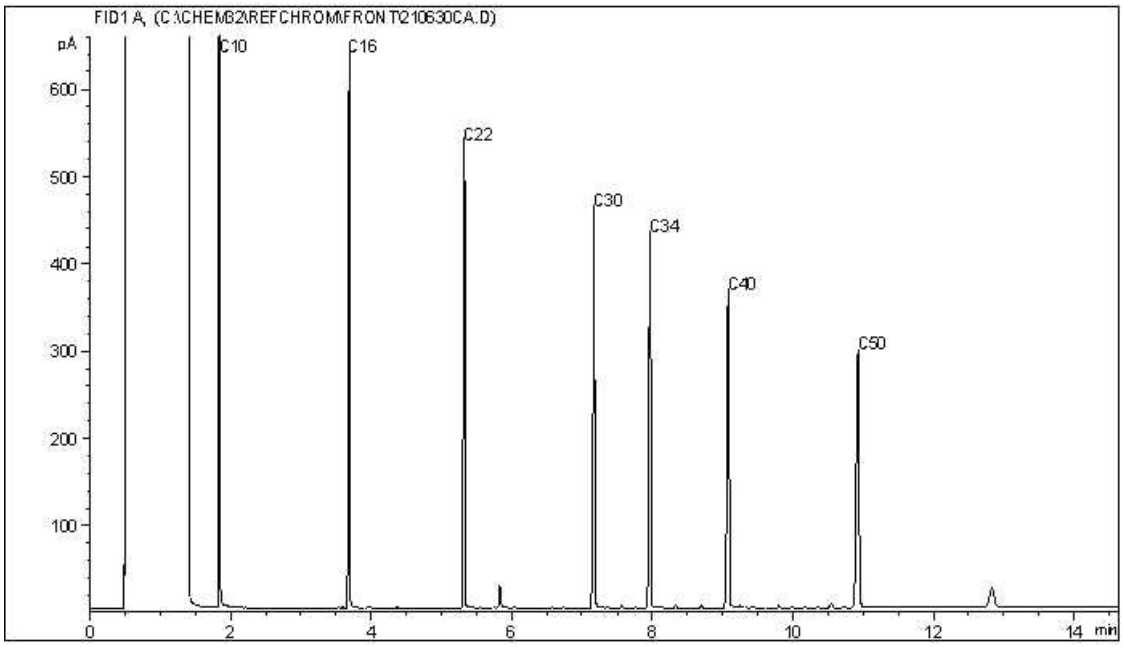
Bureau Veritas Canada (2019) Inc.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



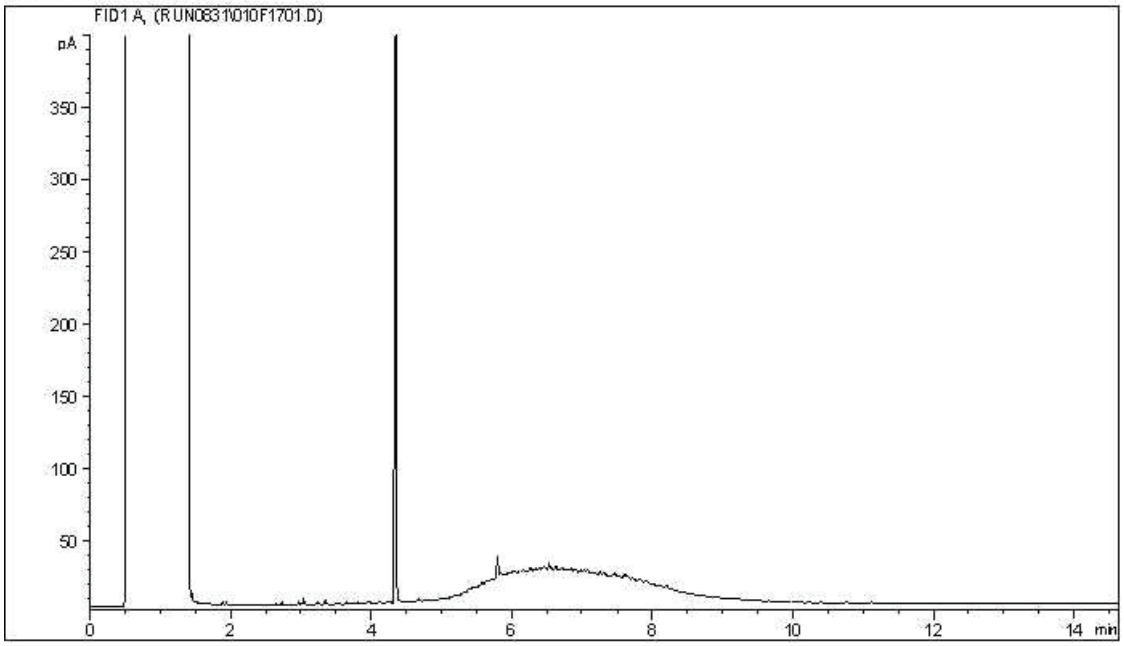
TYPICAL PRODUCT CARBON NUMBER RANGES

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

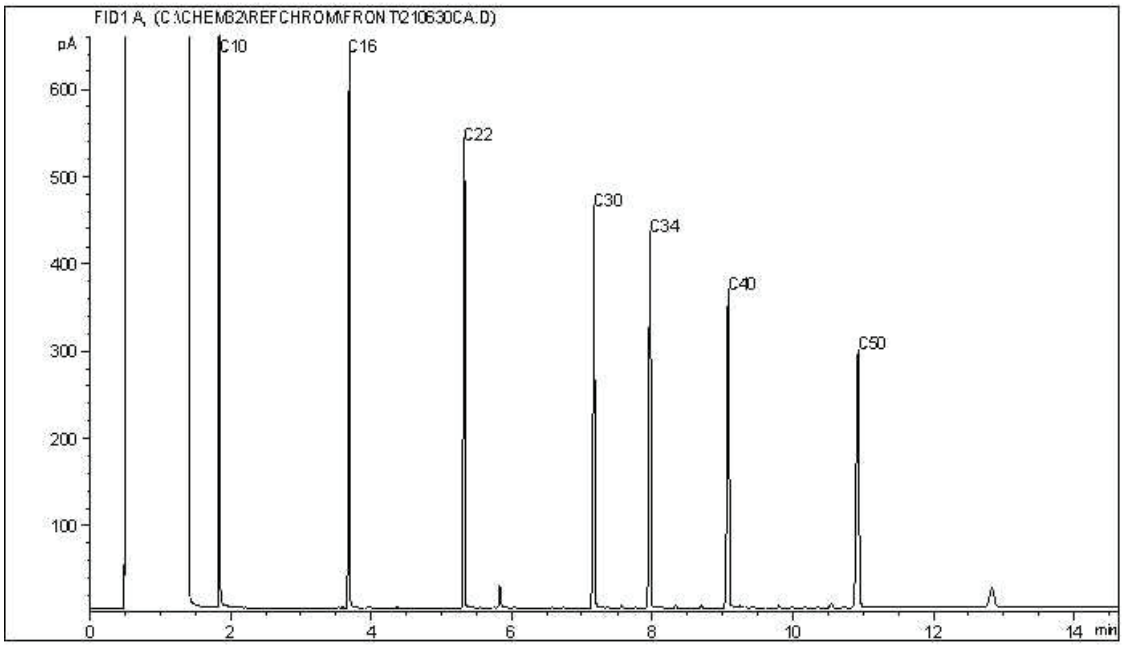
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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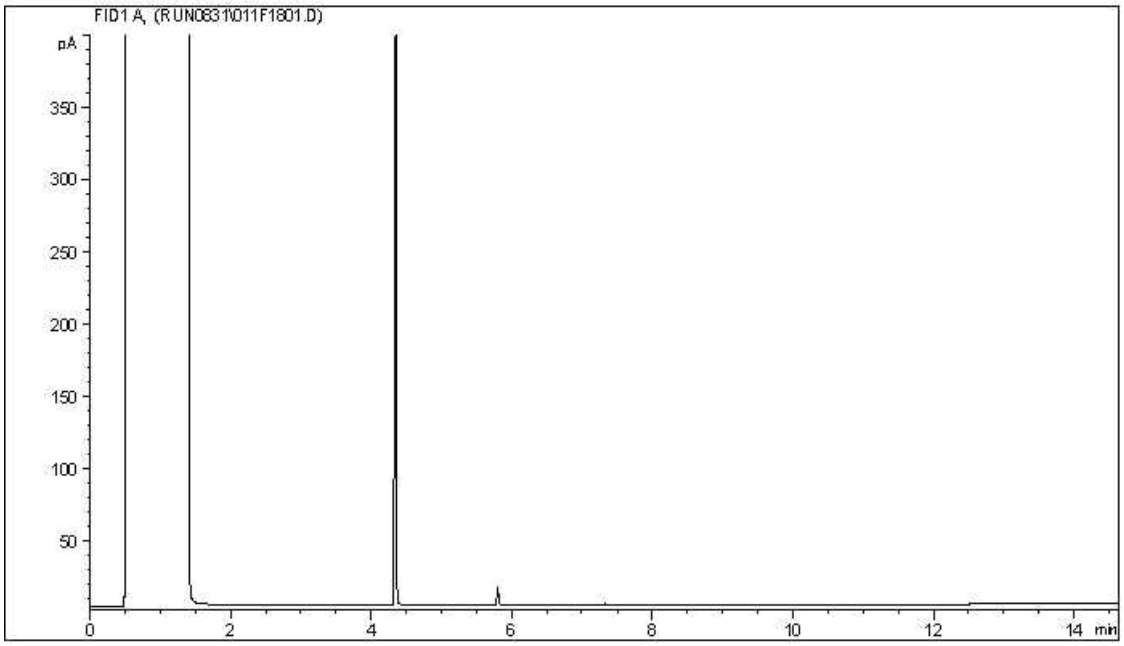
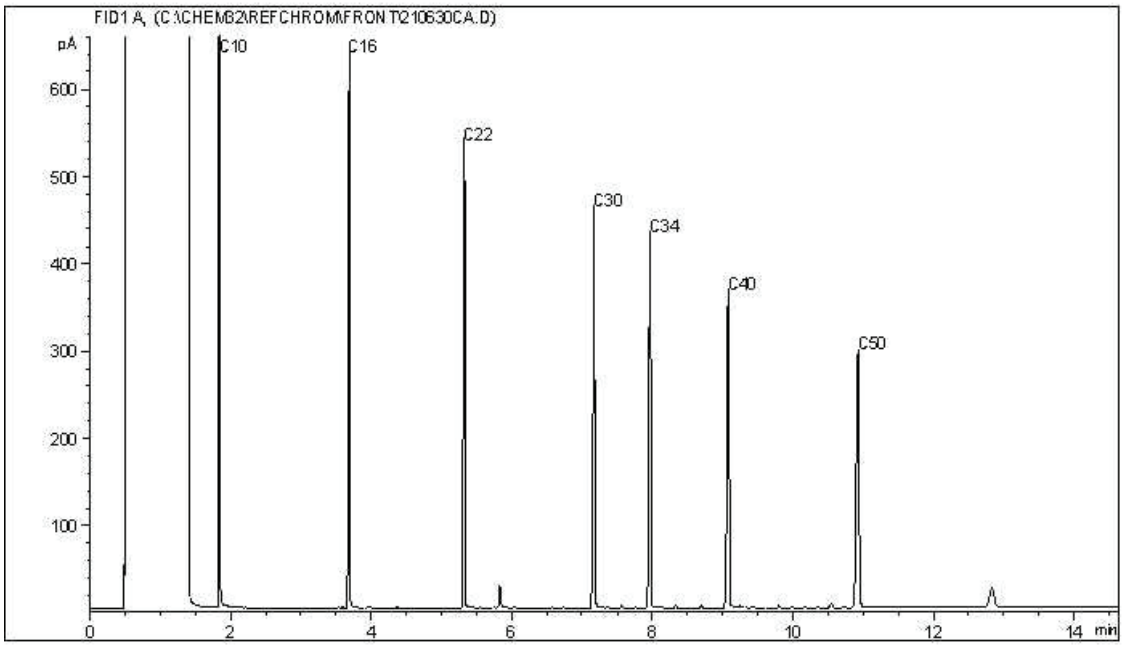
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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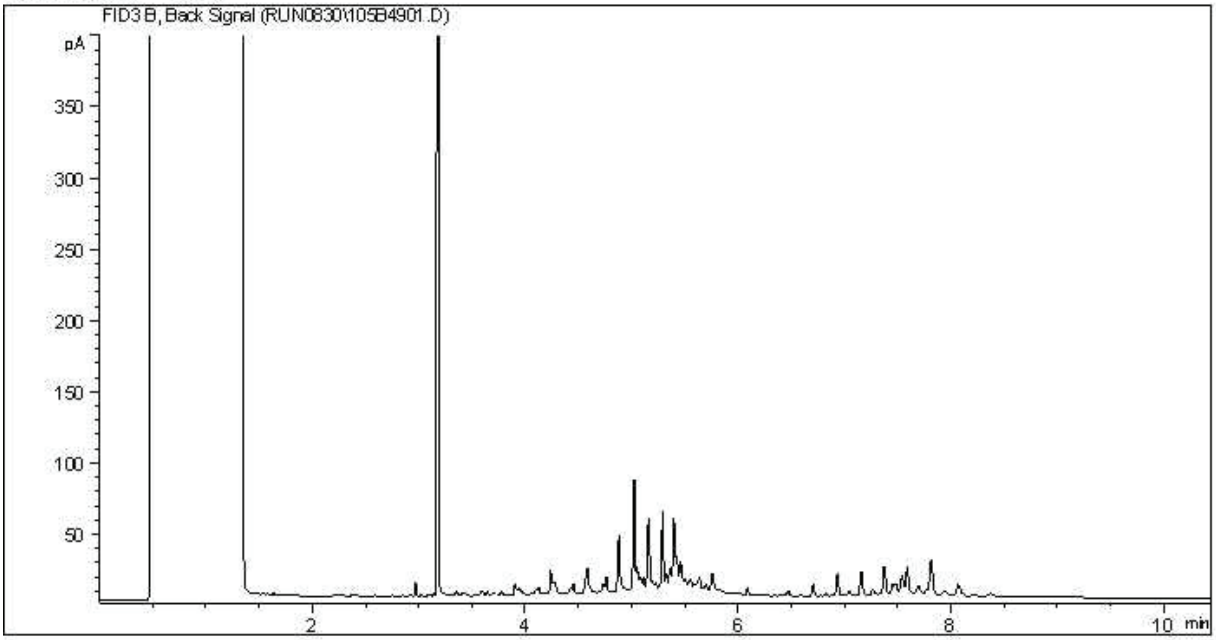
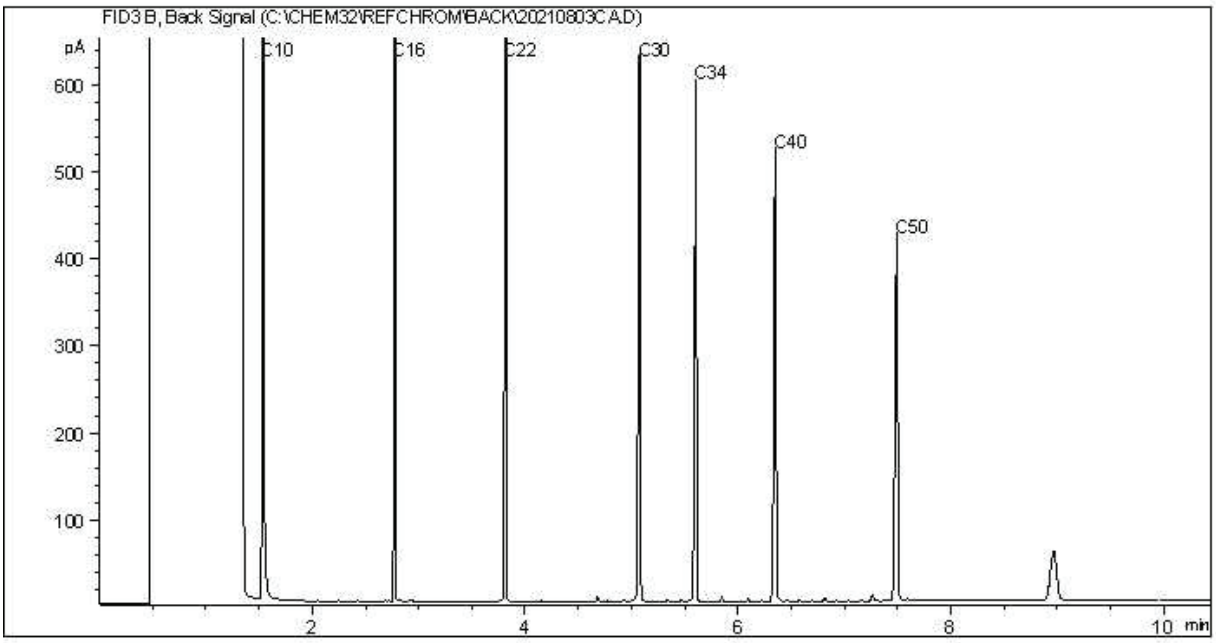
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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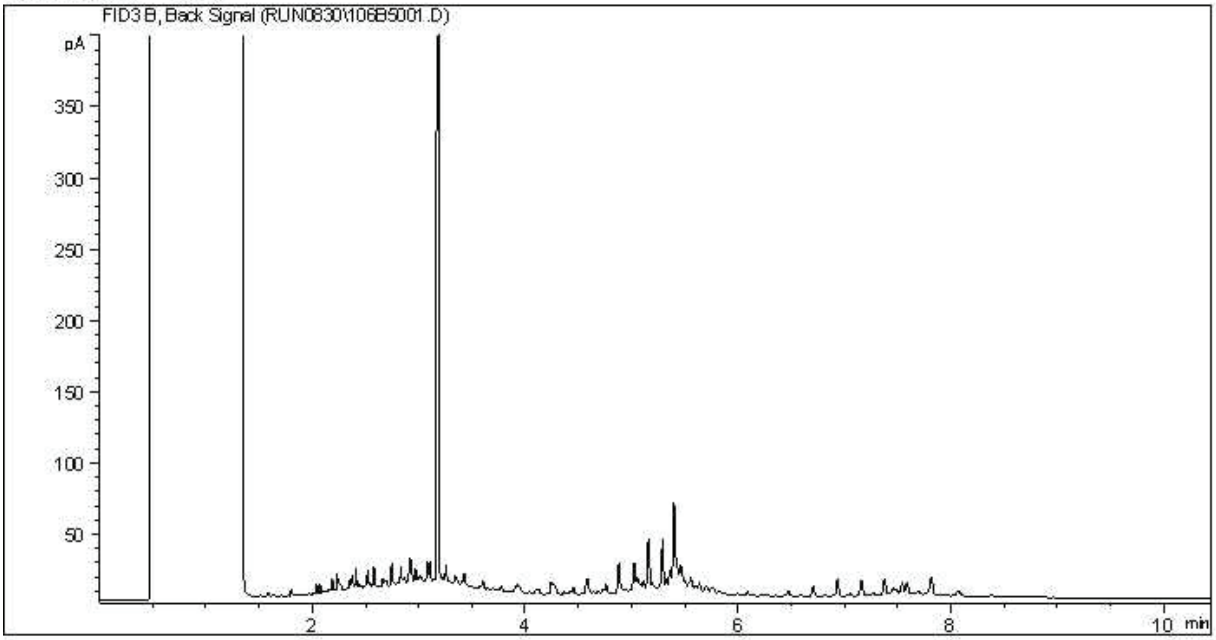
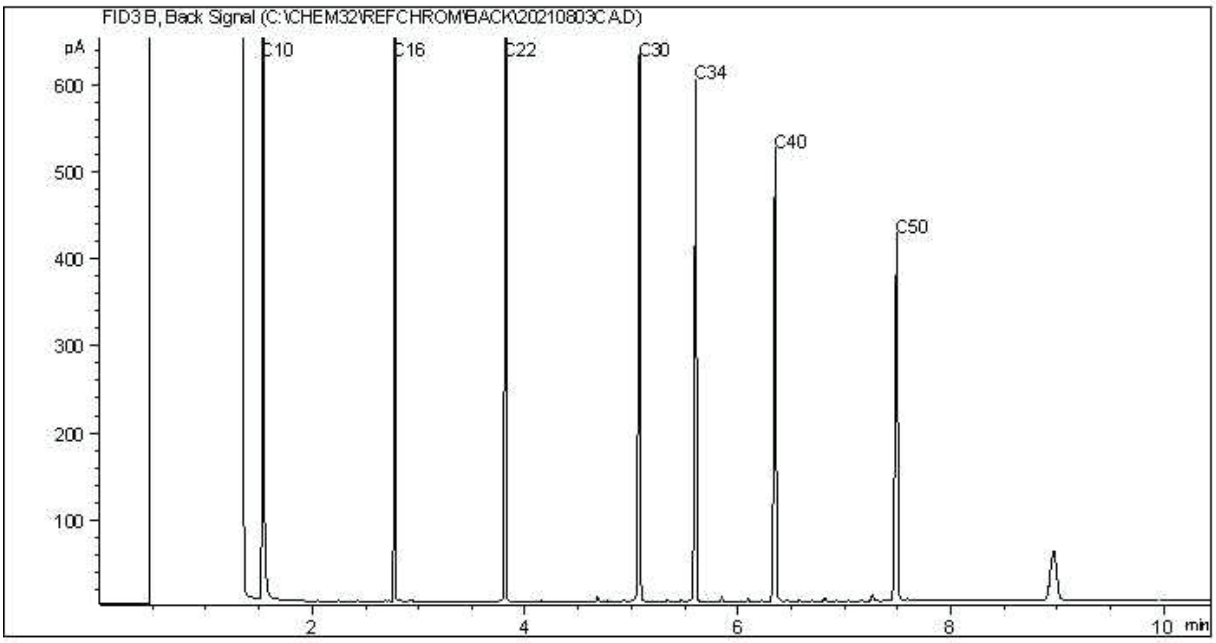
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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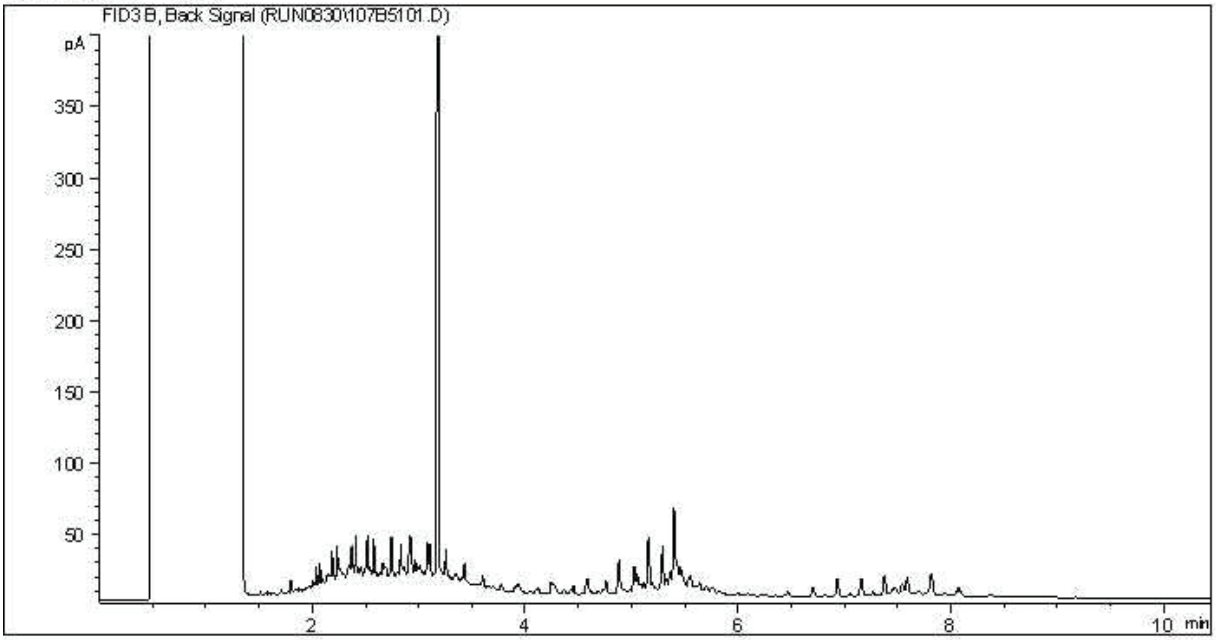
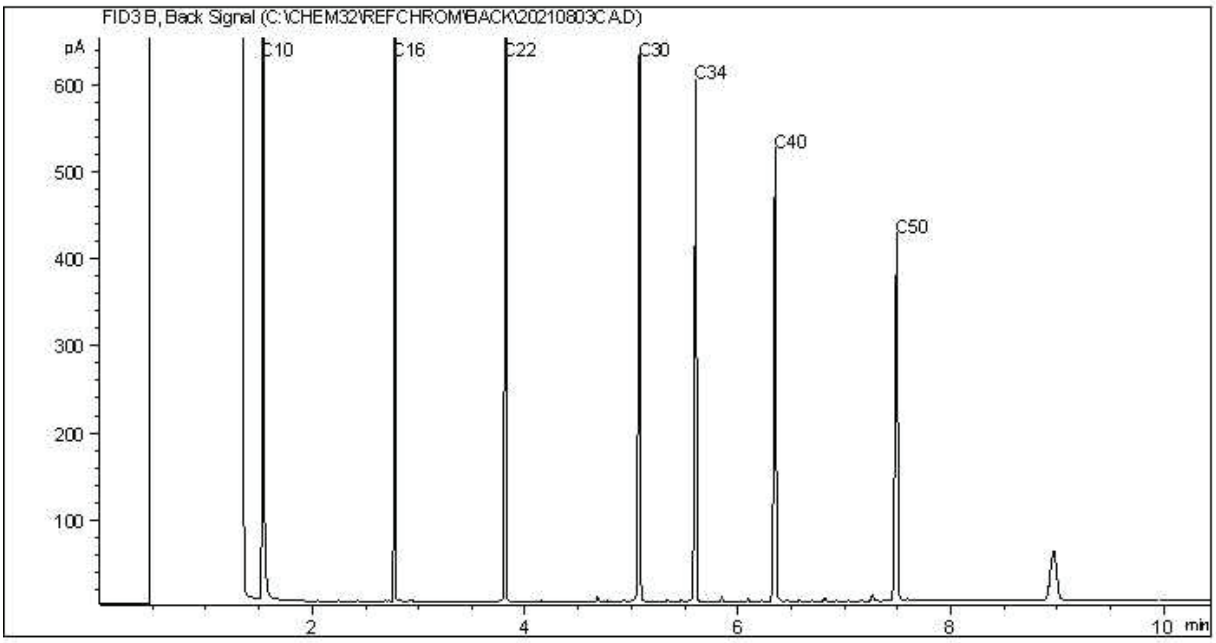
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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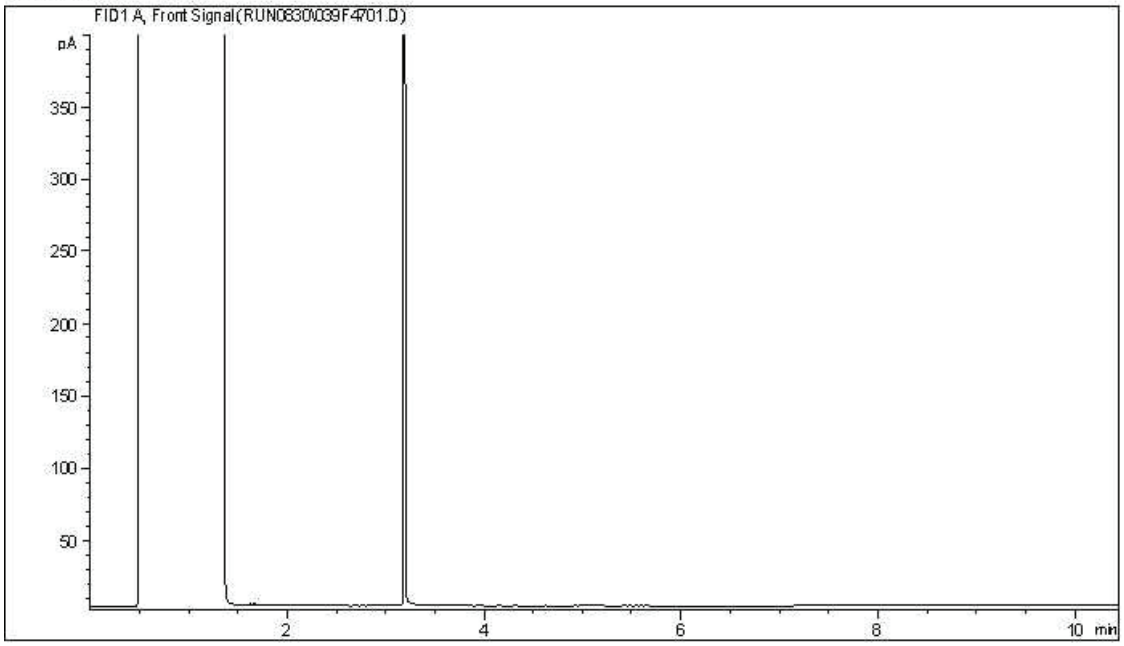
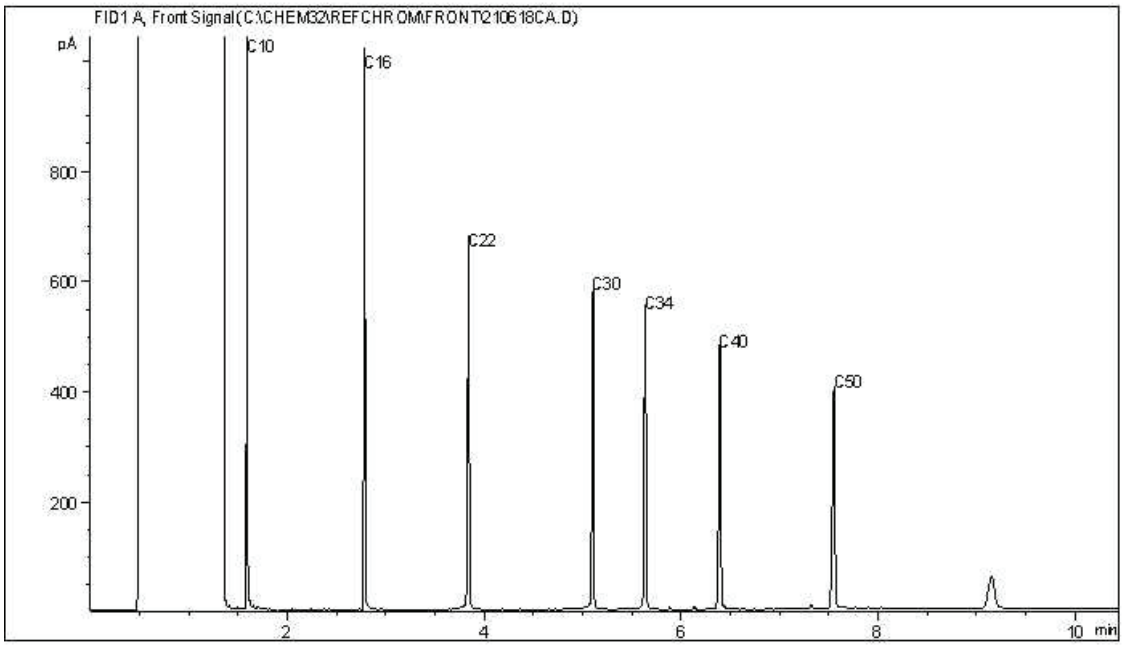
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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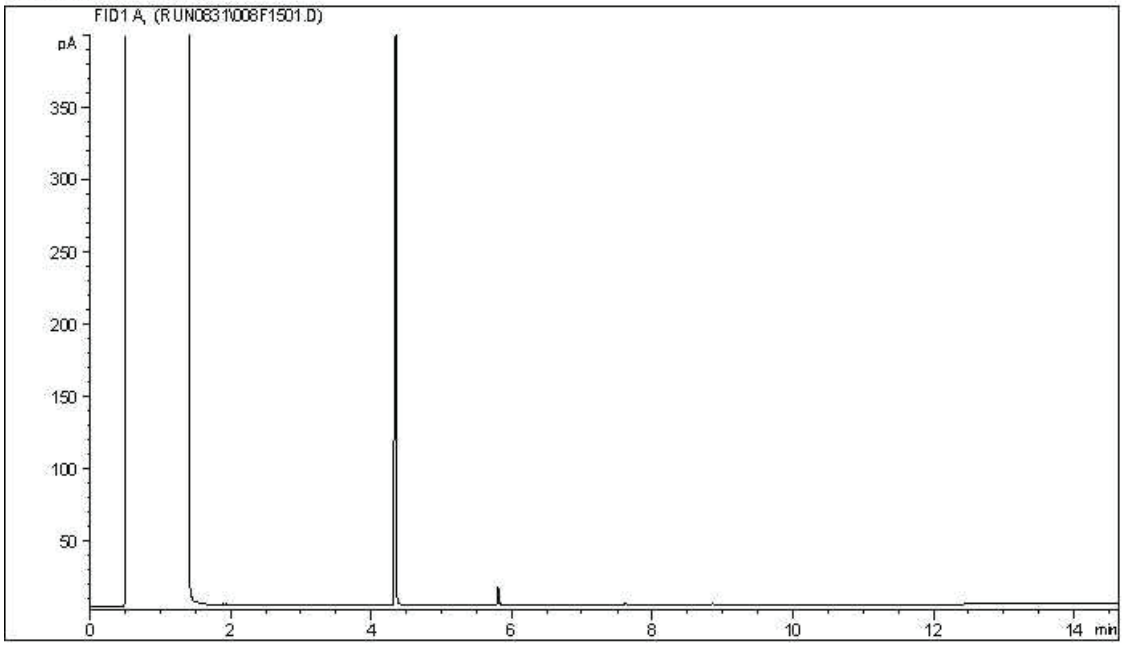
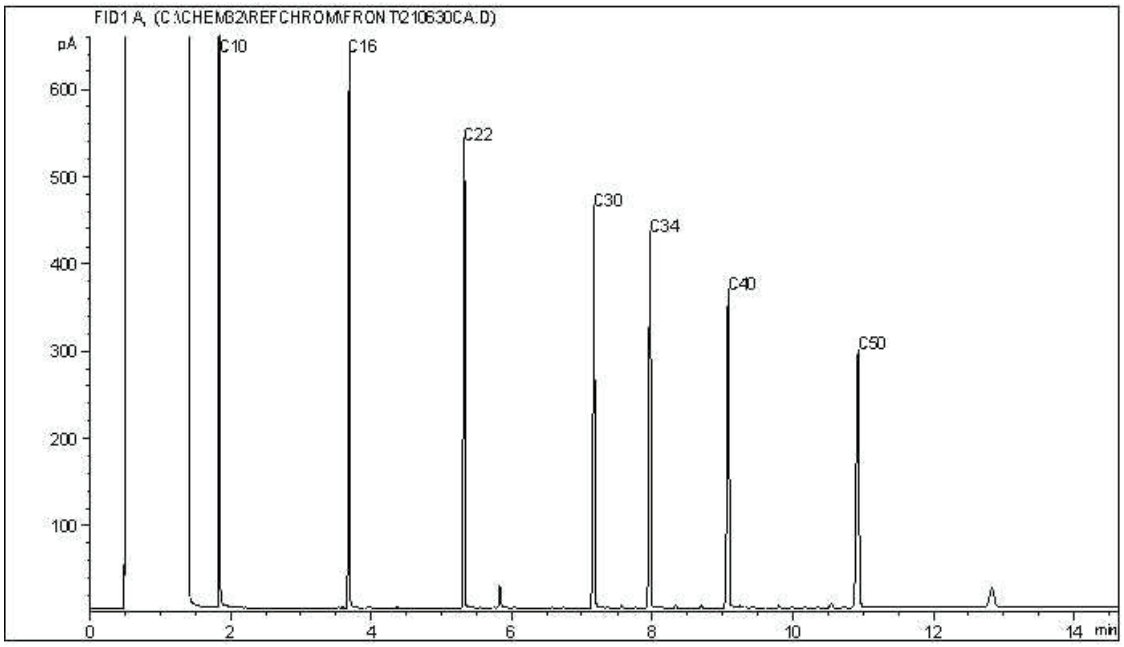
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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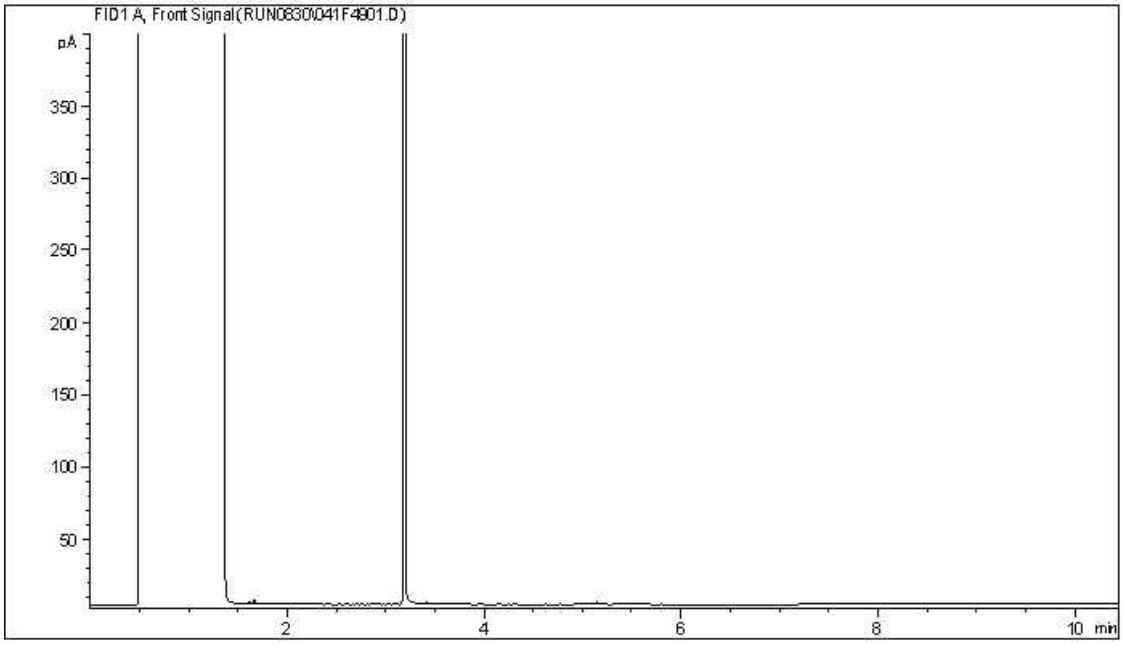
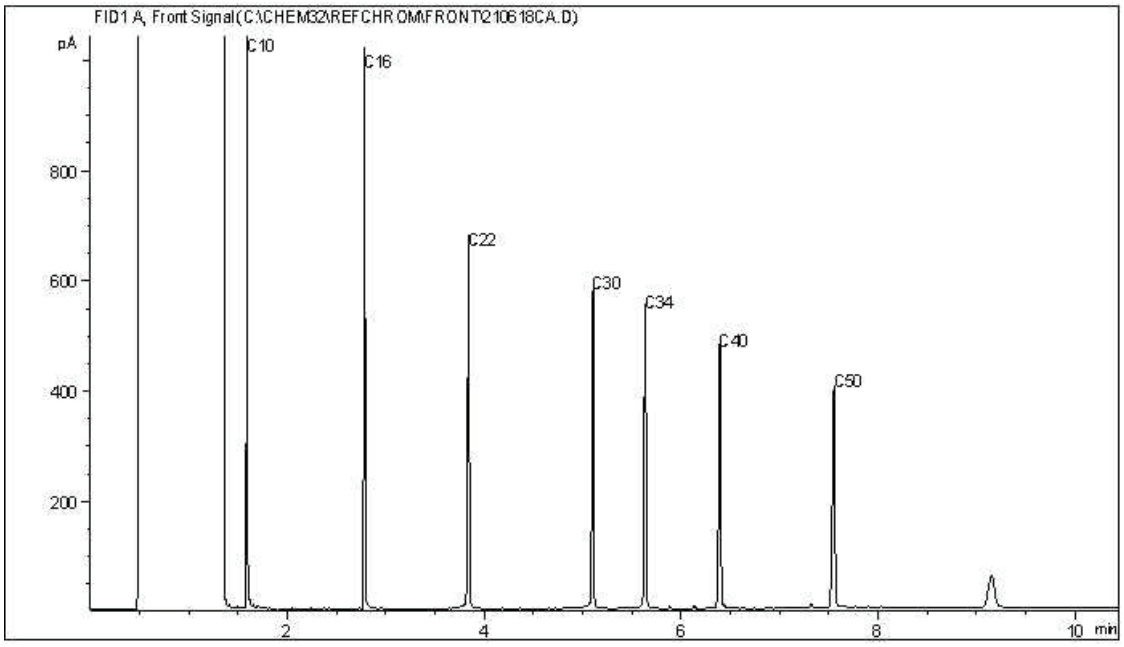
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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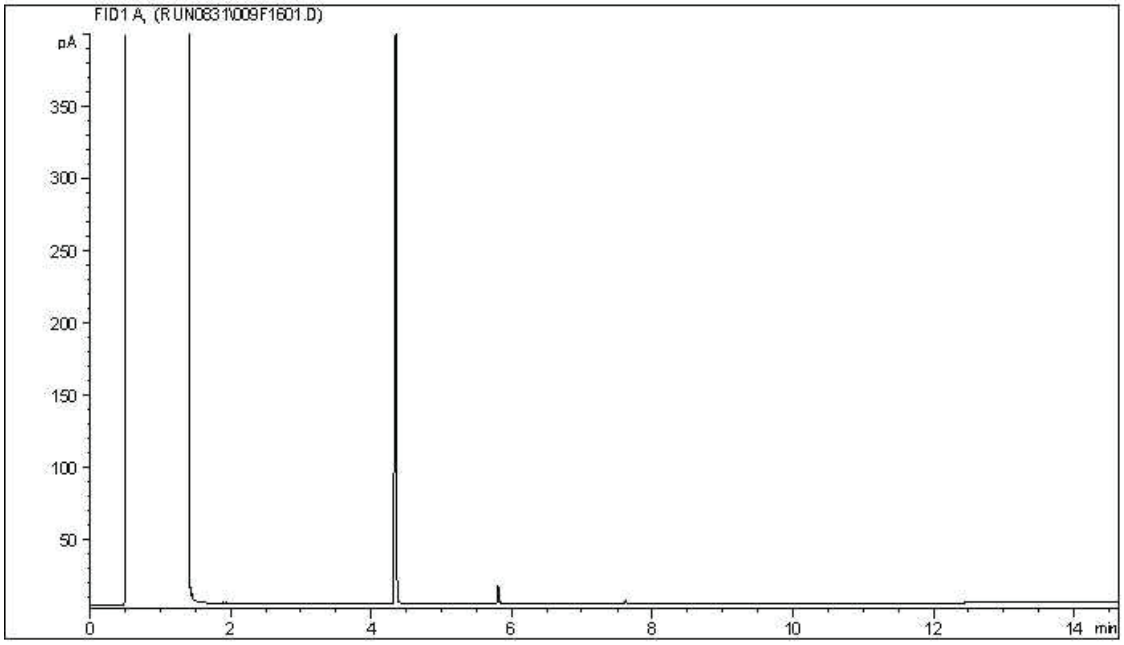
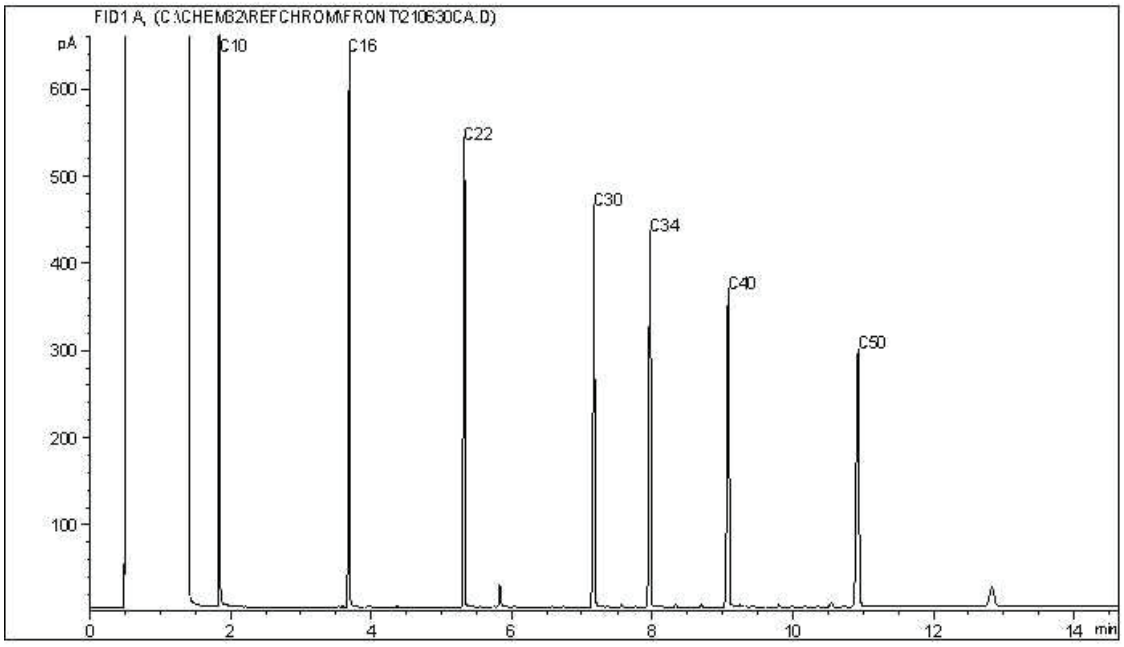


Carbon Range Distribution - Reference Chromatogram



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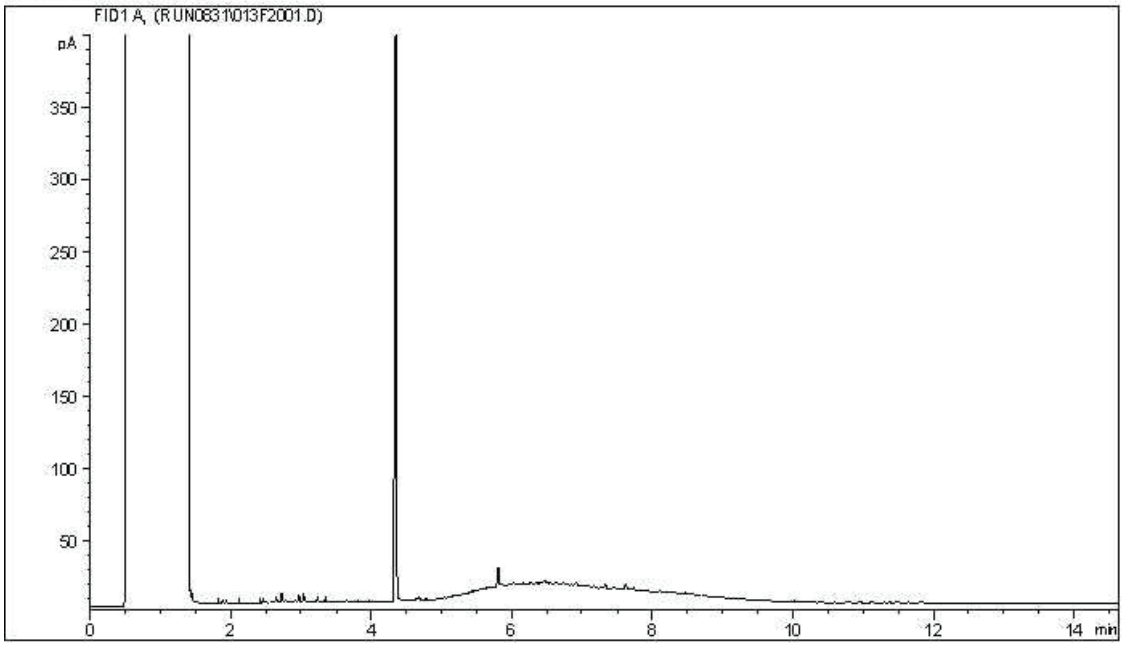
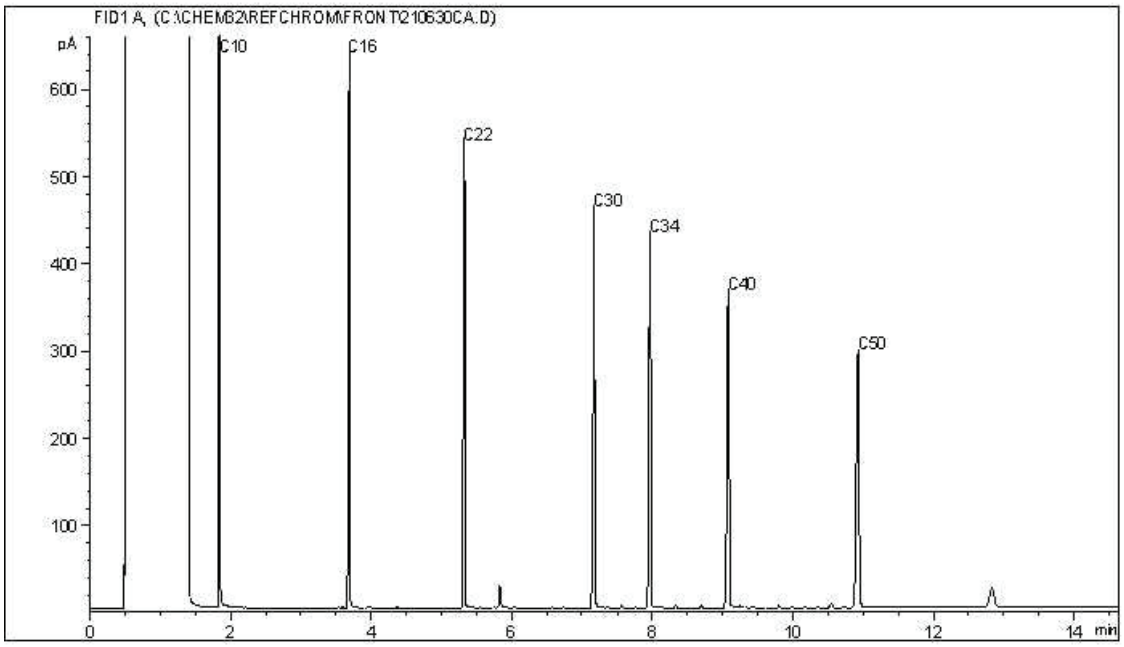
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



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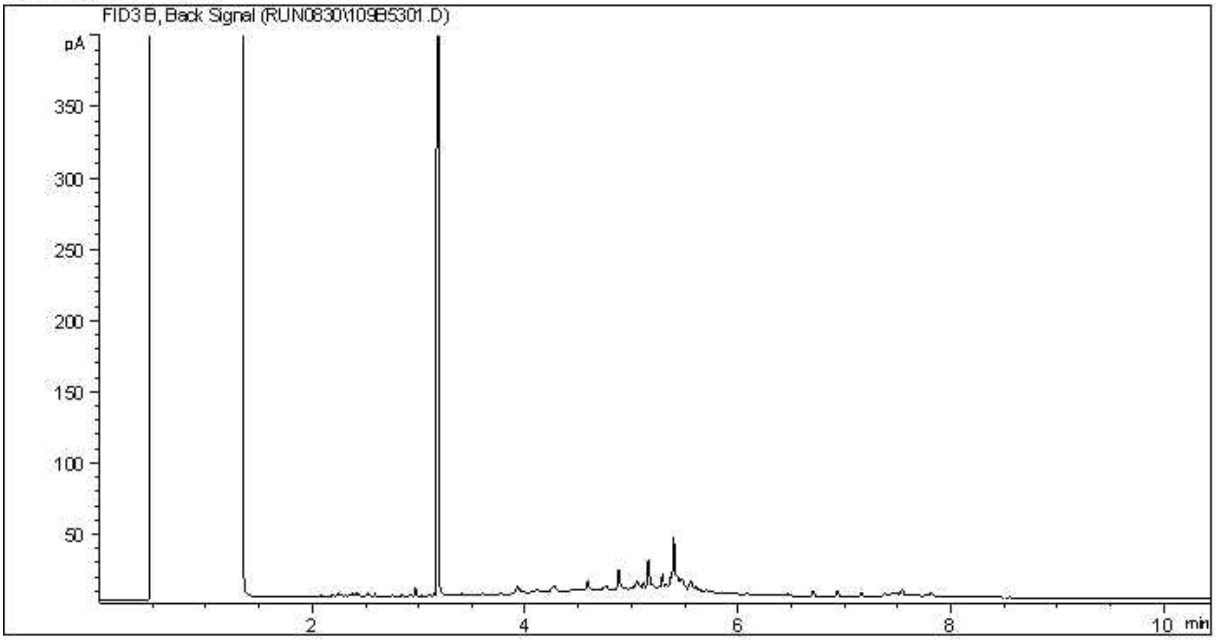
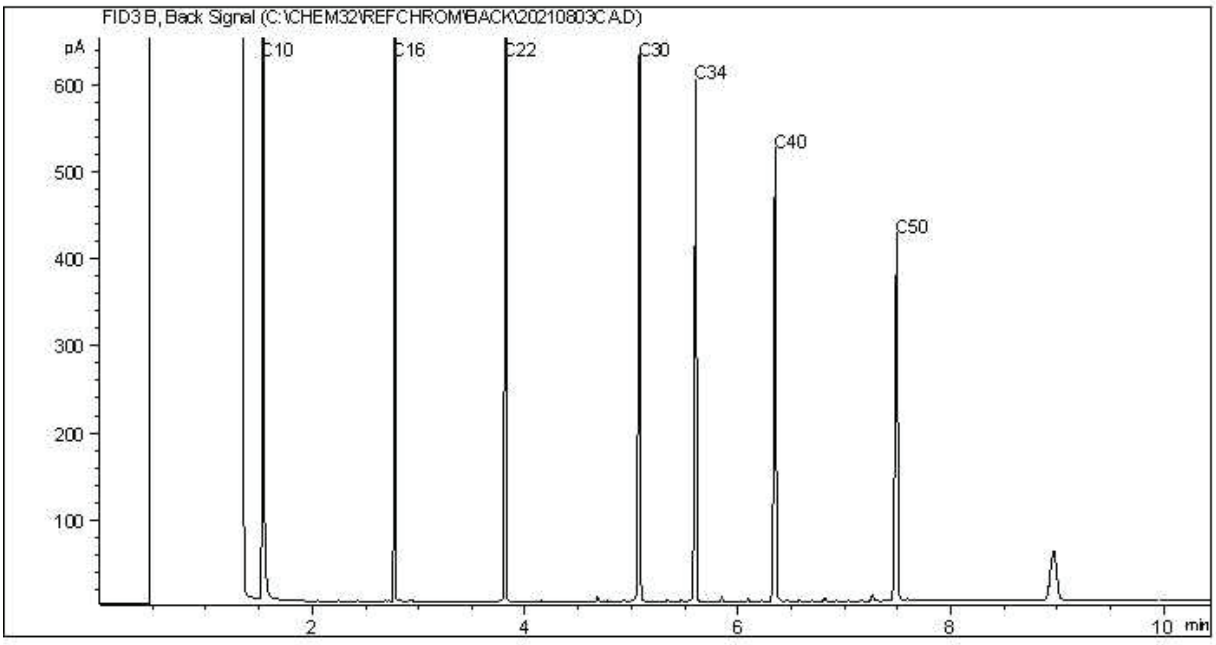
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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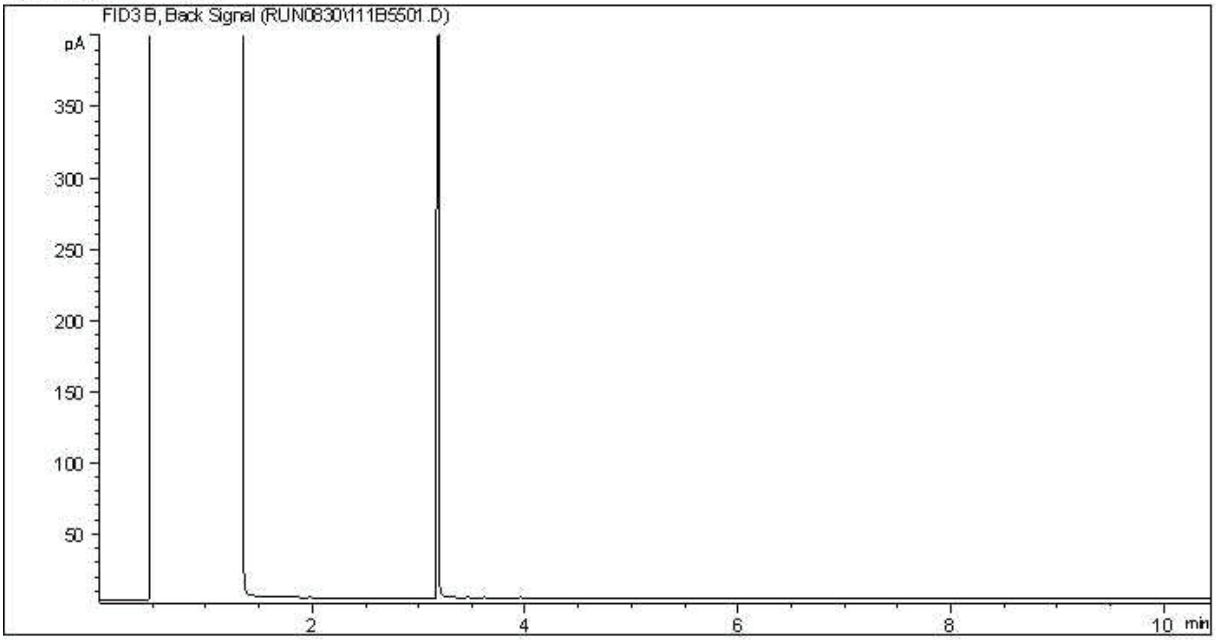
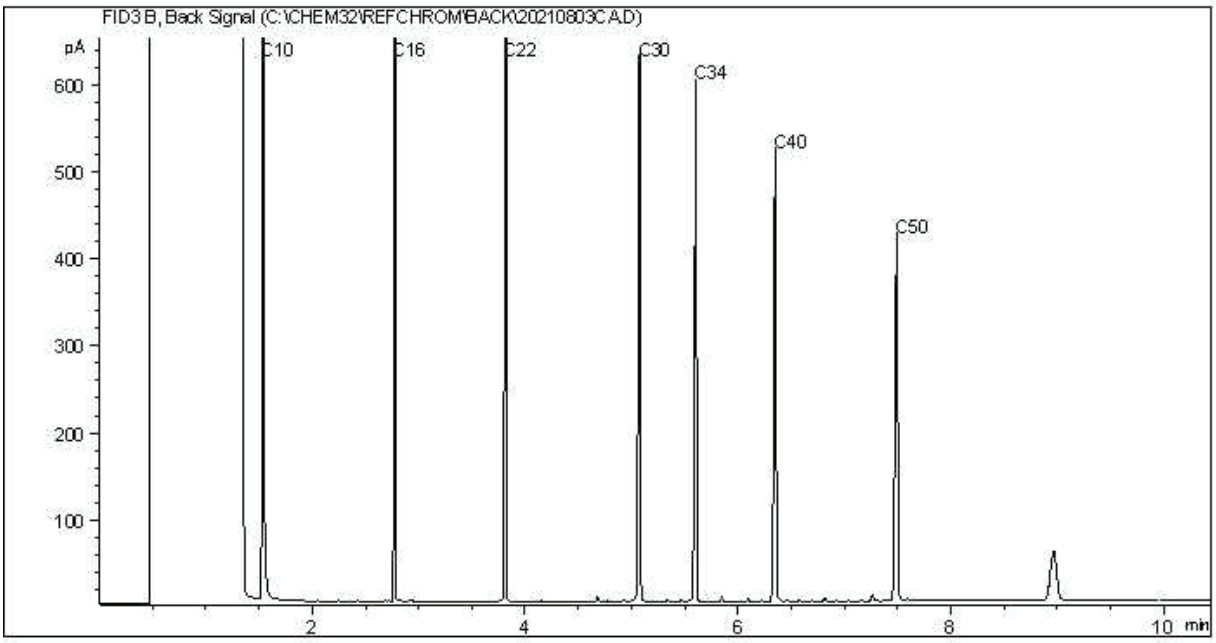


Carbon Range Distribution - Reference Chromatogram



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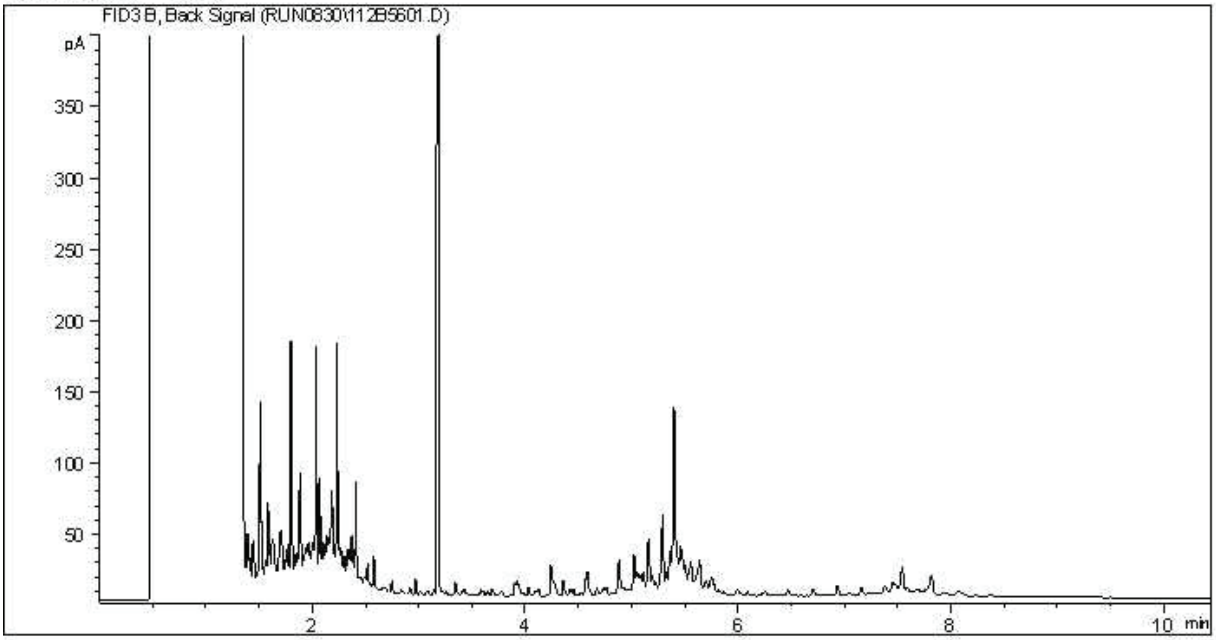
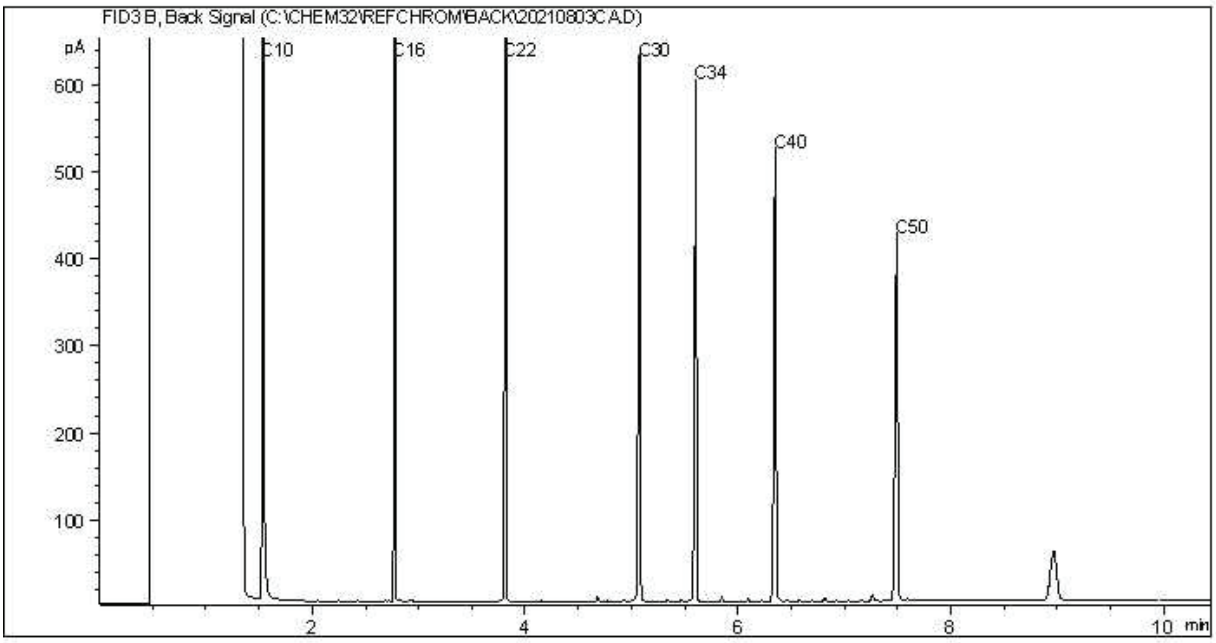


Carbon Range Distribution - Reference Chromatogram



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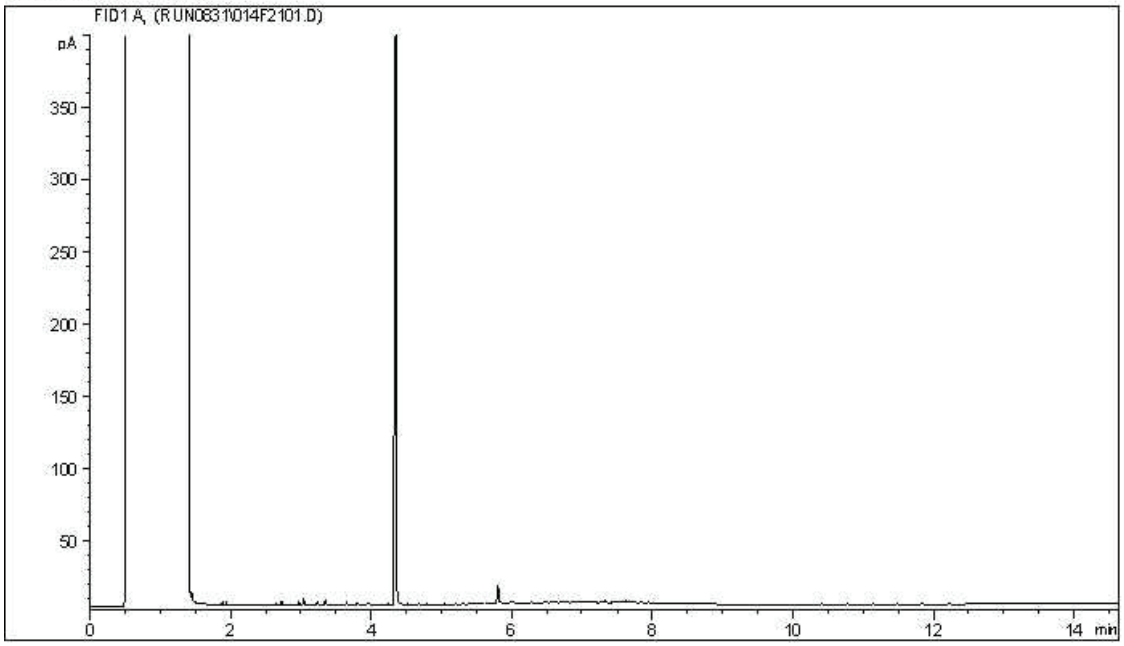
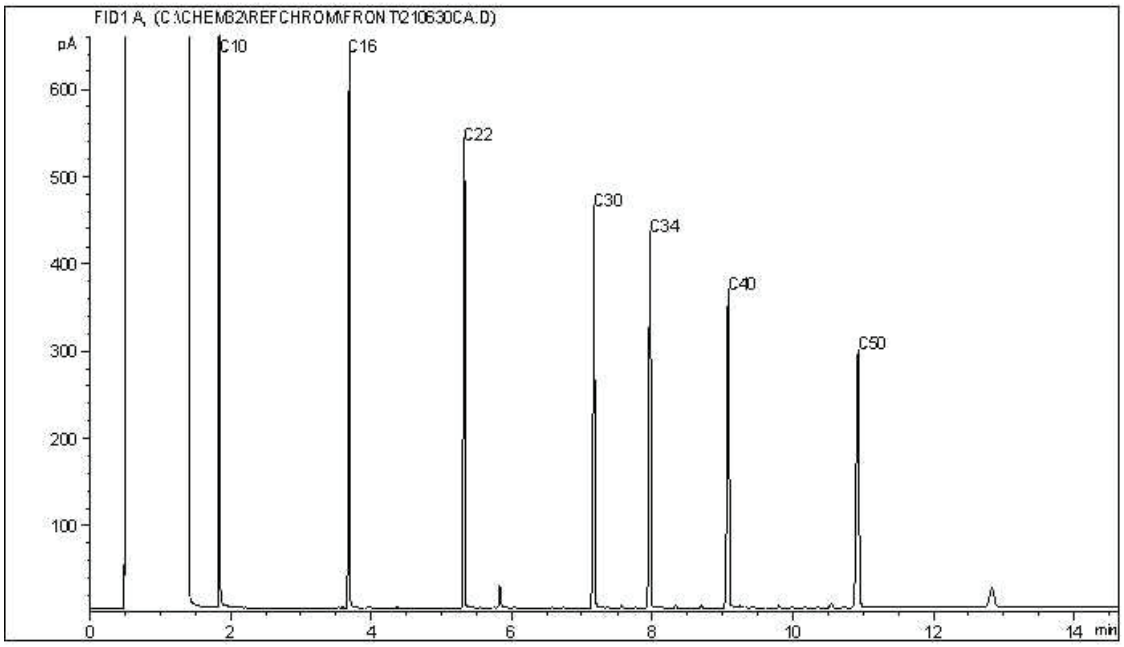


Carbon Range Distribution - Reference Chromatogram



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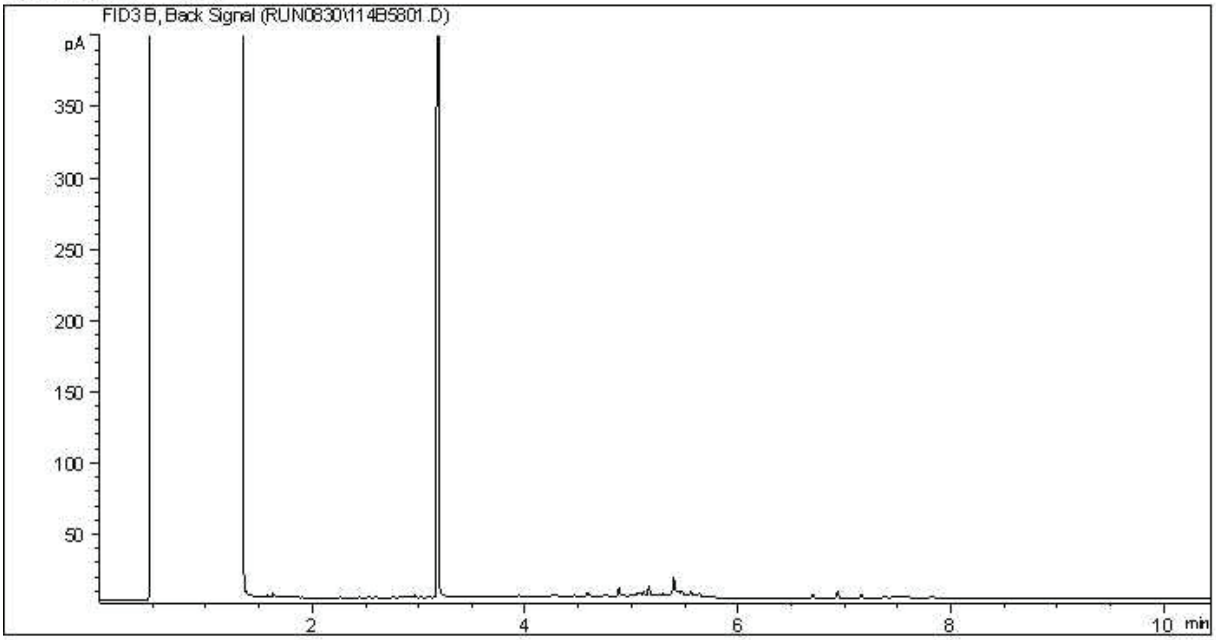

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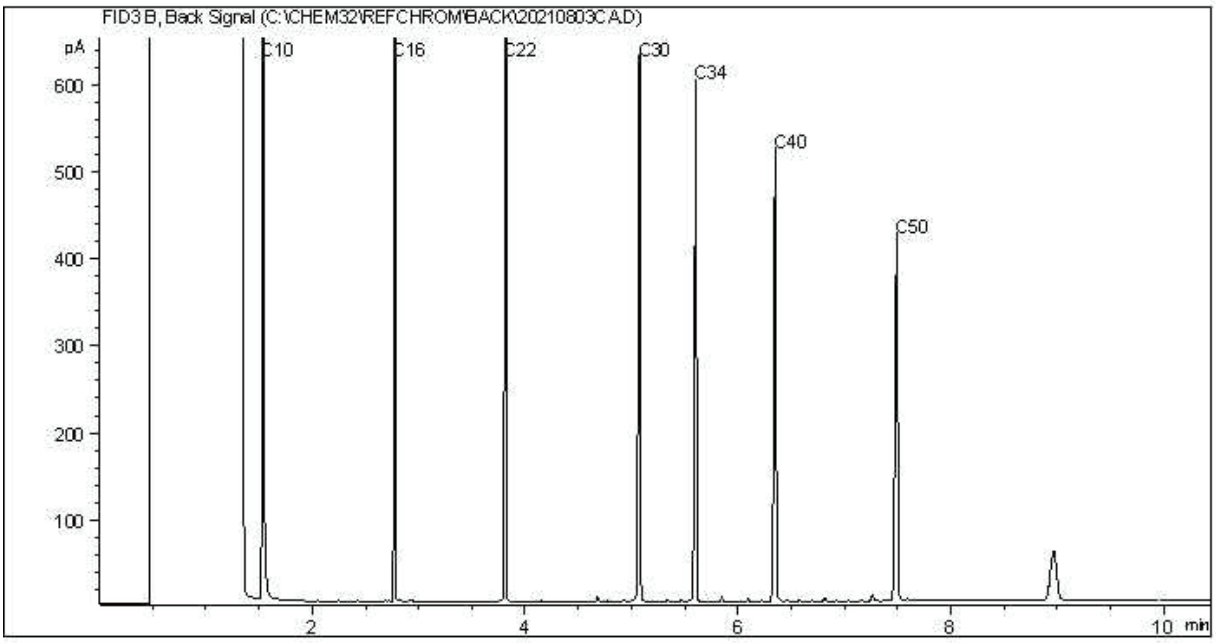

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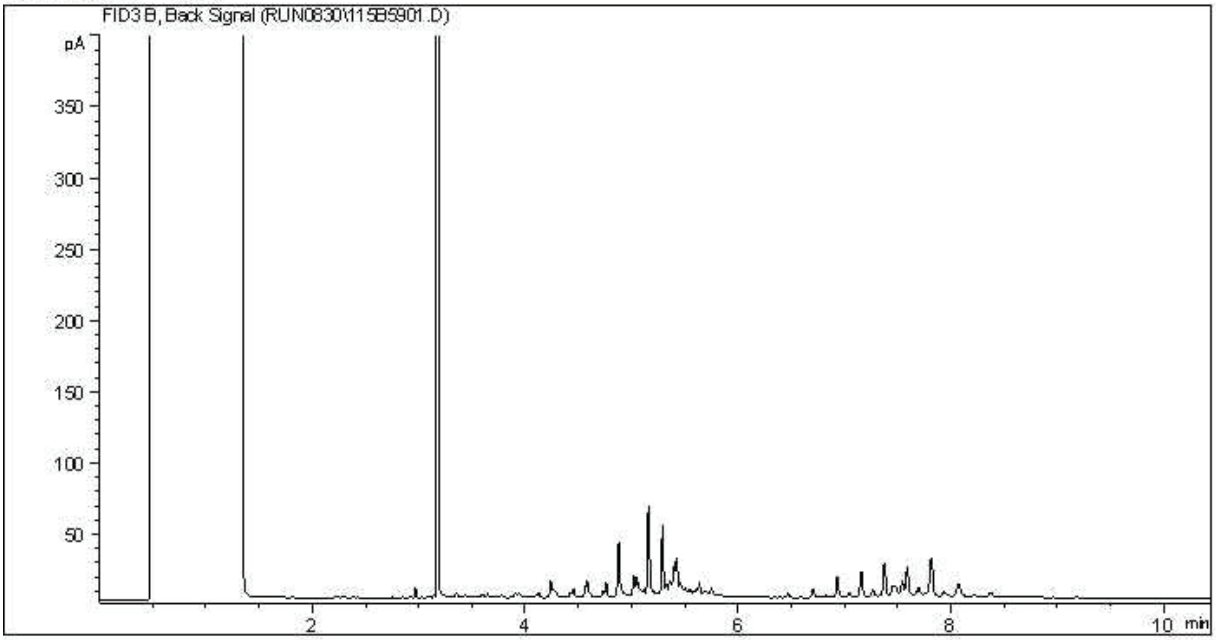

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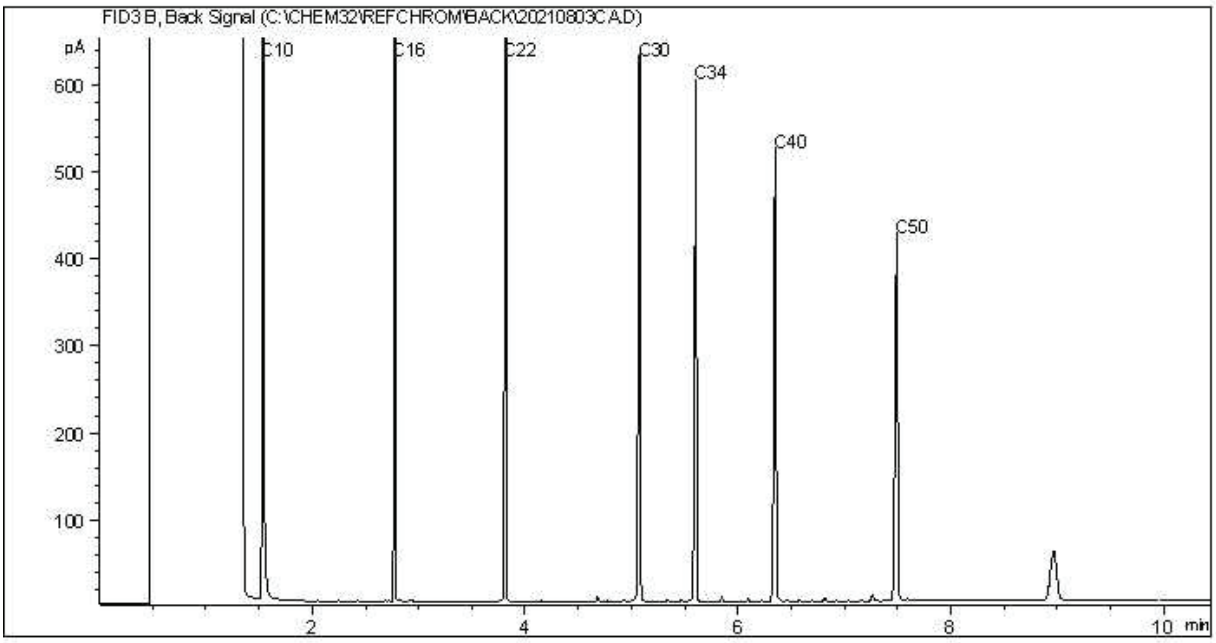

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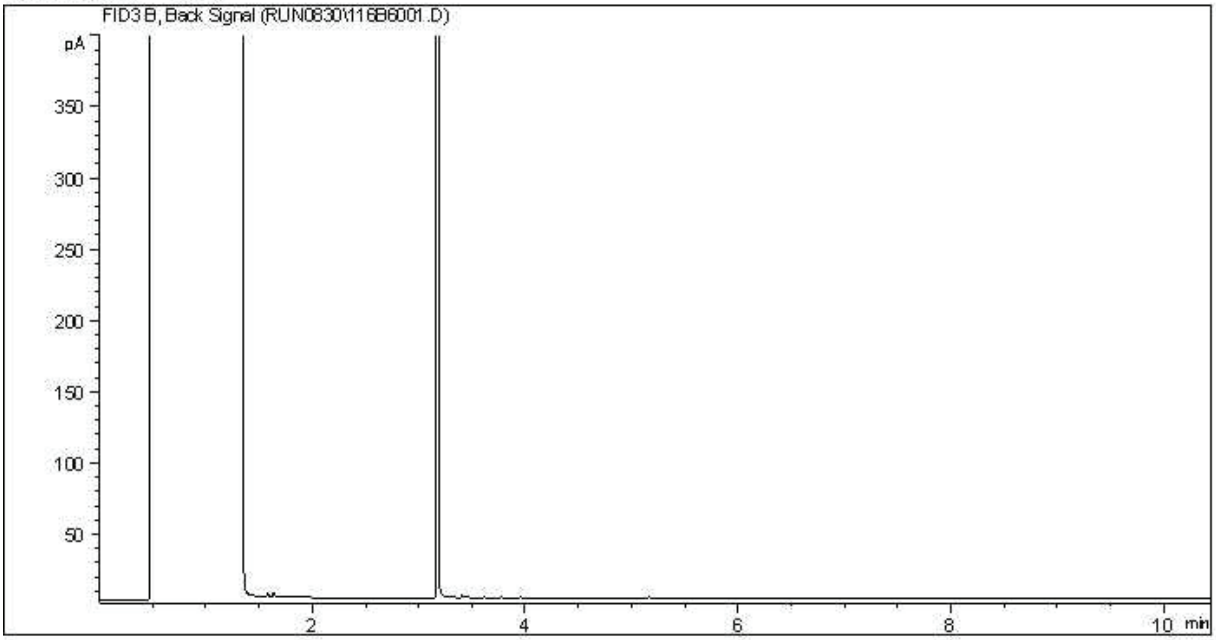
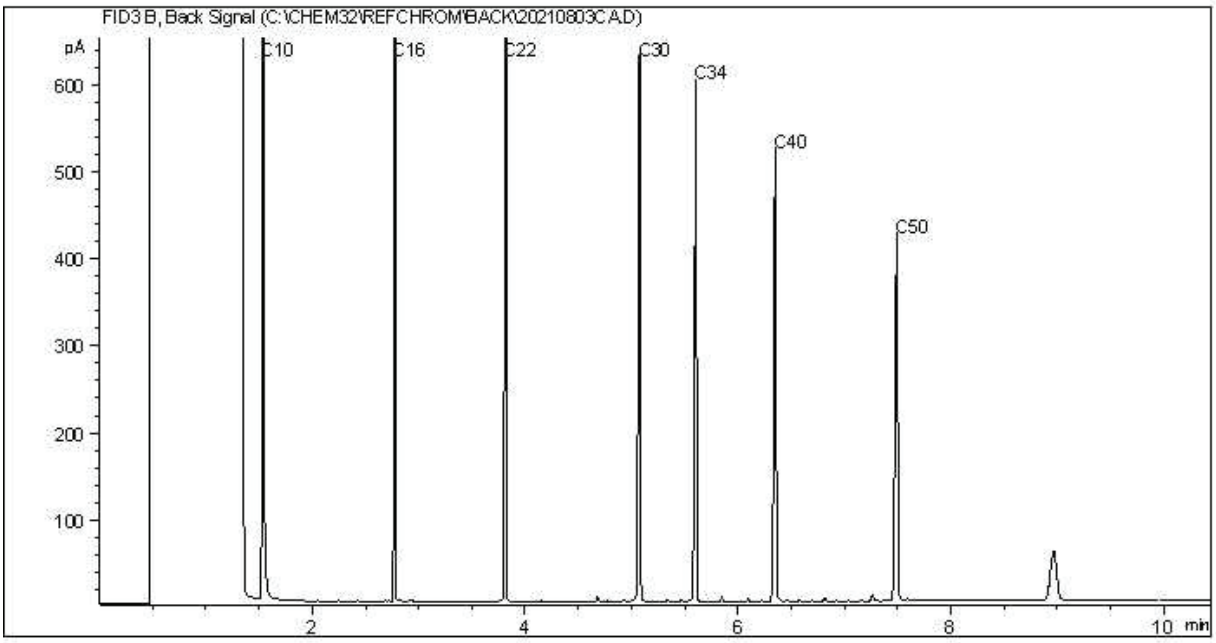


Carbon Range Distribution - Reference Chromatogram



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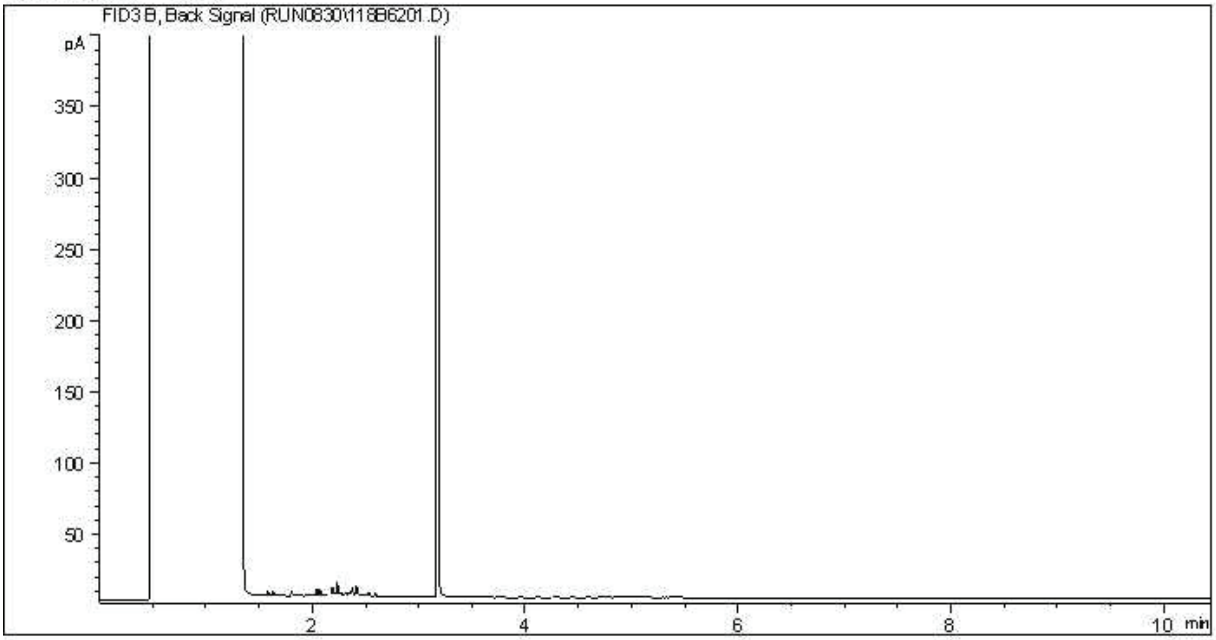

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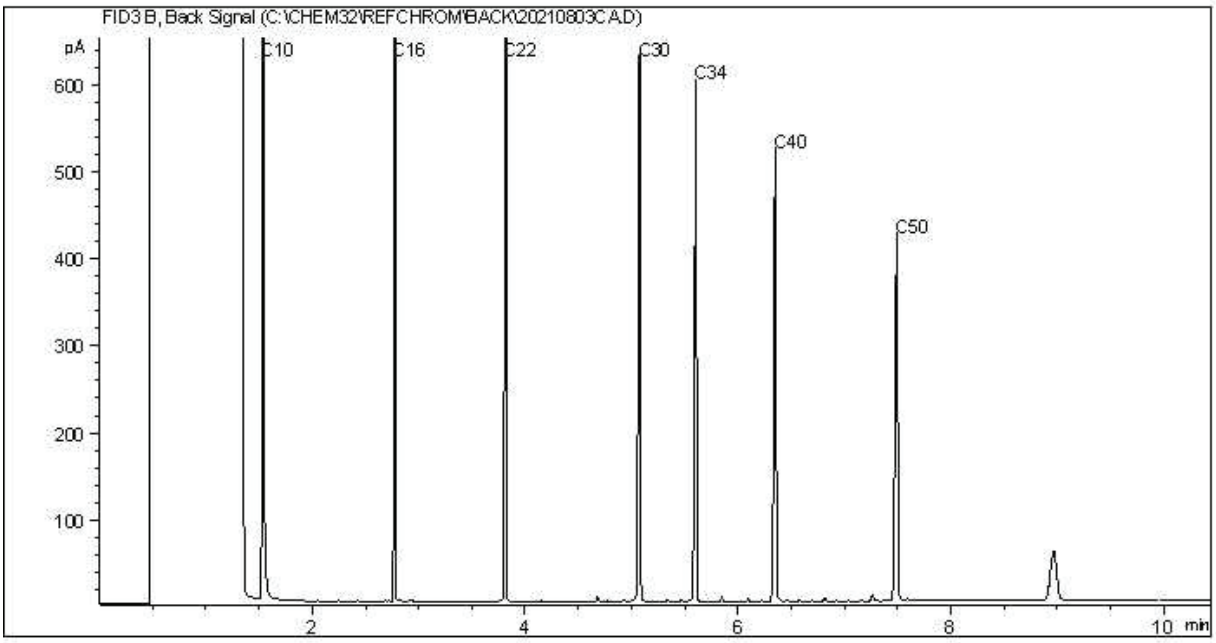

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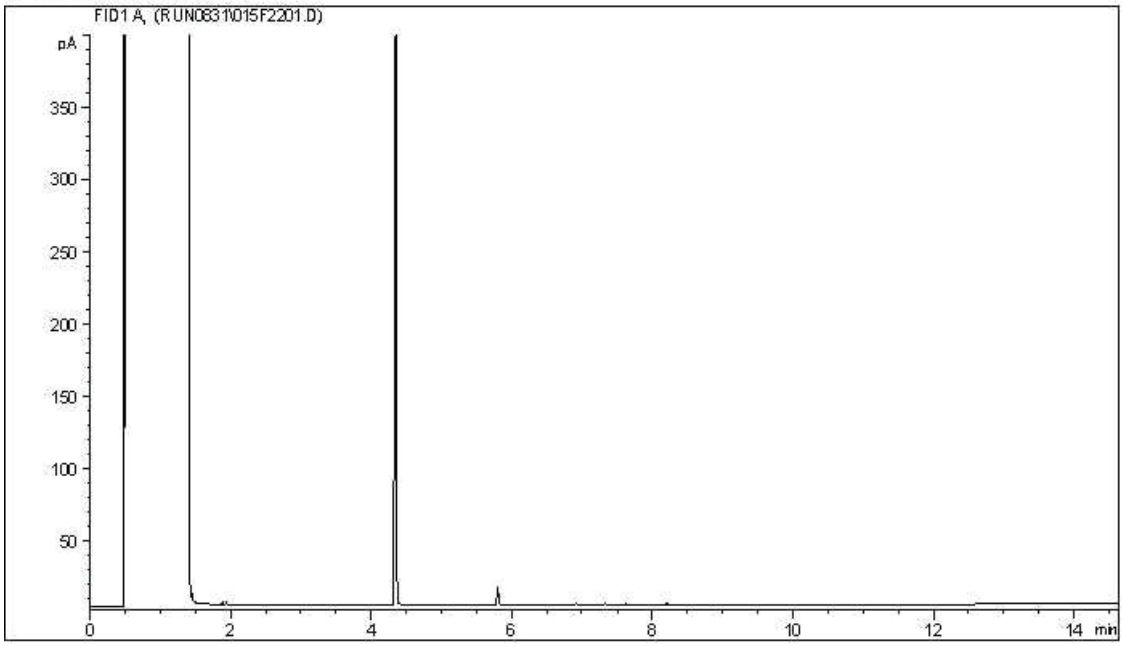
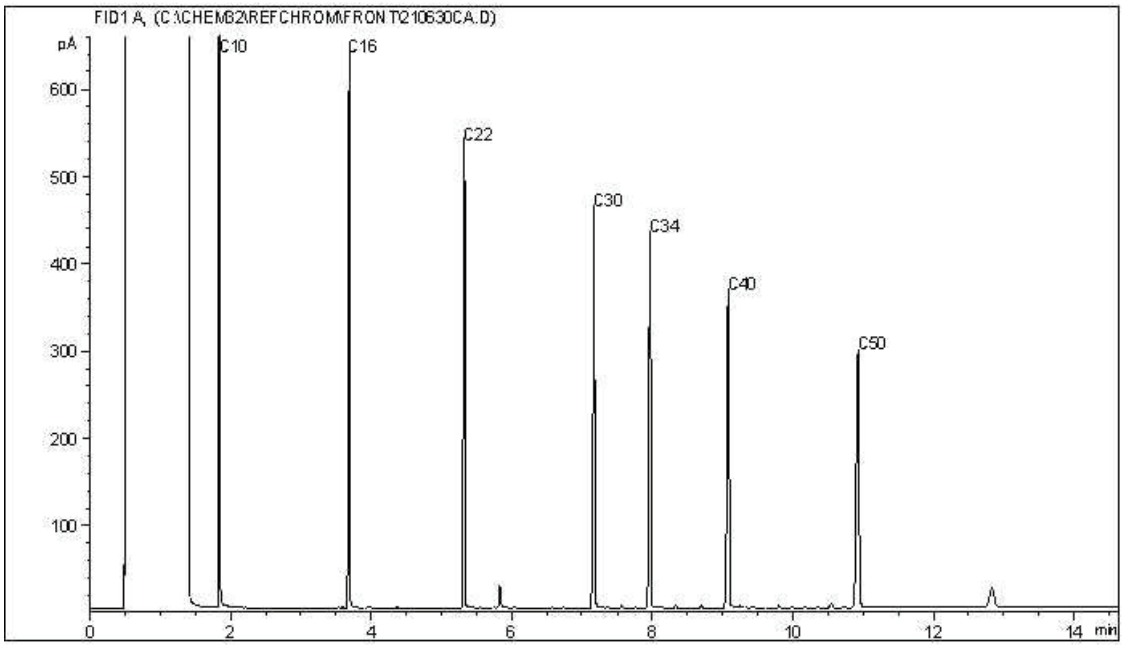


Carbon Range Distribution - Reference Chromatogram



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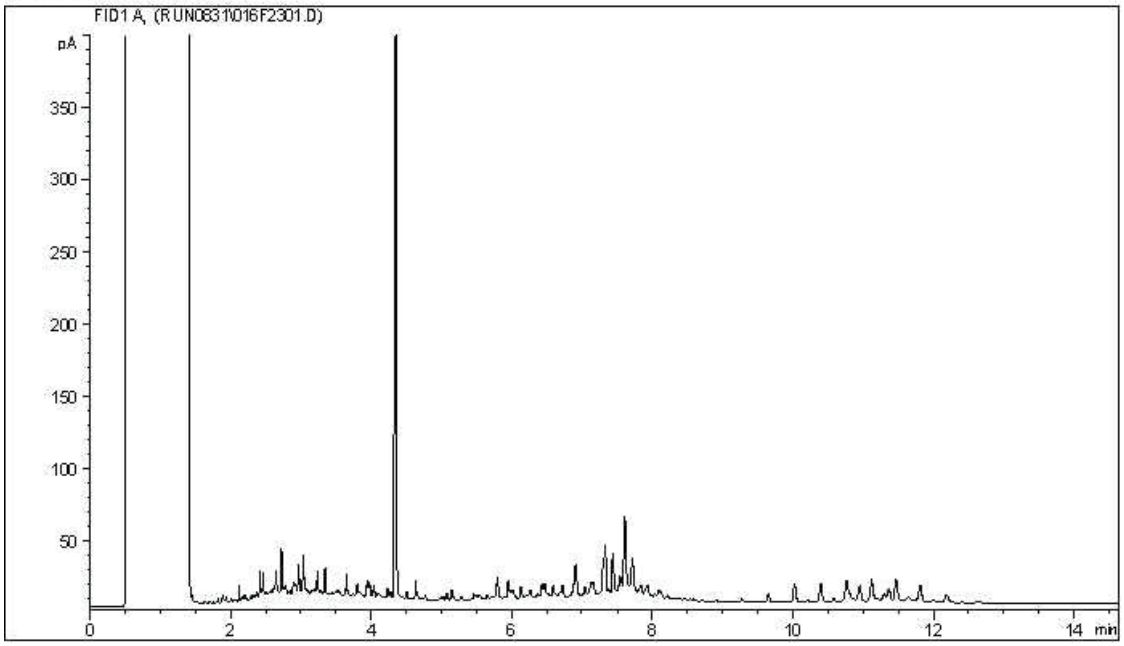
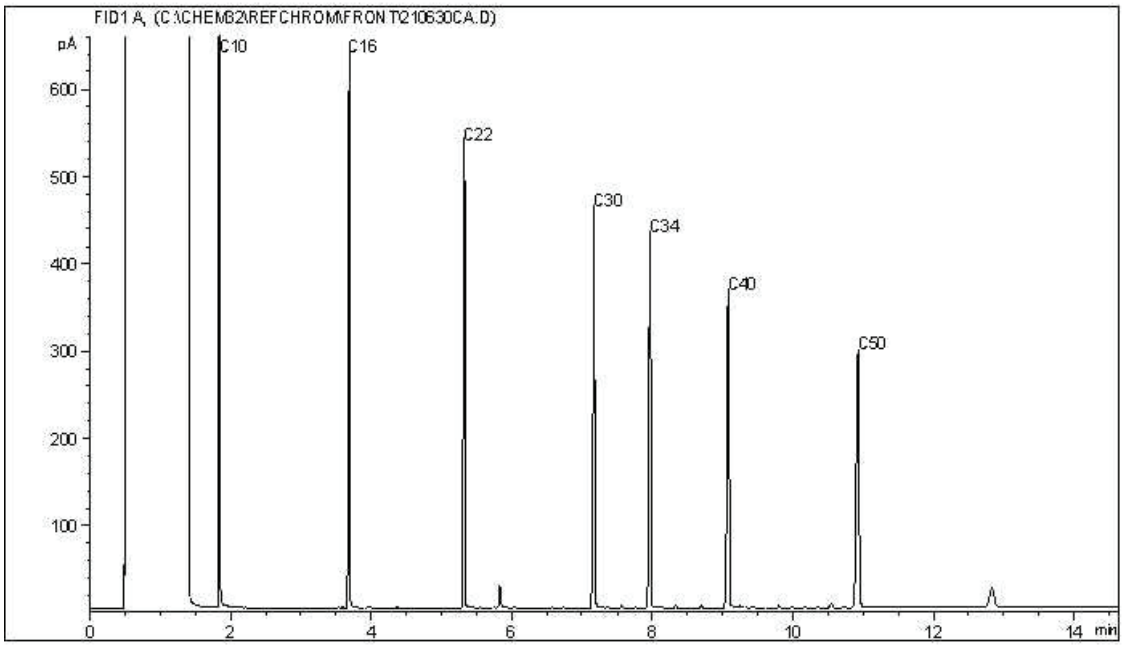
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



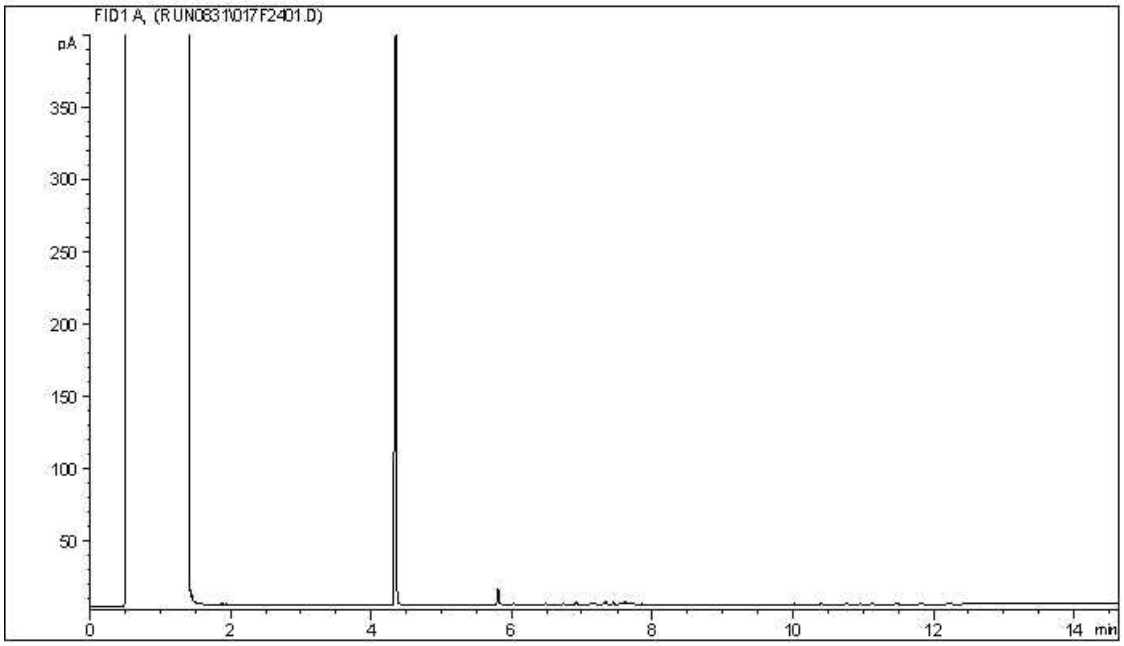
TYPICAL PRODUCT CARBON NUMBER RANGES

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

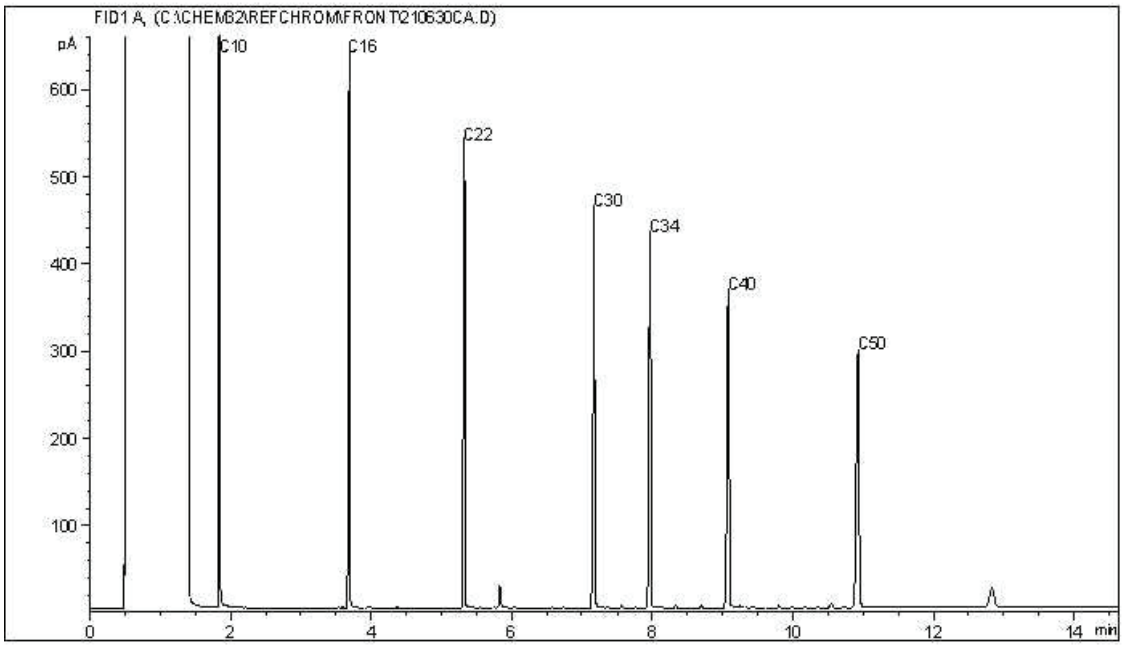
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12



Carbon Range Distribution - Reference Chromatogram



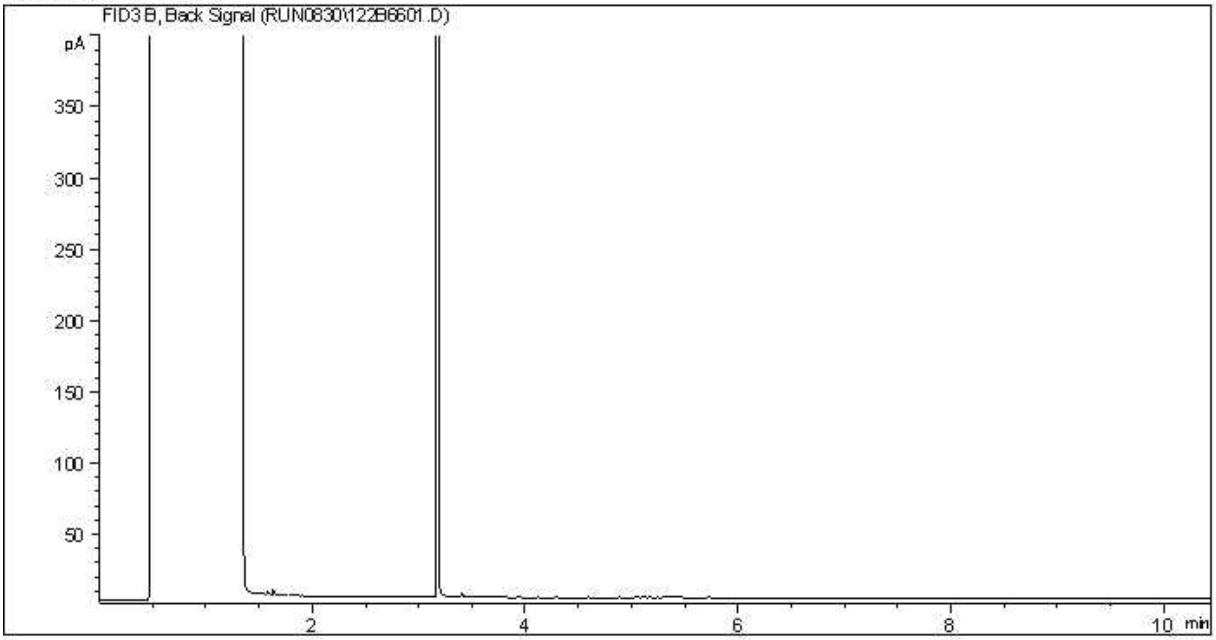
TYPICAL PRODUCT CARBON NUMBER RANGES

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

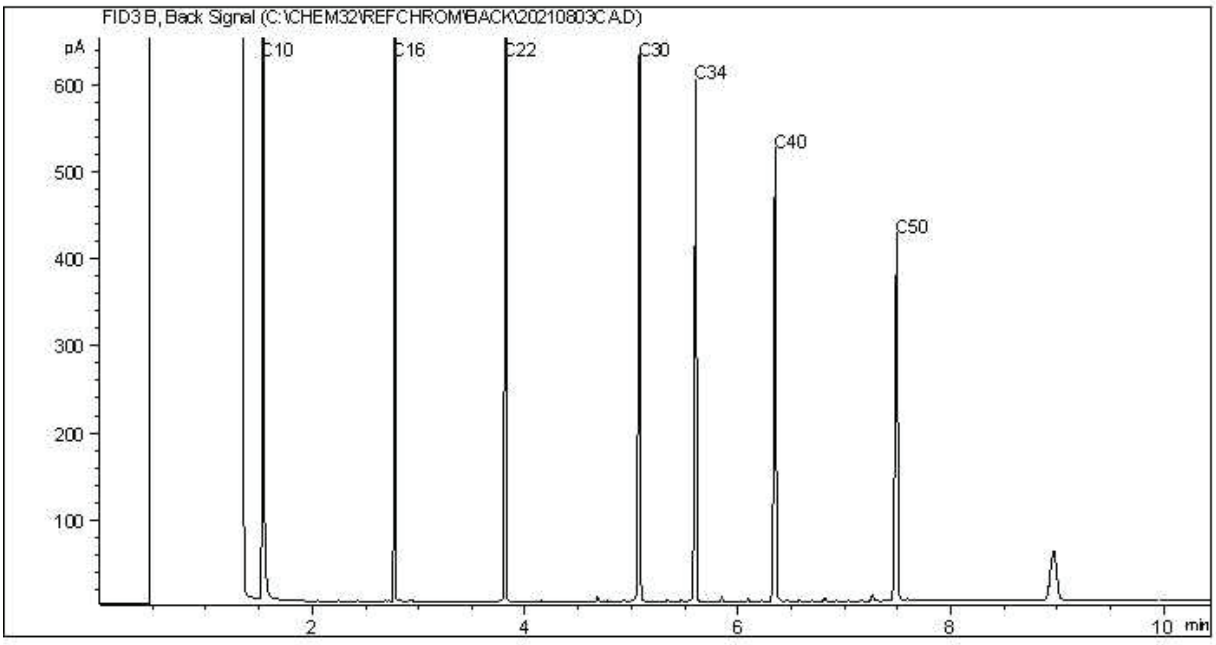
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



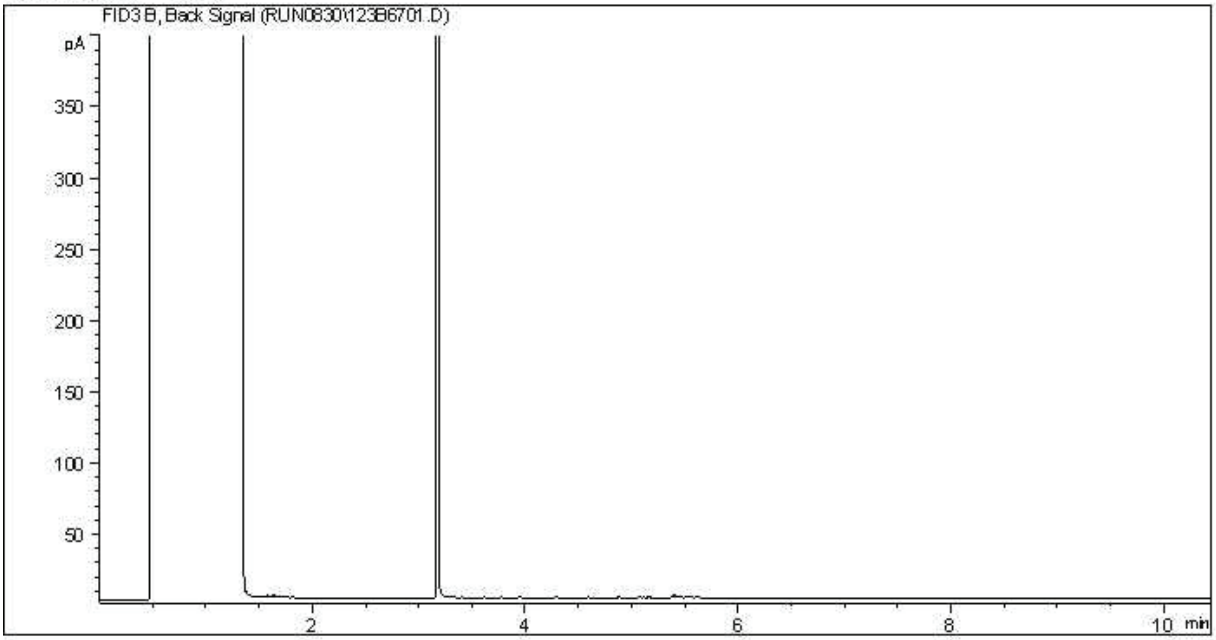
TYPICAL PRODUCT CARBON NUMBER RANGES

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

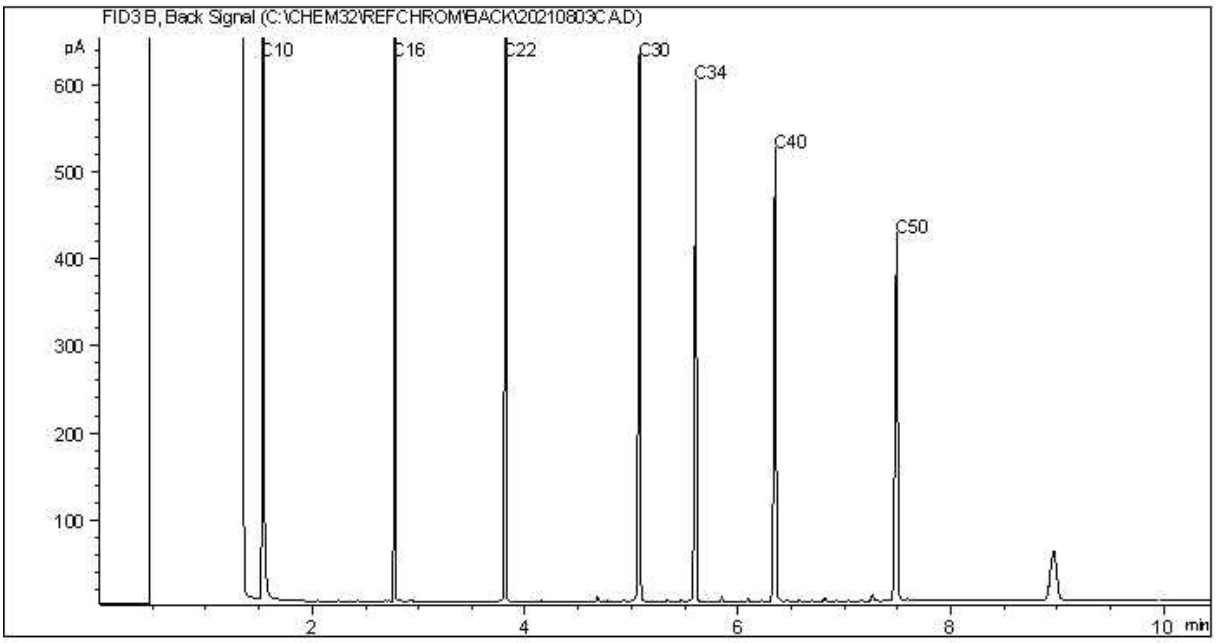
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



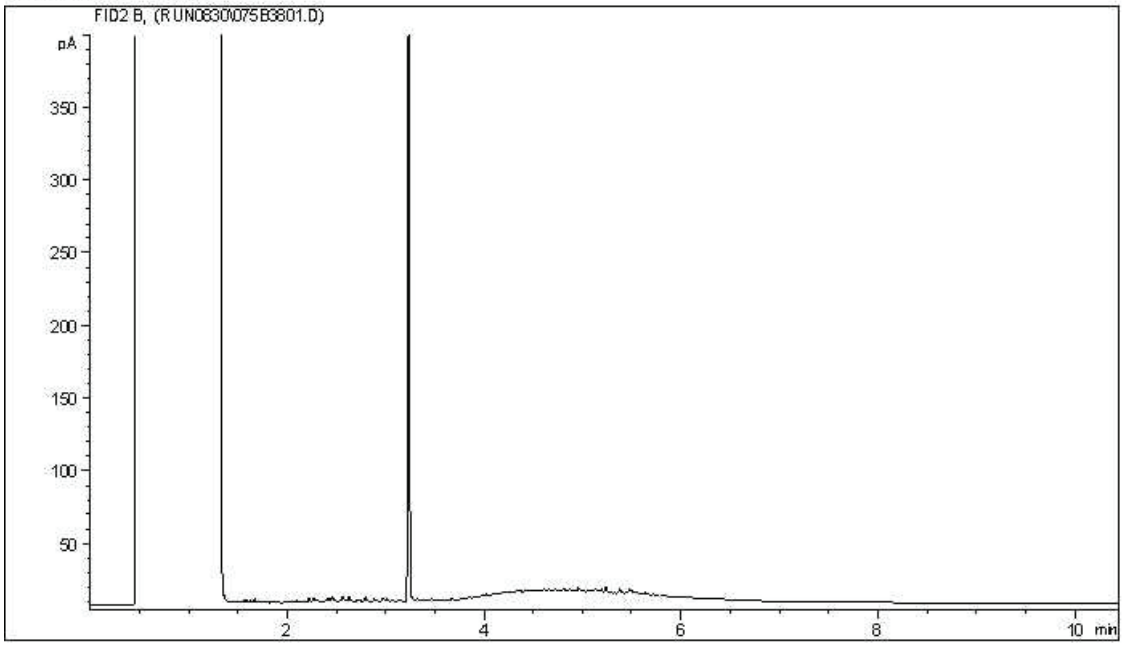
TYPICAL PRODUCT CARBON NUMBER RANGES

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

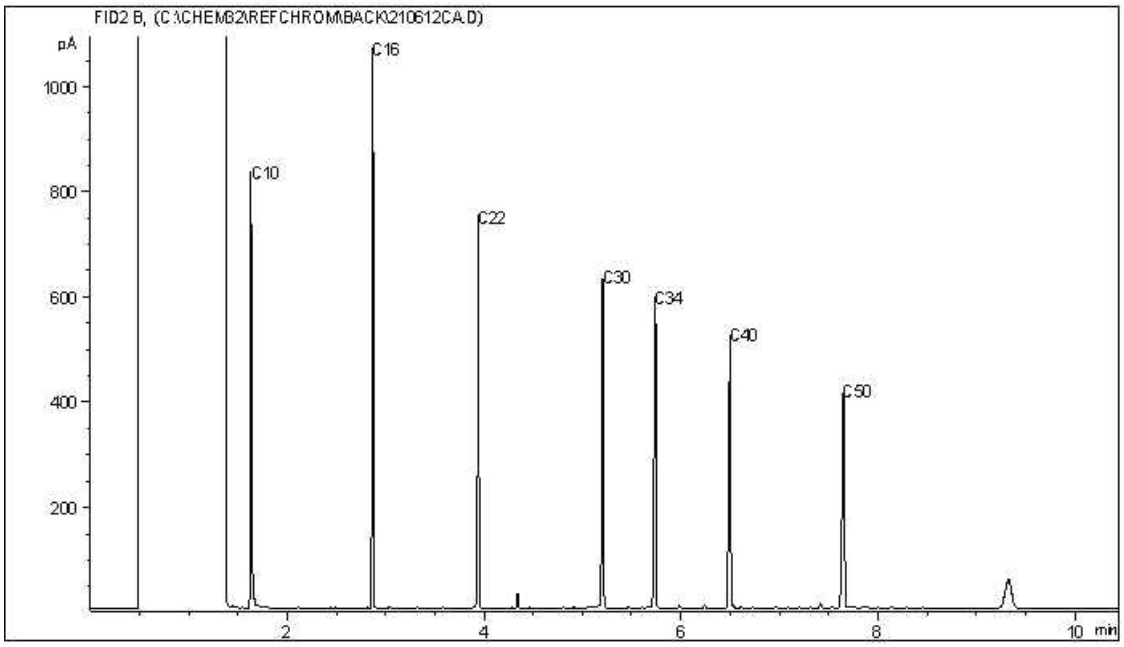
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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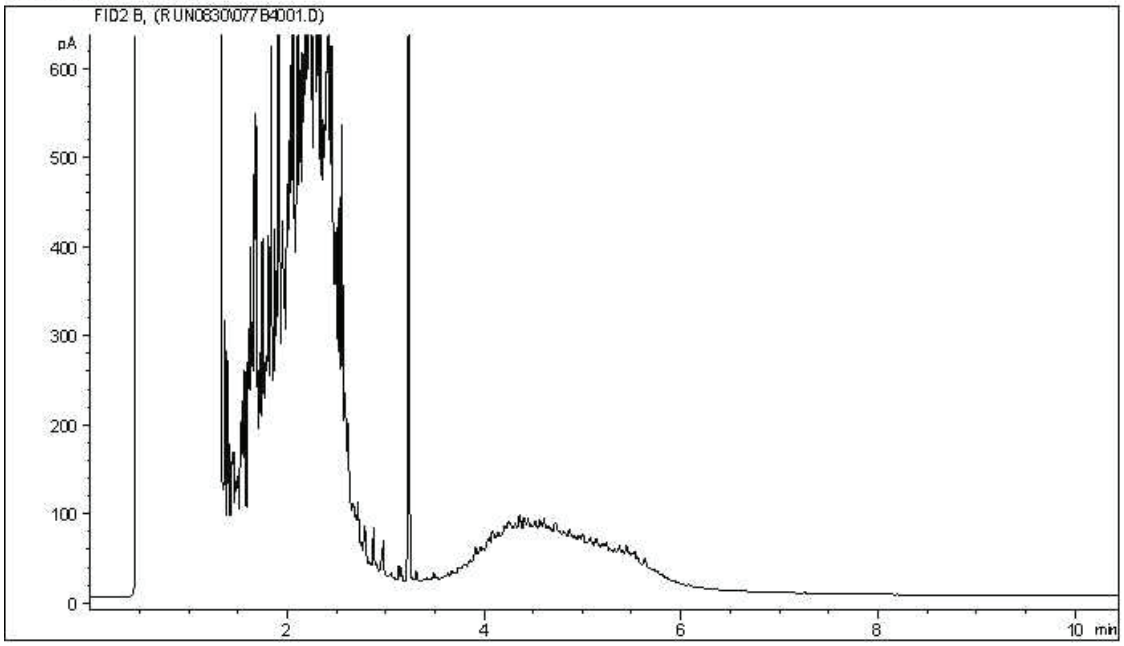
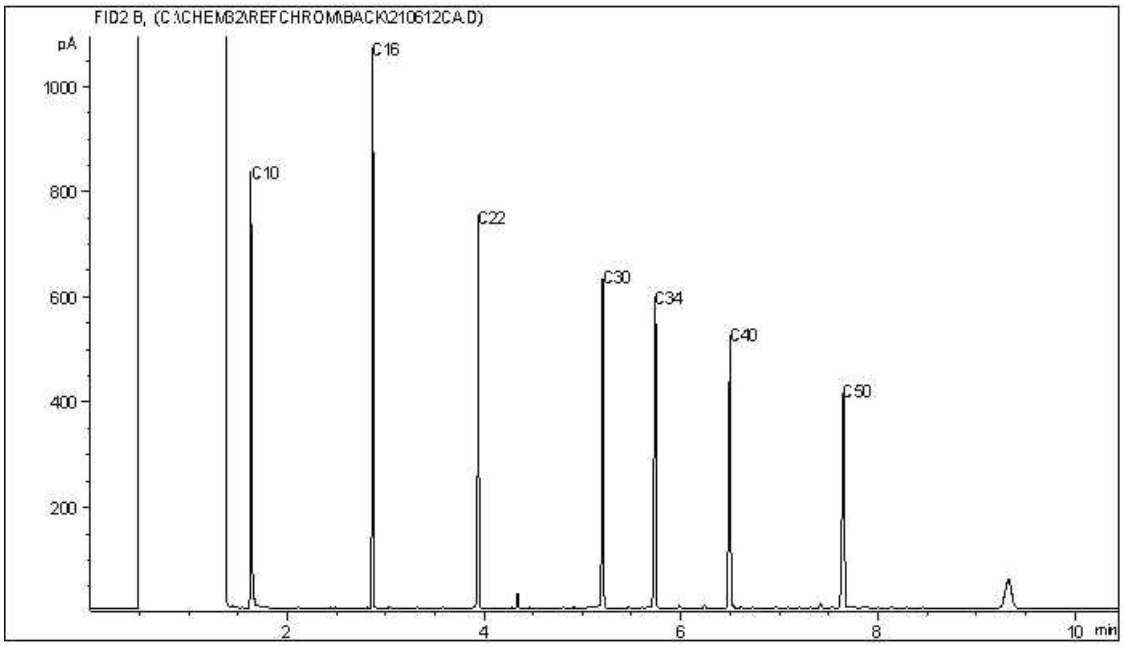
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

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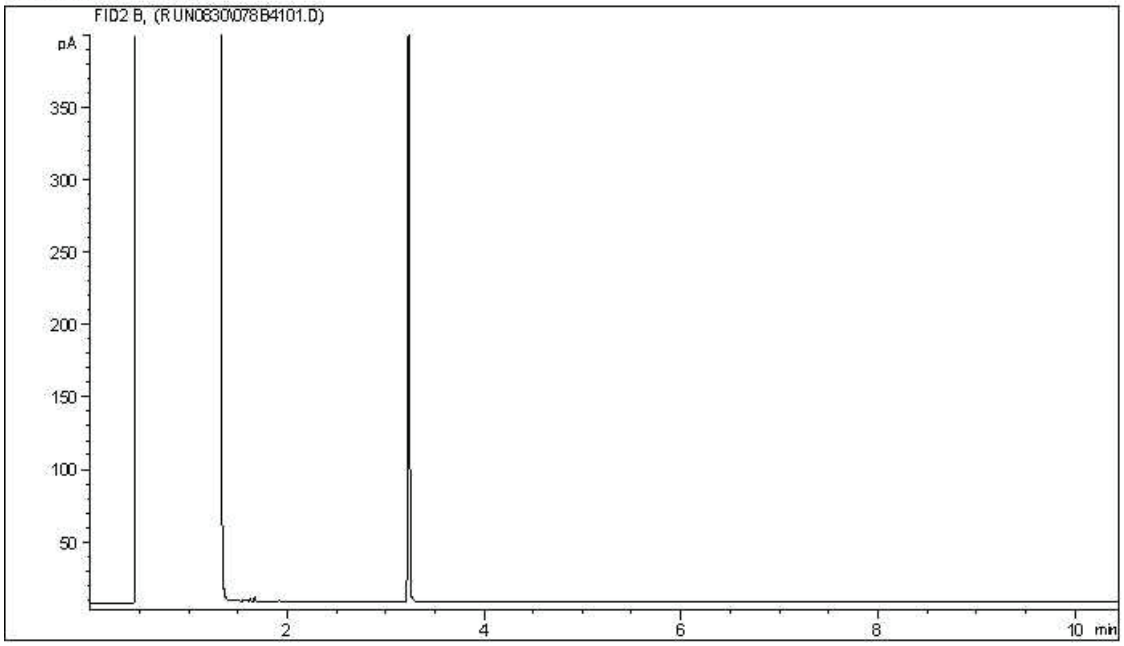
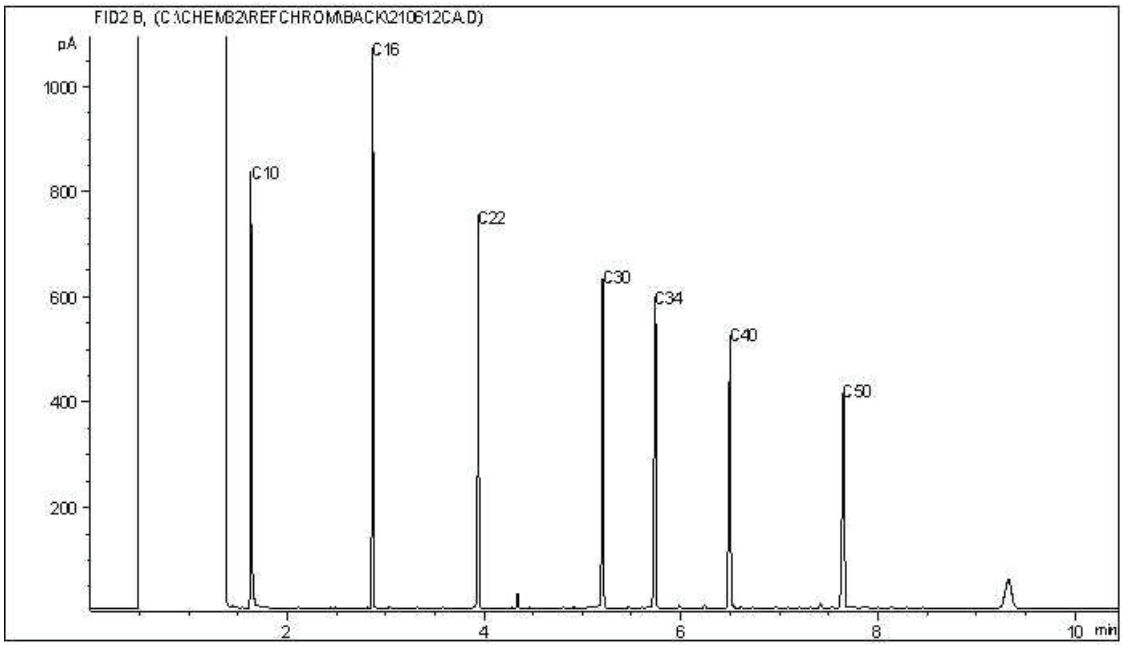
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



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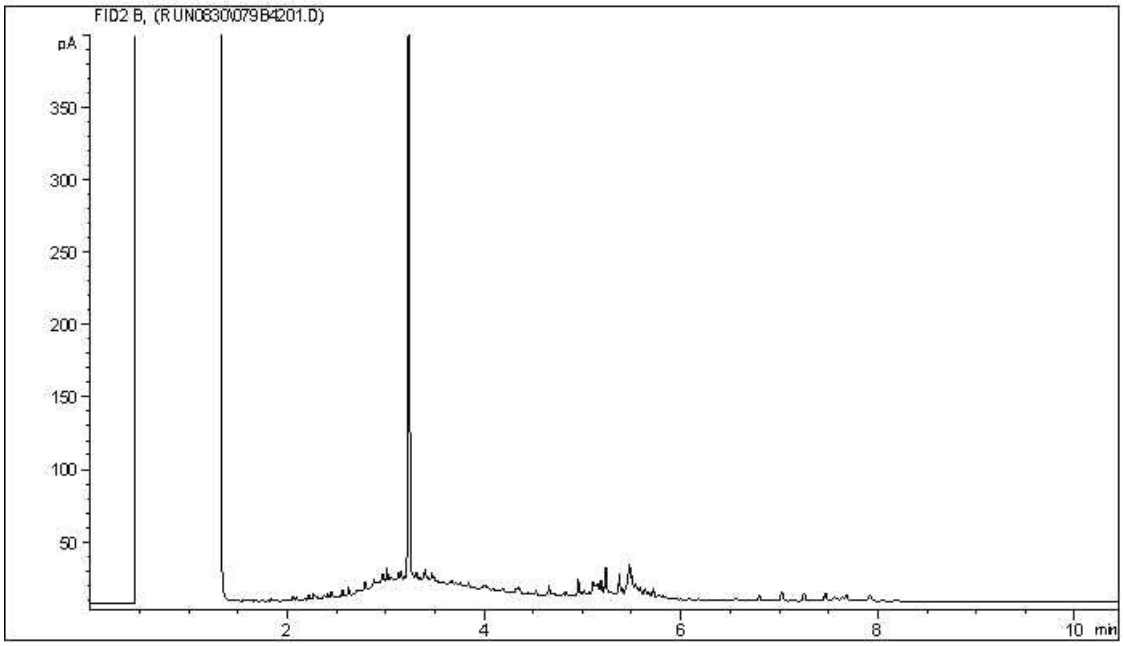
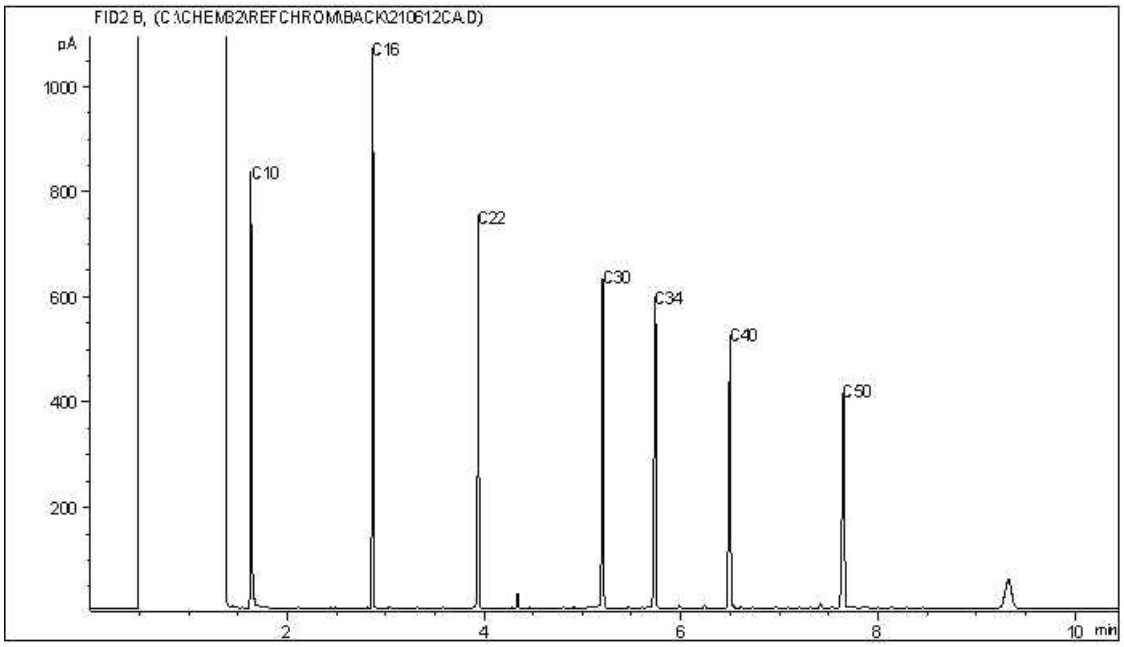
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



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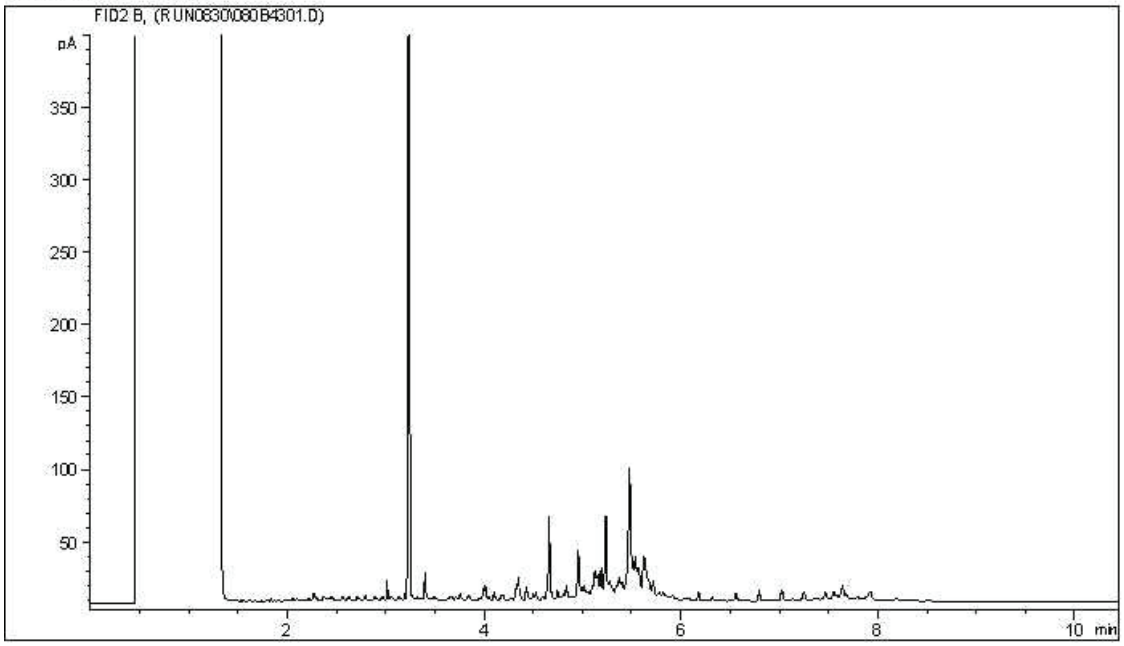
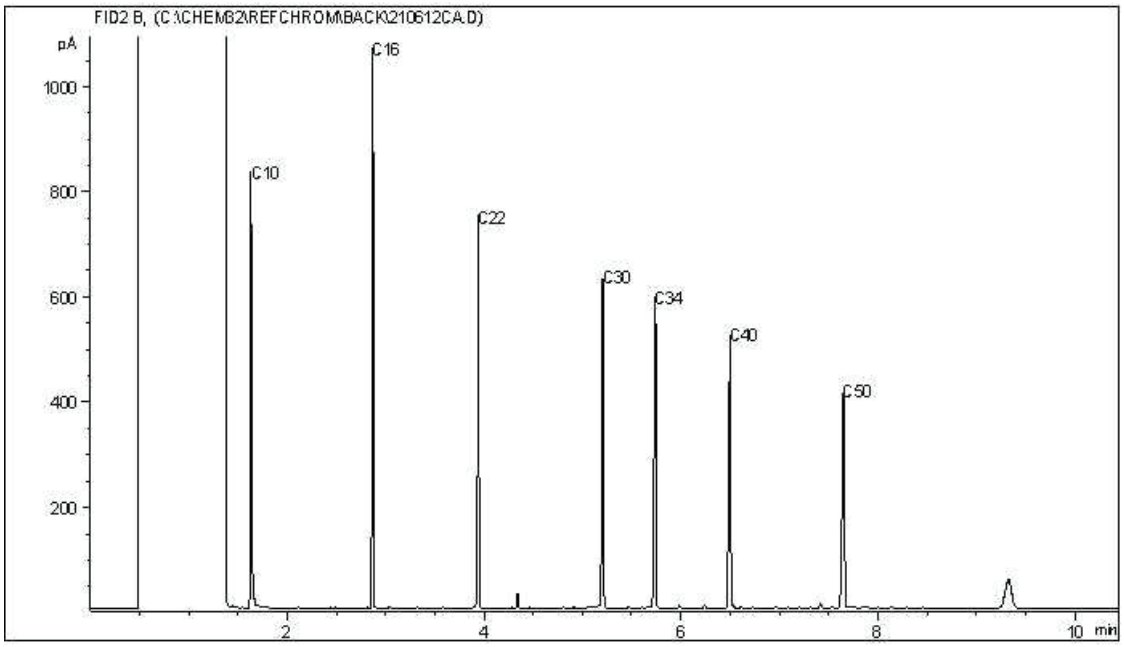
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



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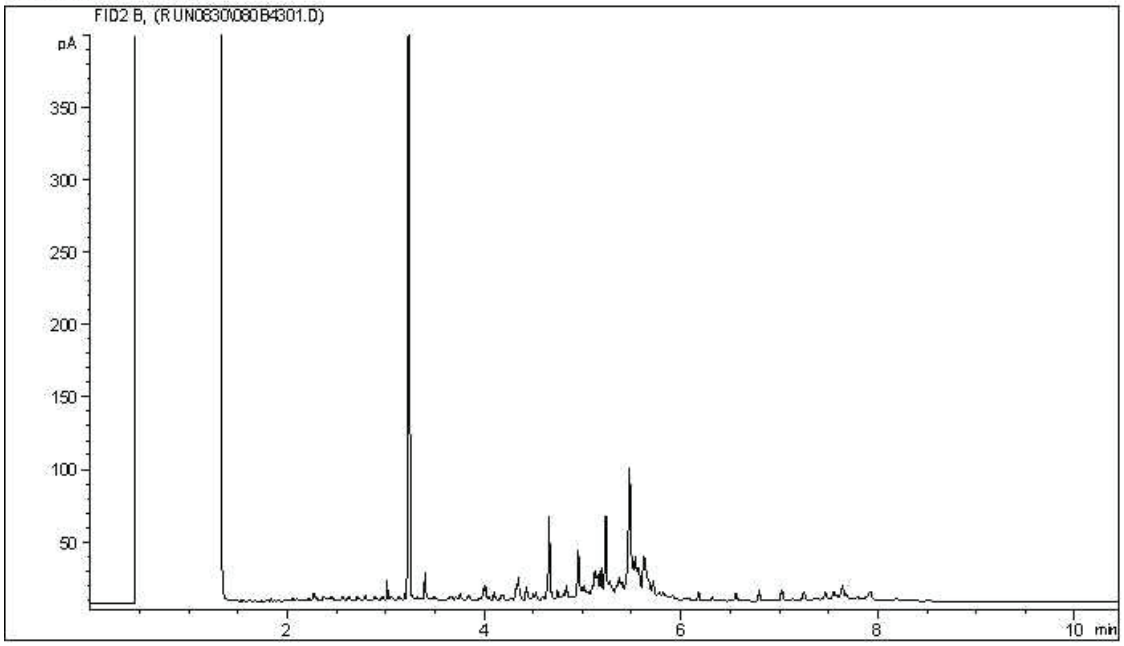
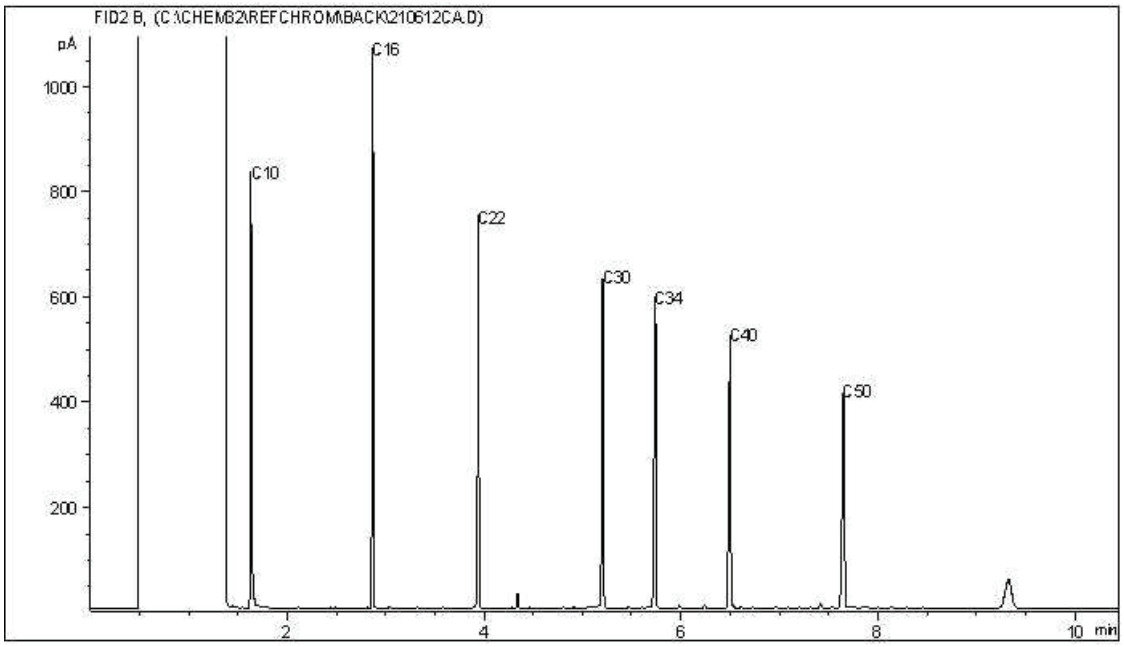
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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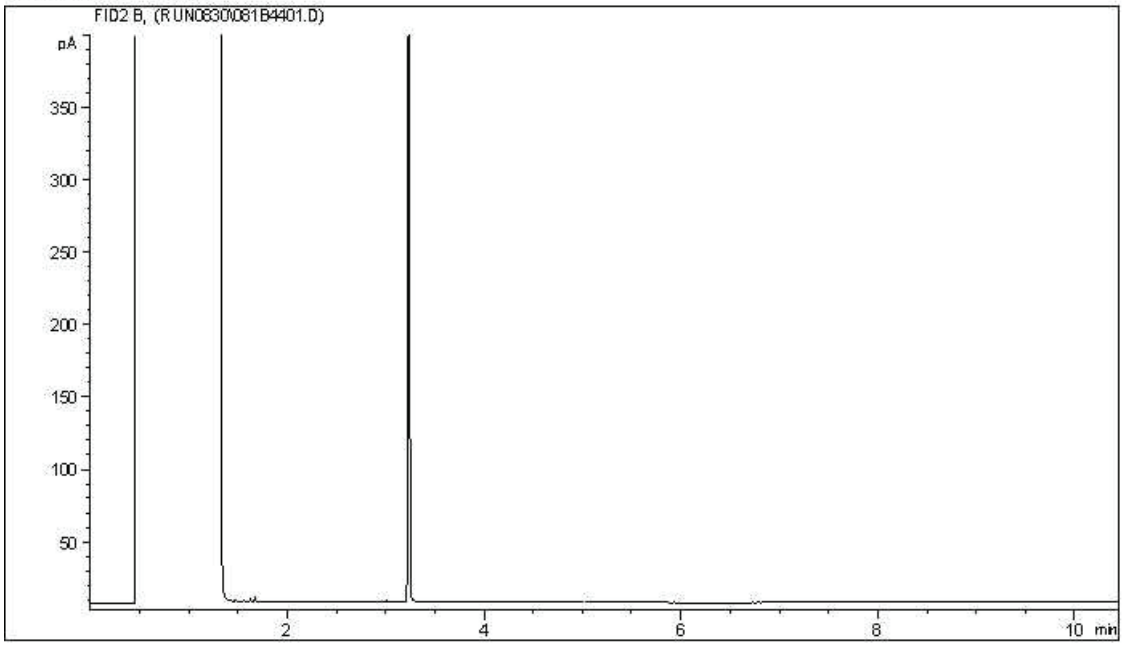
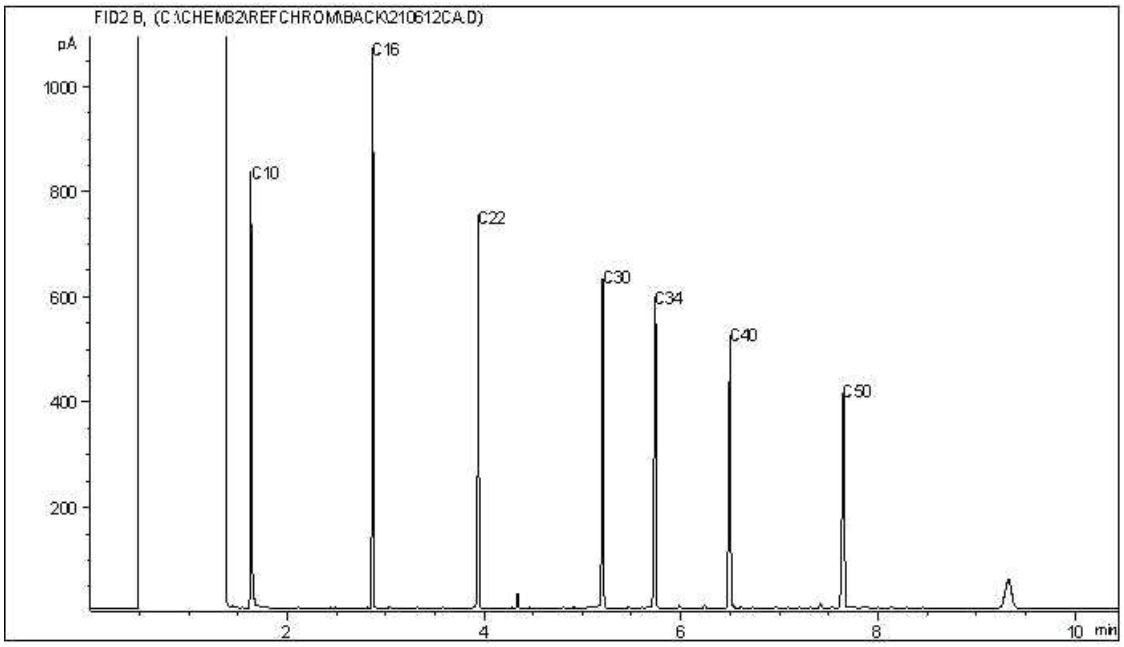
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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
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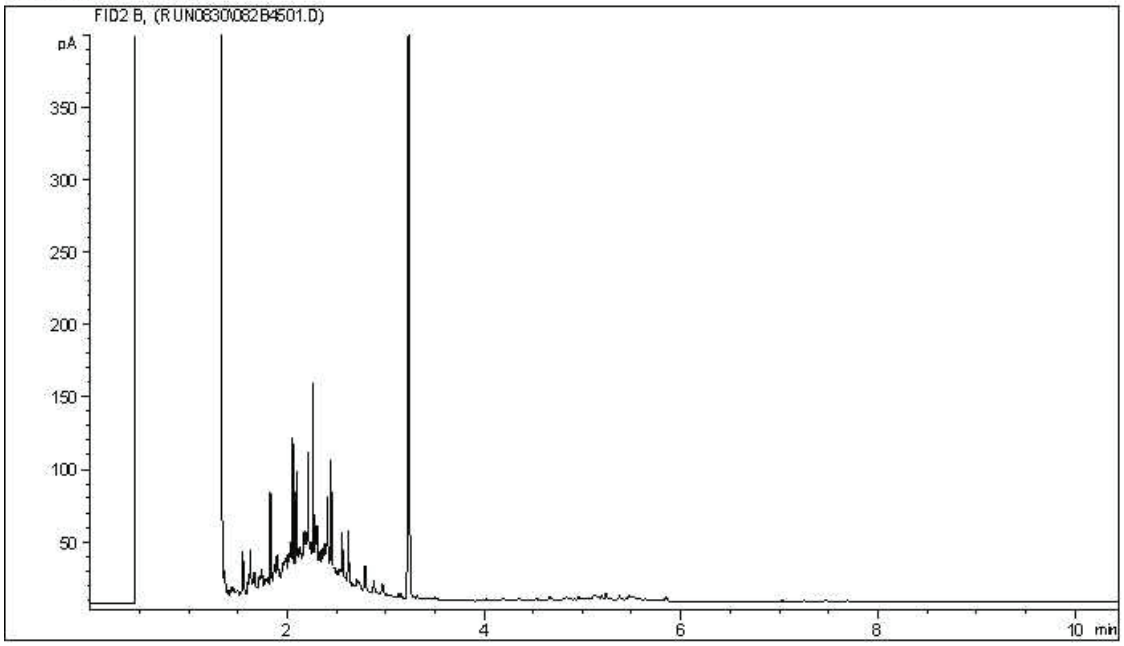
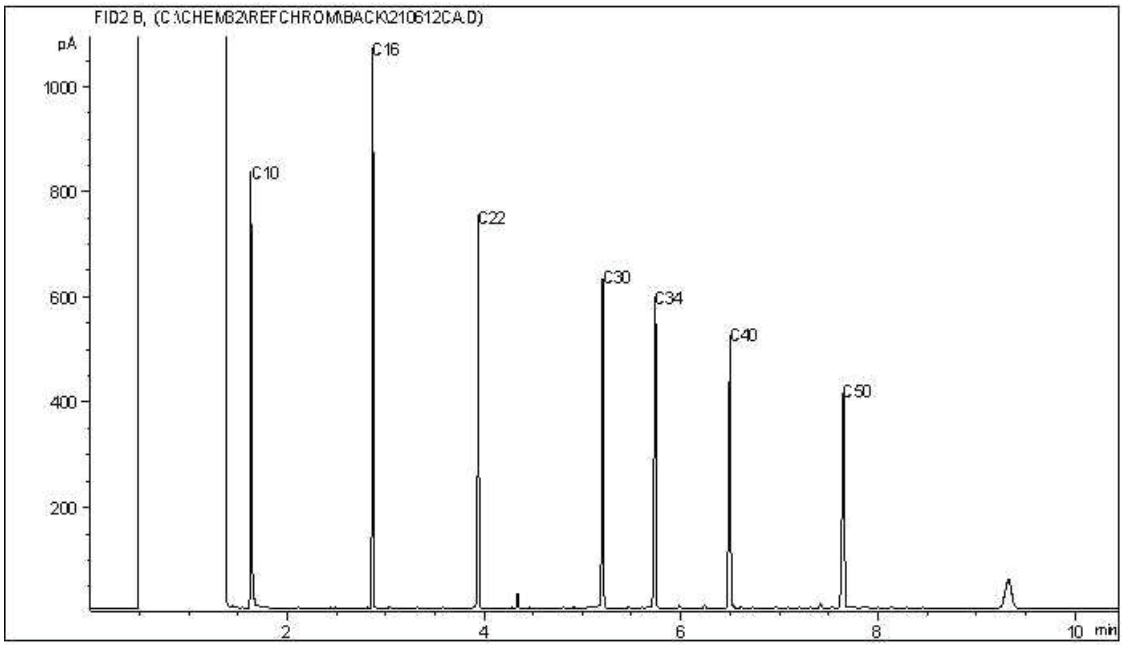
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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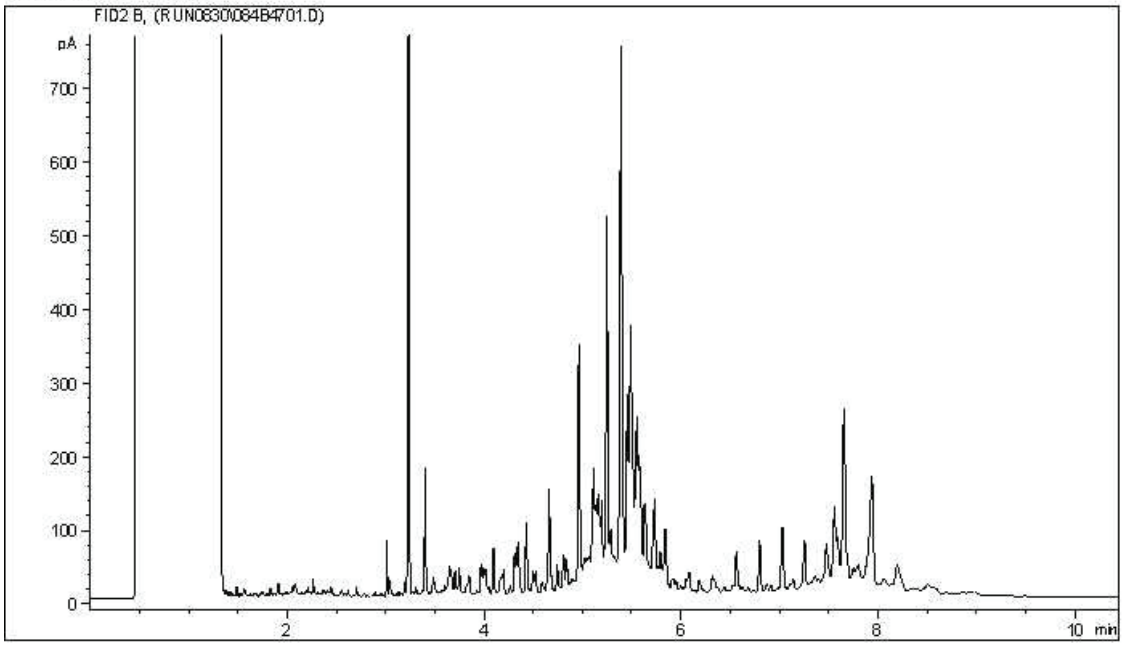
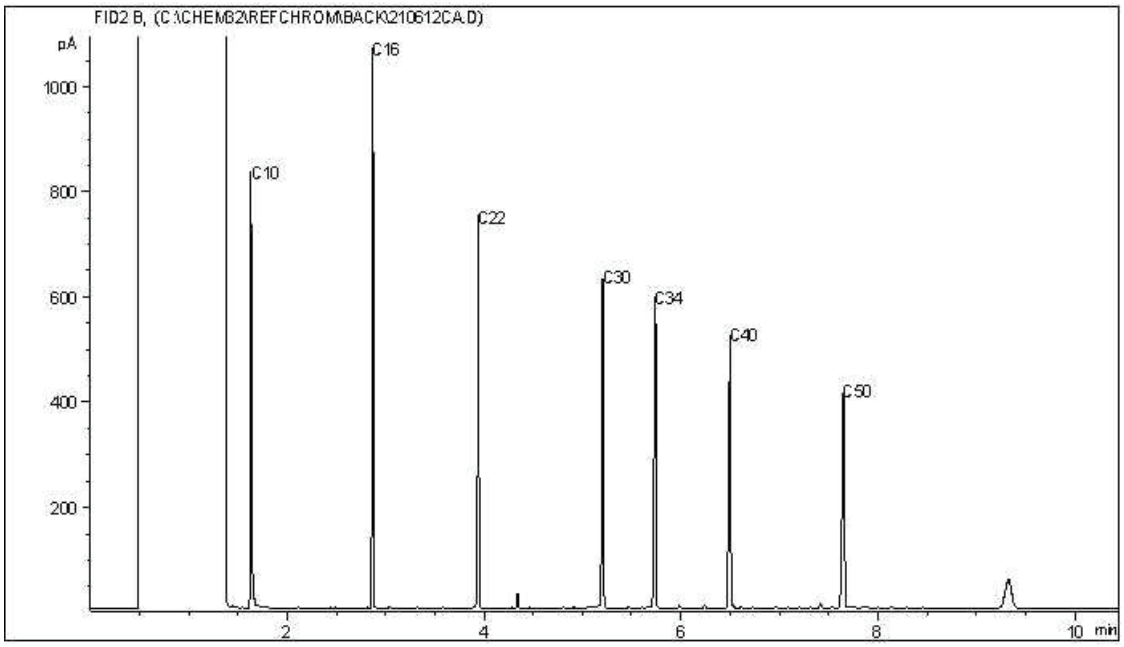
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



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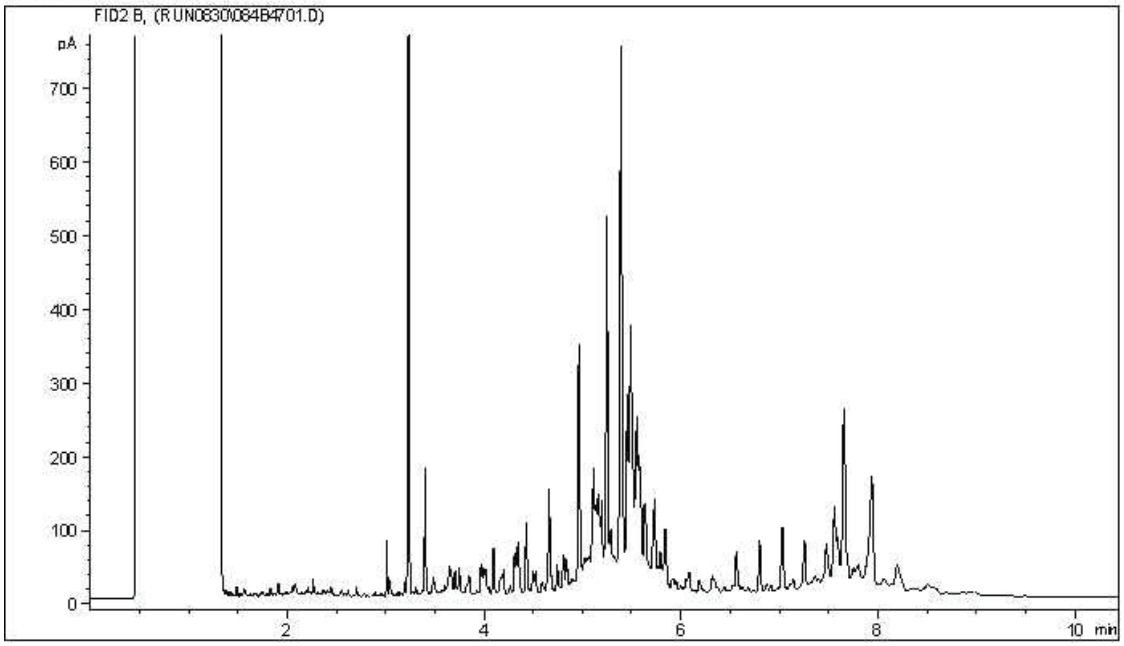
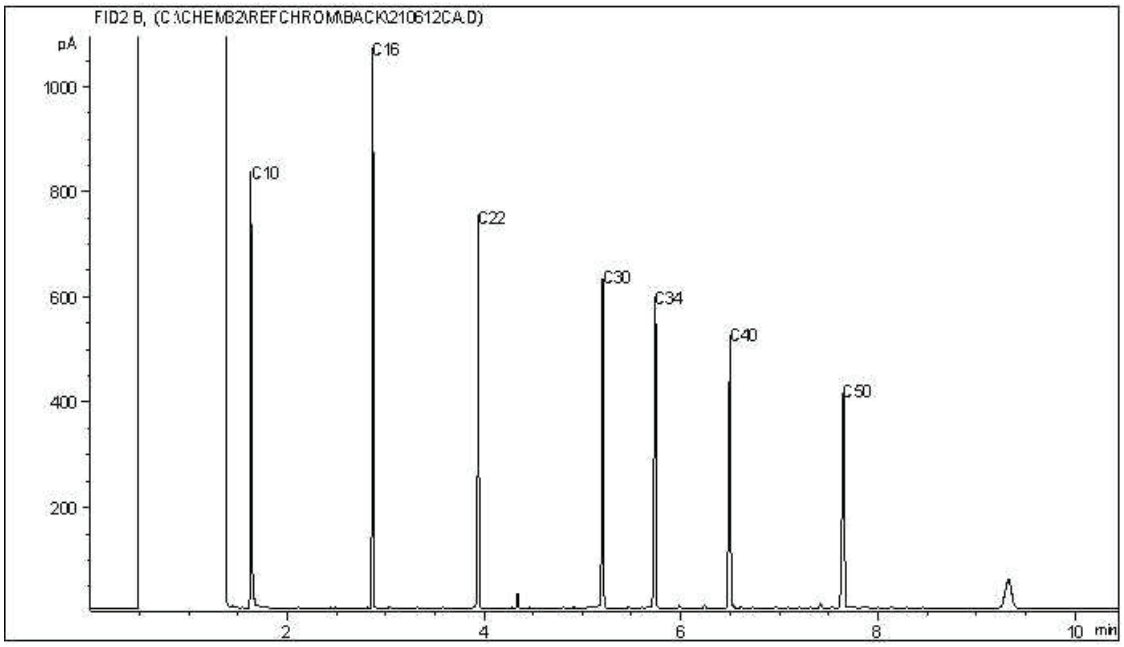
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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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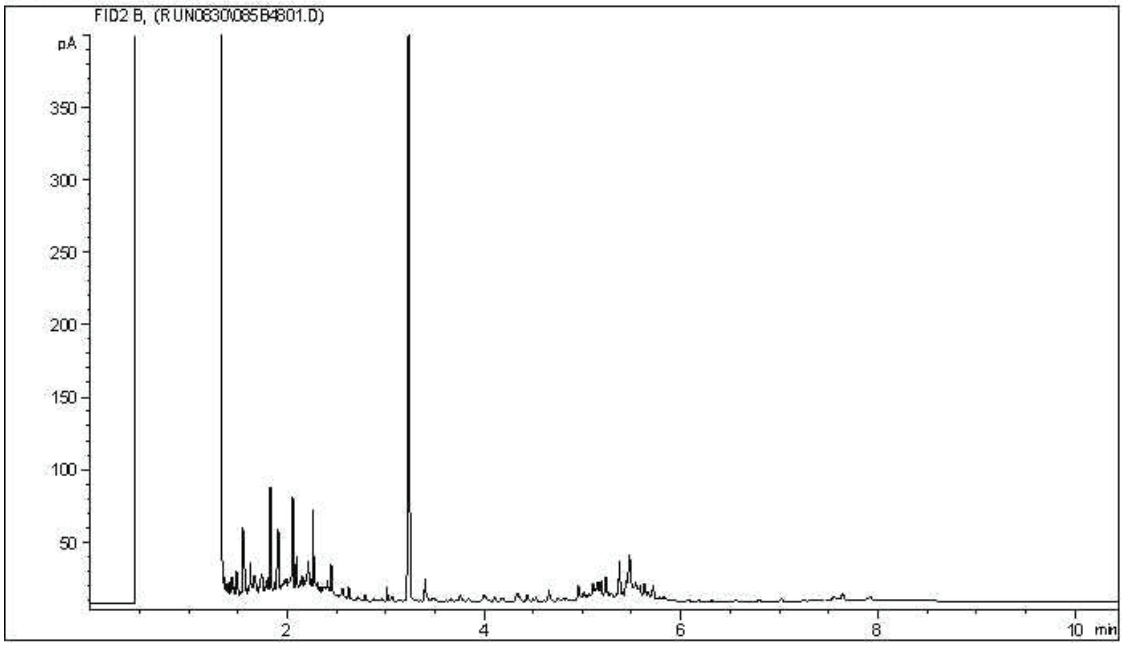
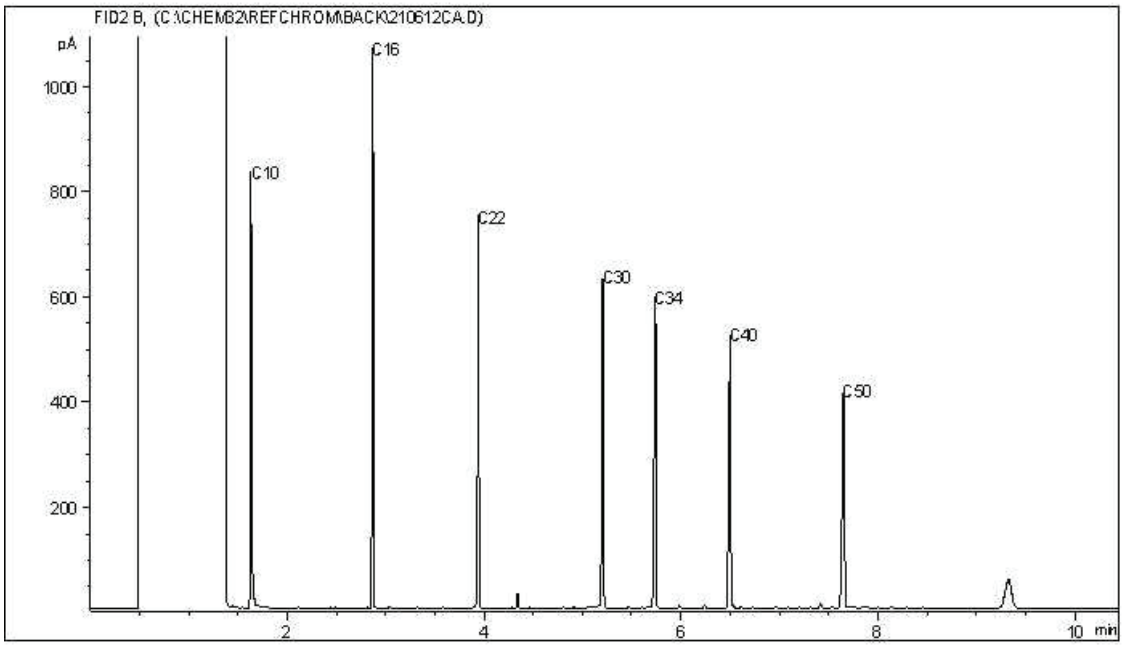
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

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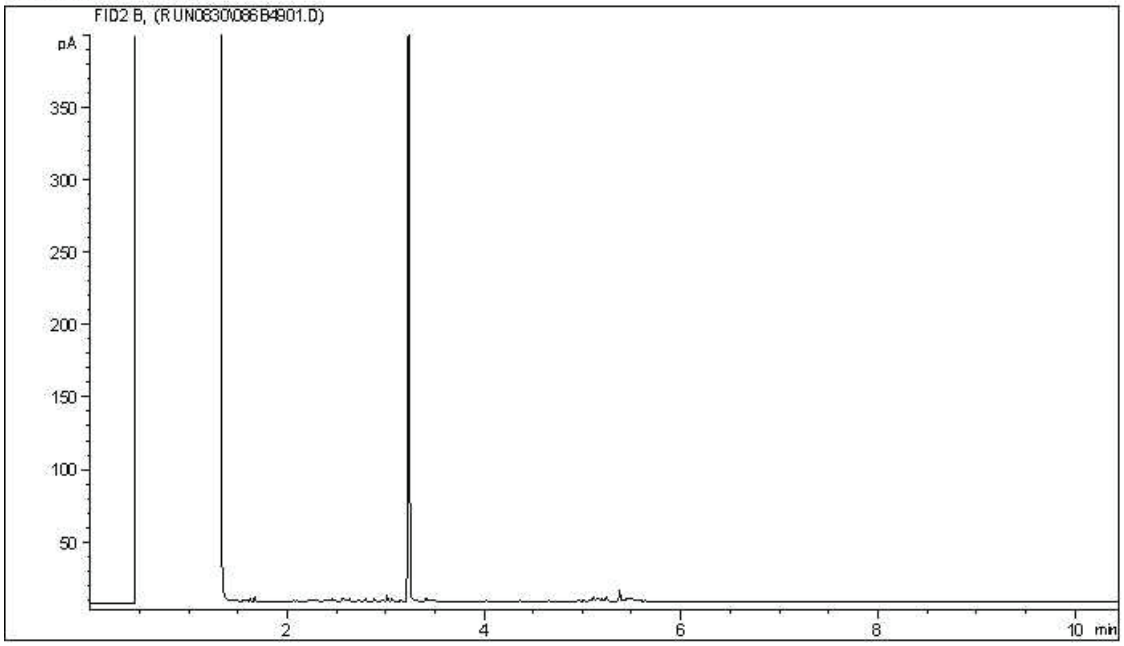
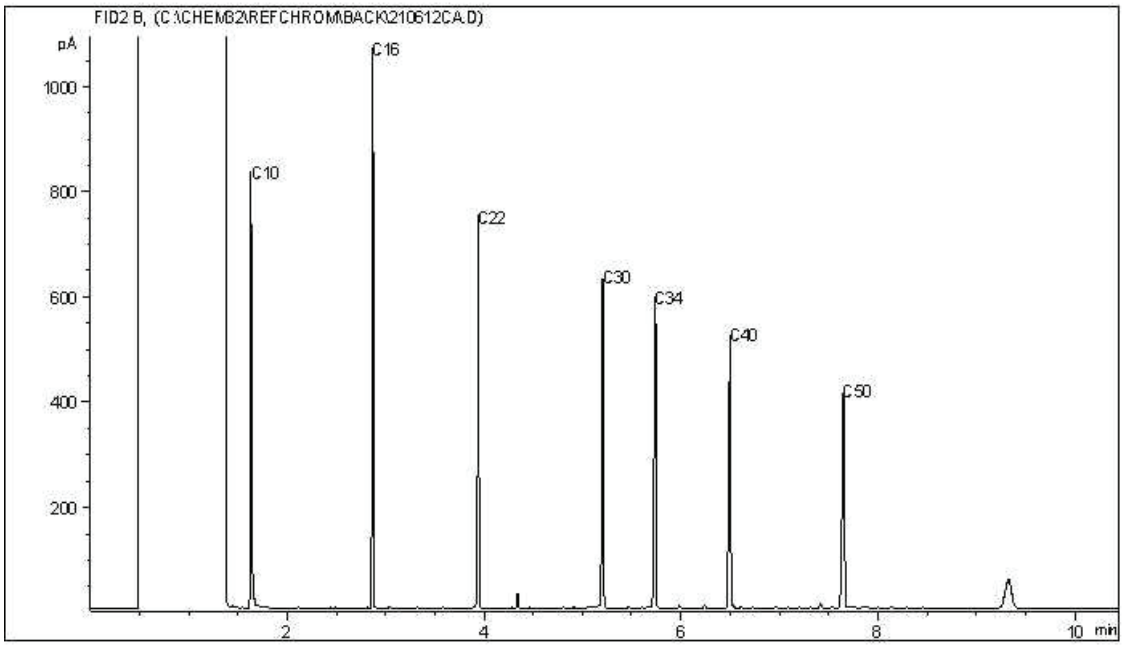
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



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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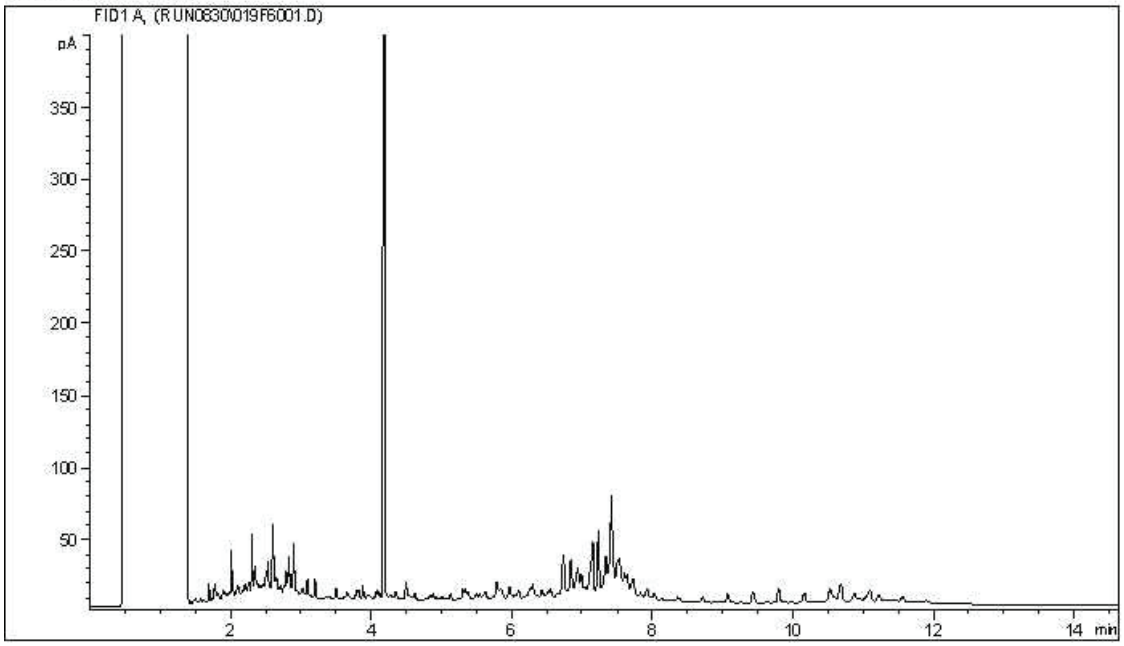
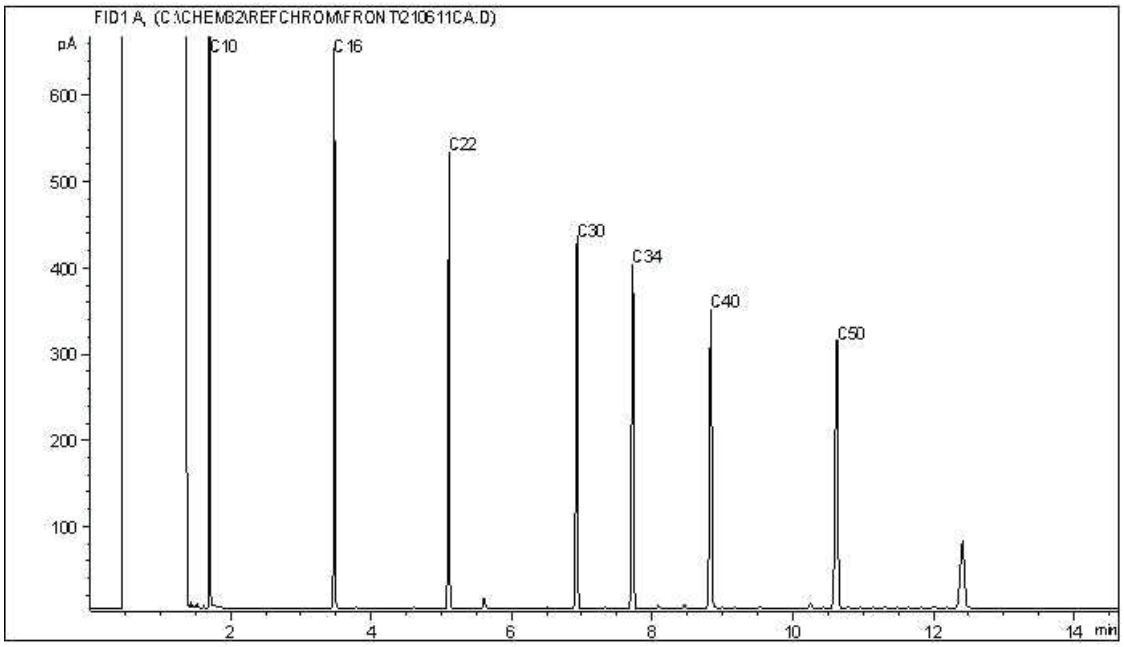
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



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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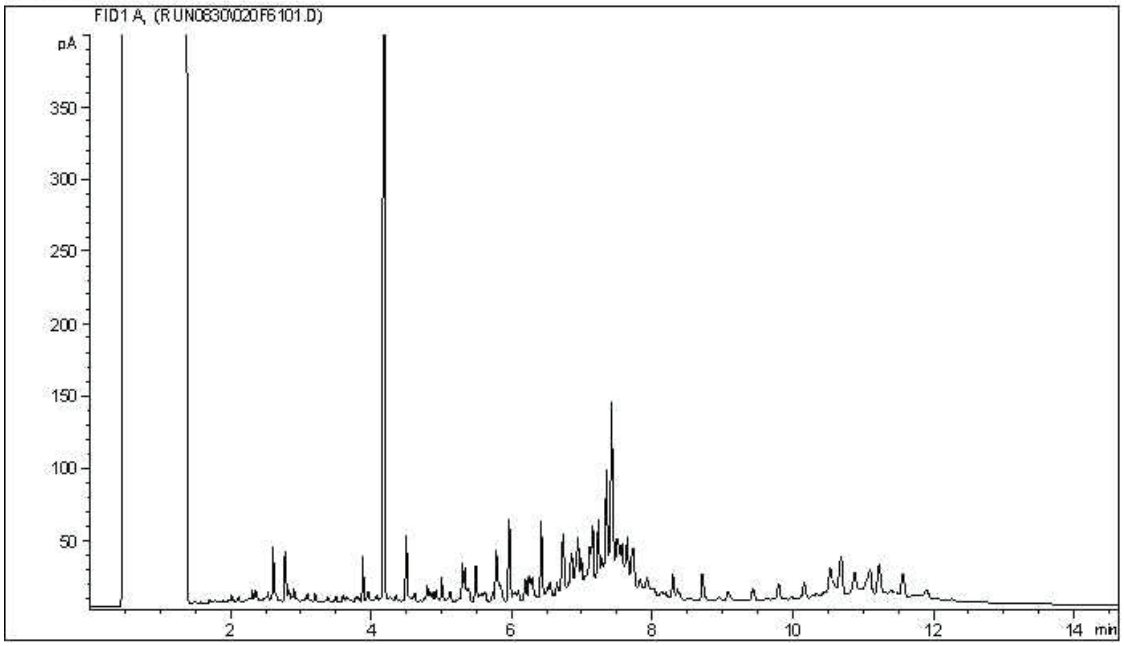
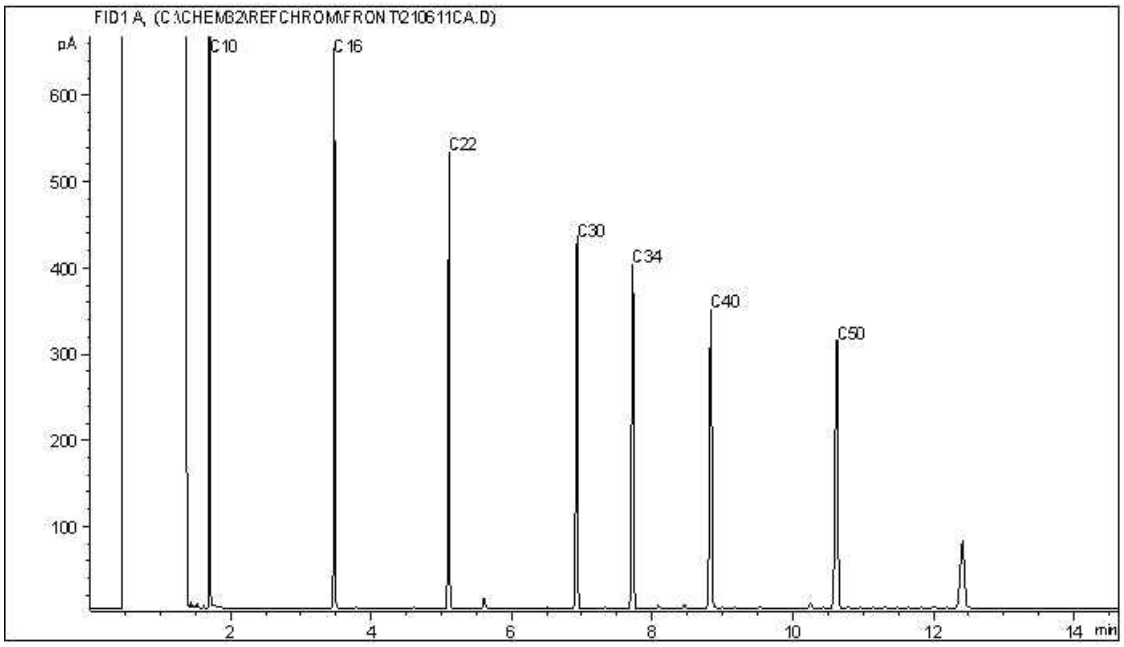
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



Carbon Range Distribution - Reference Chromatogram



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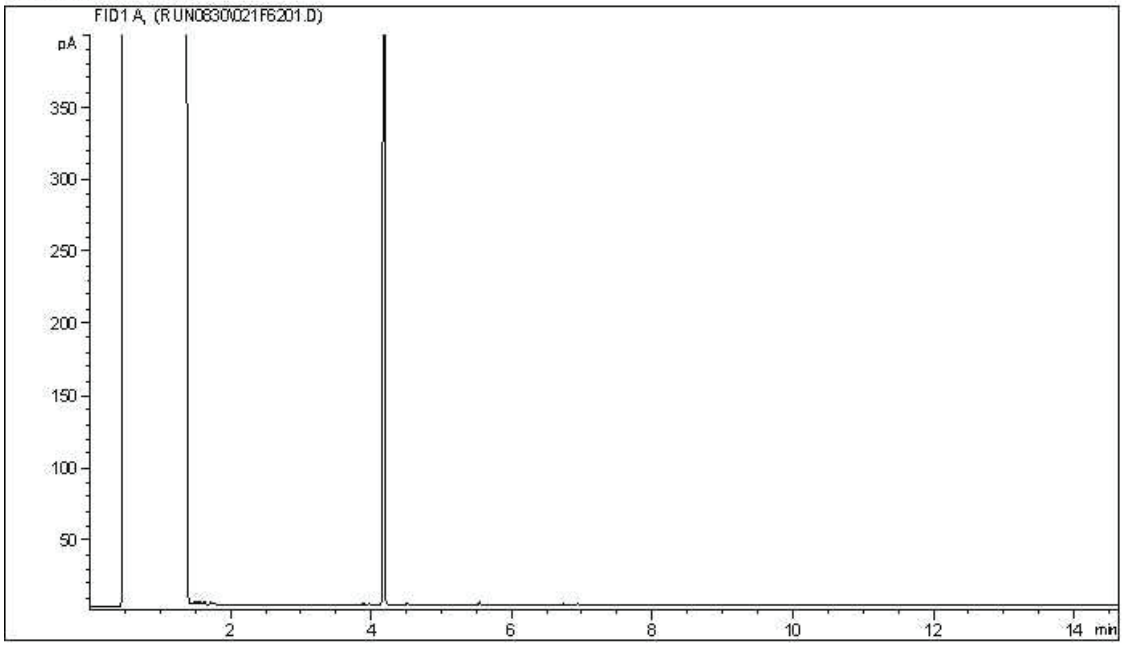
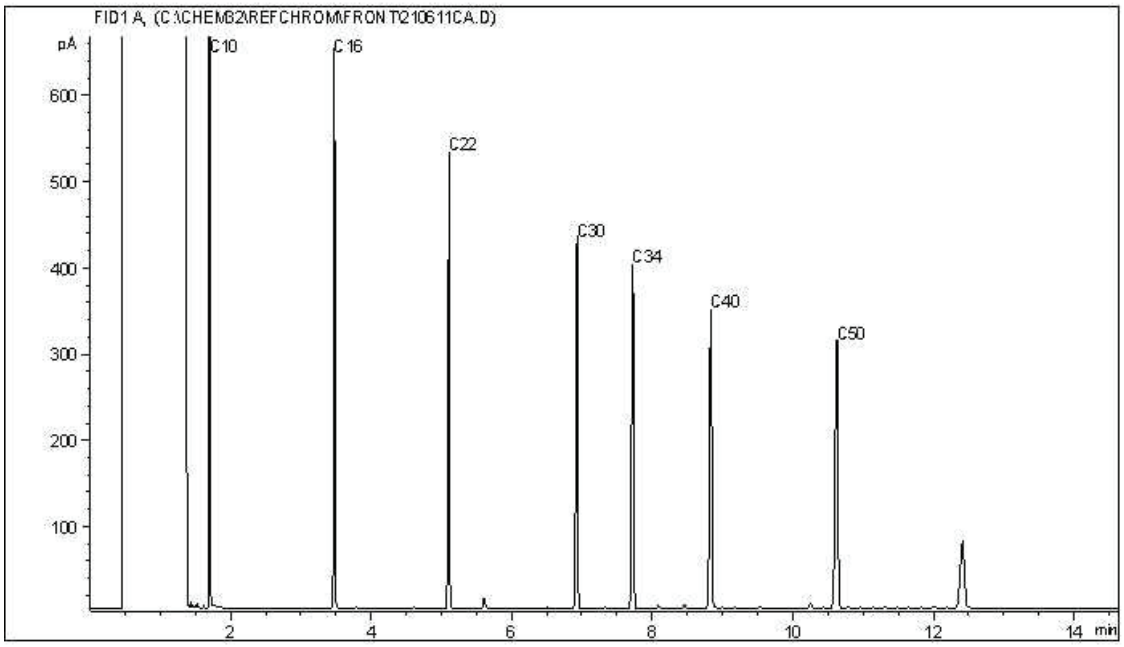
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



Carbon Range Distribution - Reference Chromatogram



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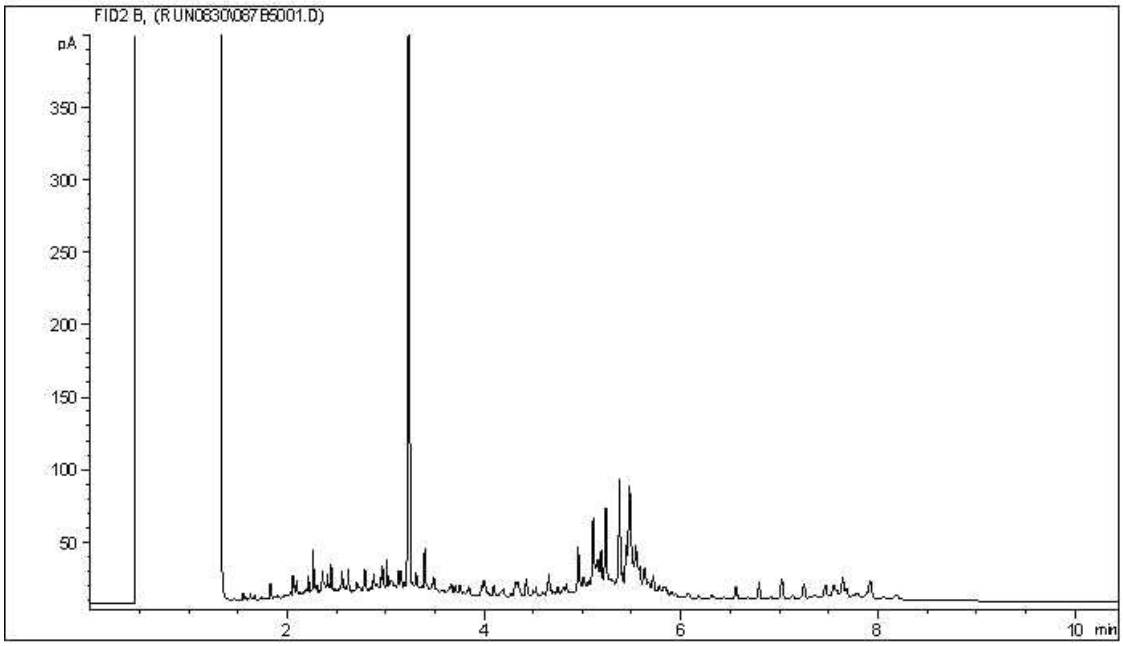
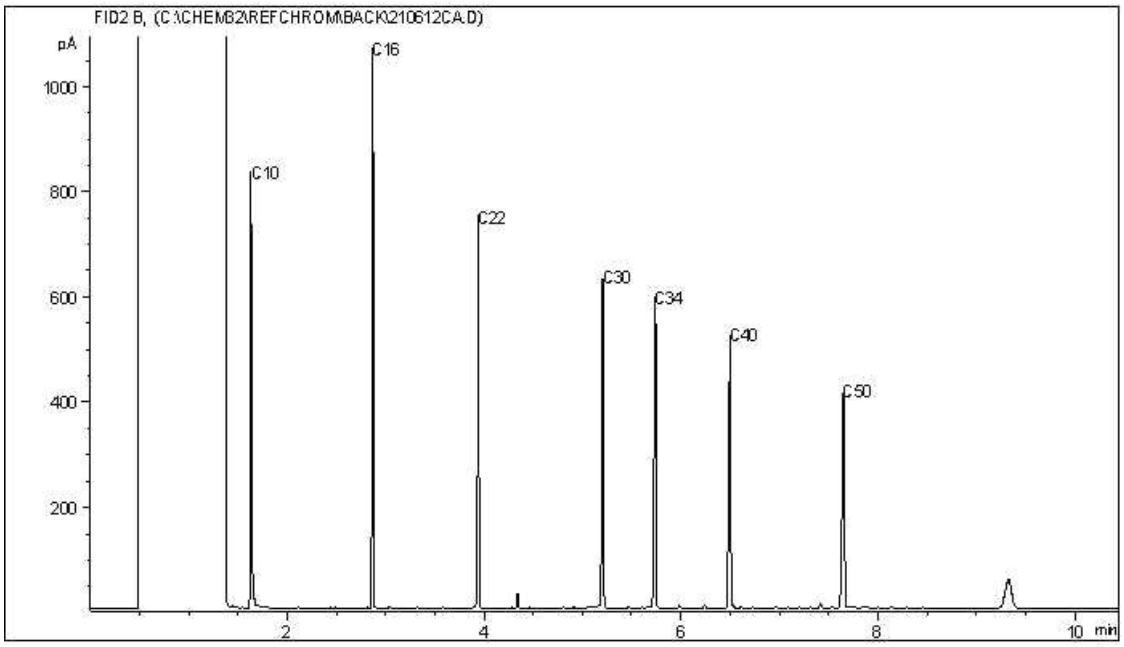
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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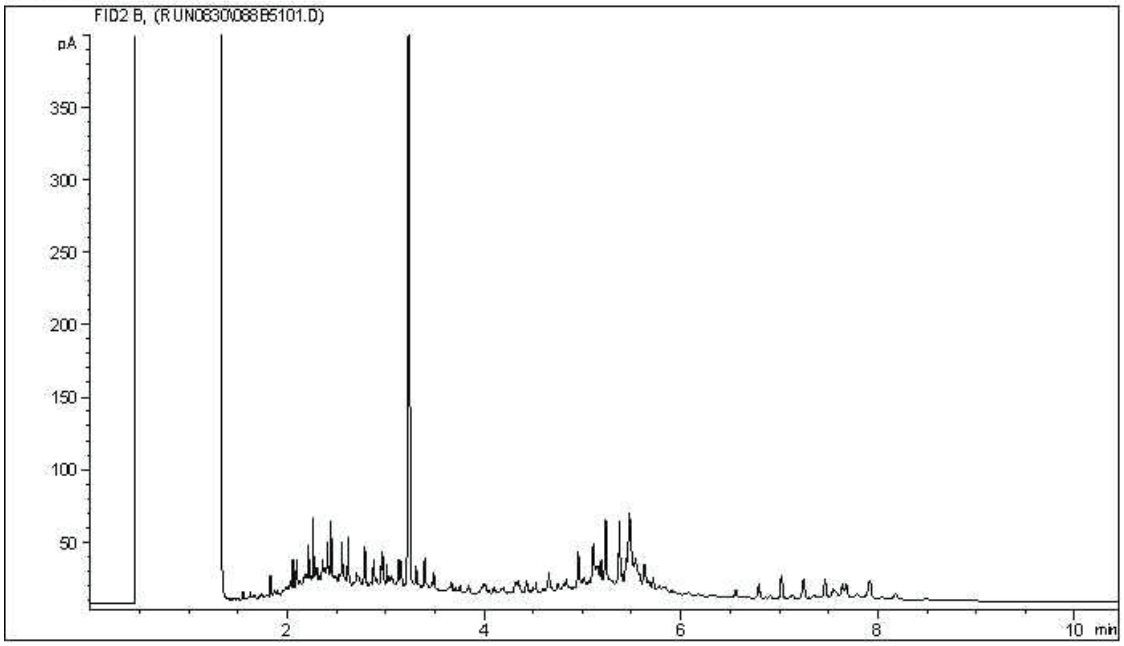
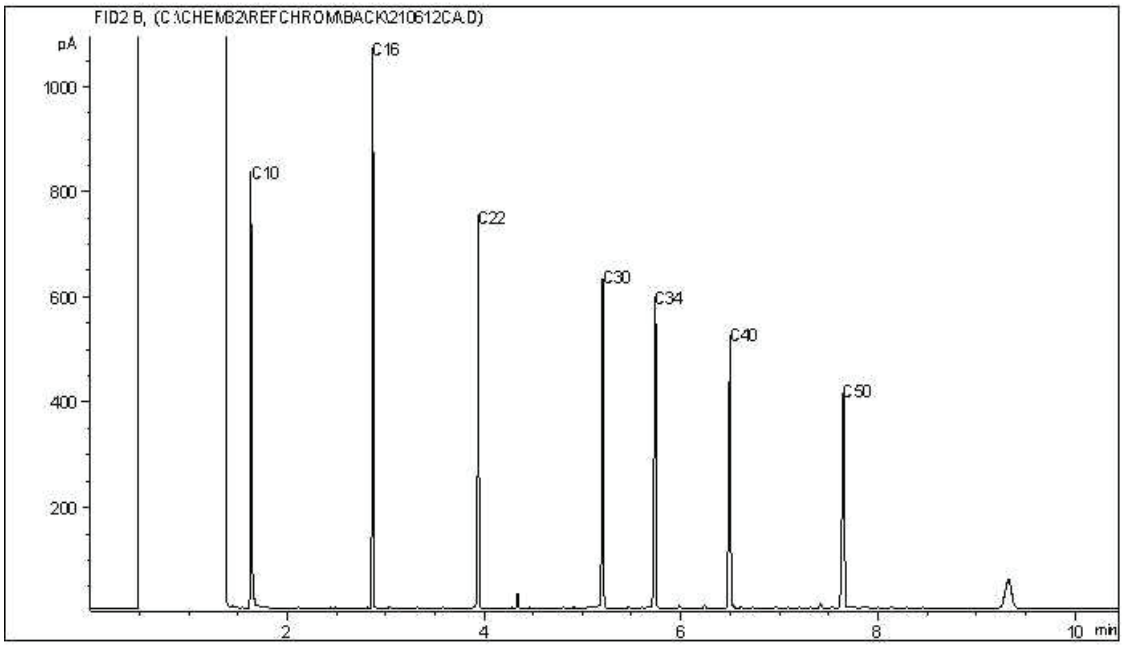
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



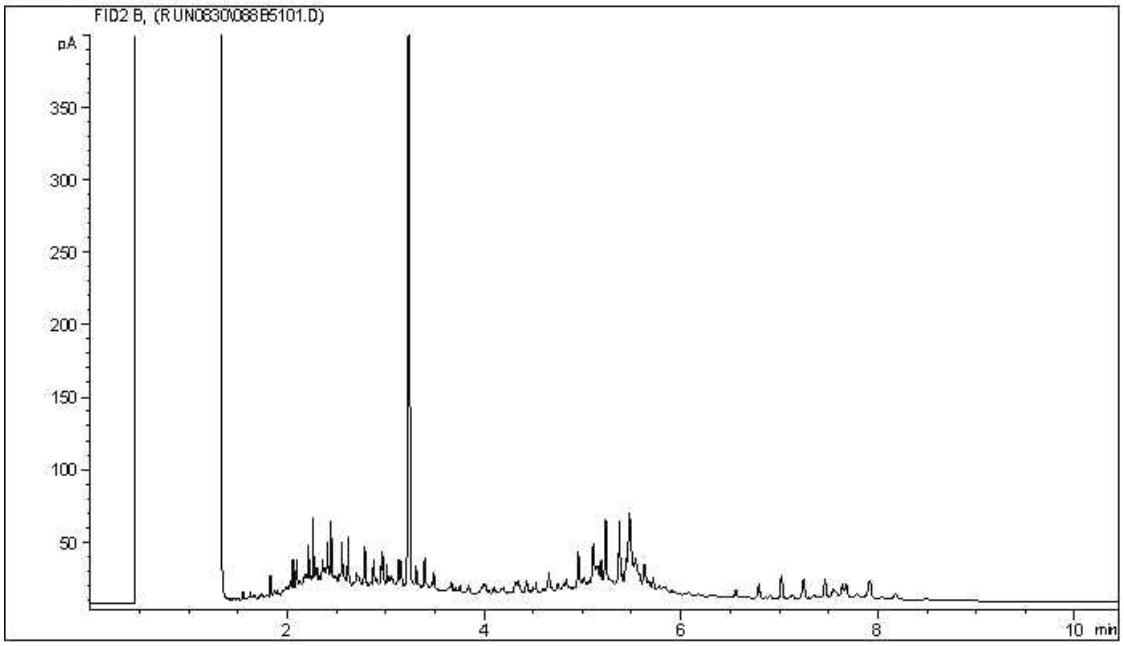
TYPICAL PRODUCT CARBON NUMBER RANGES

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

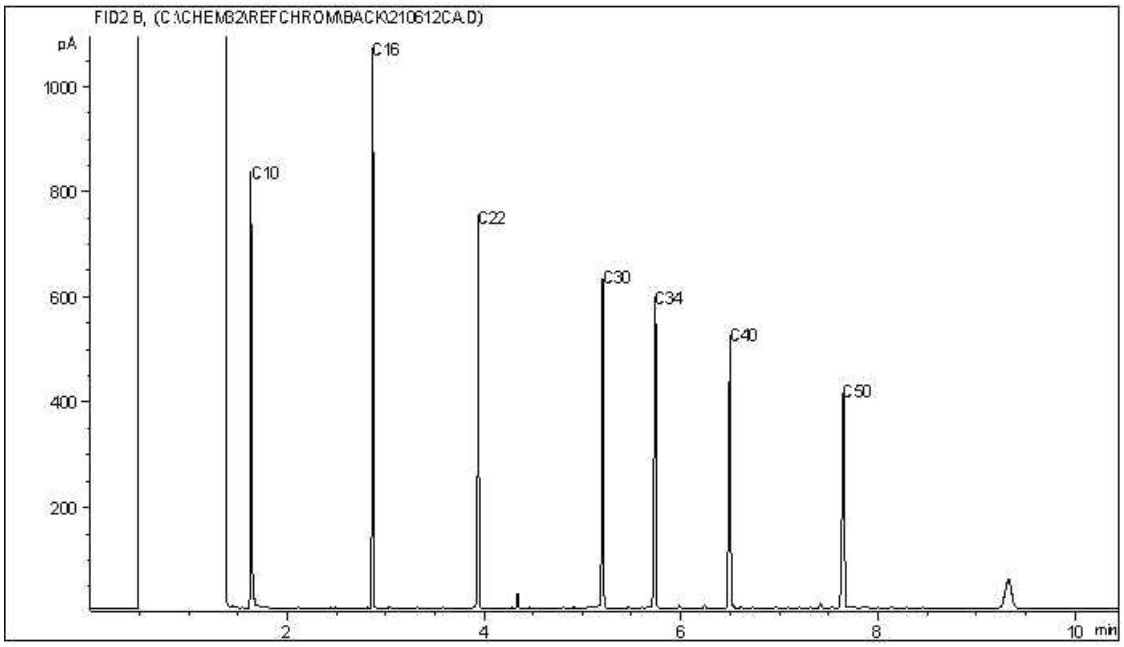
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



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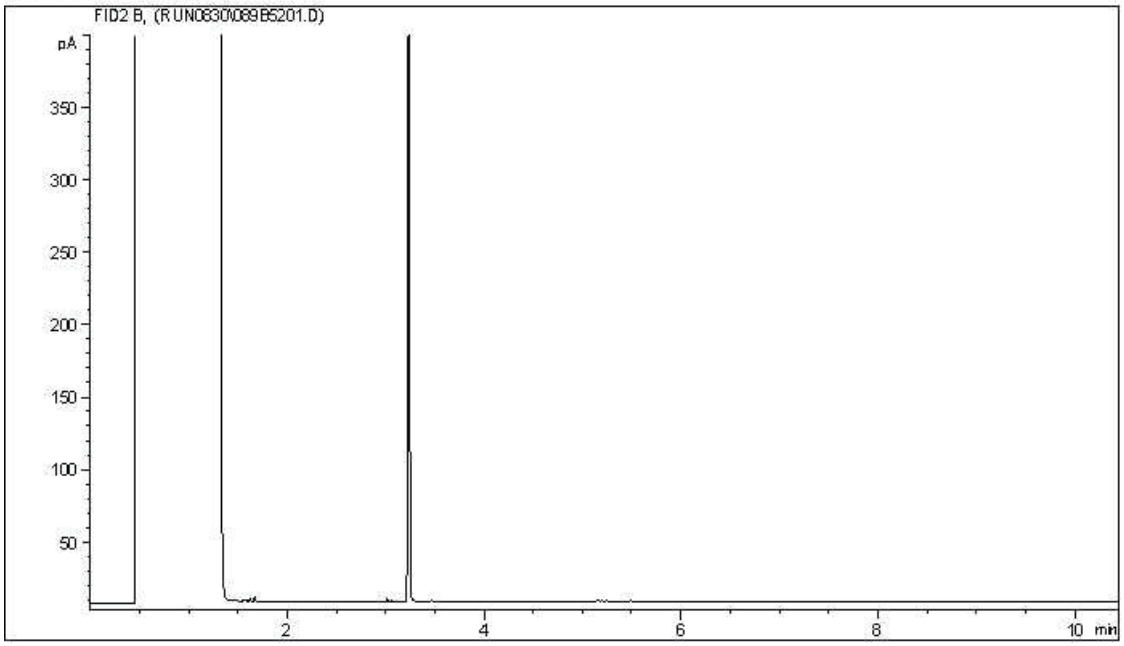
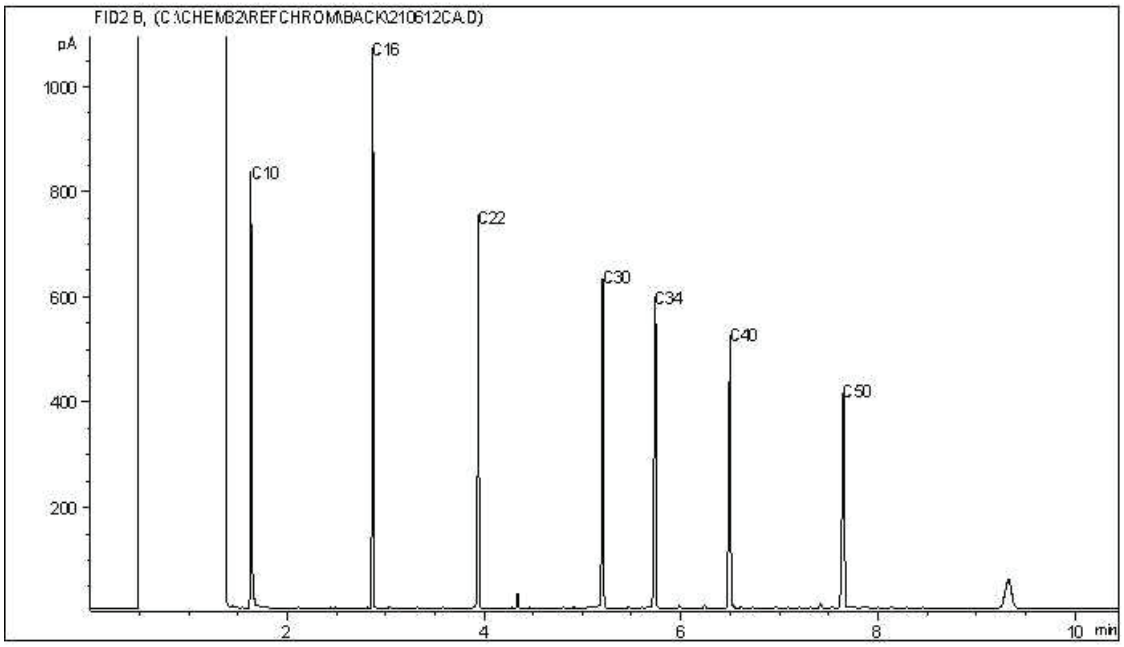
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



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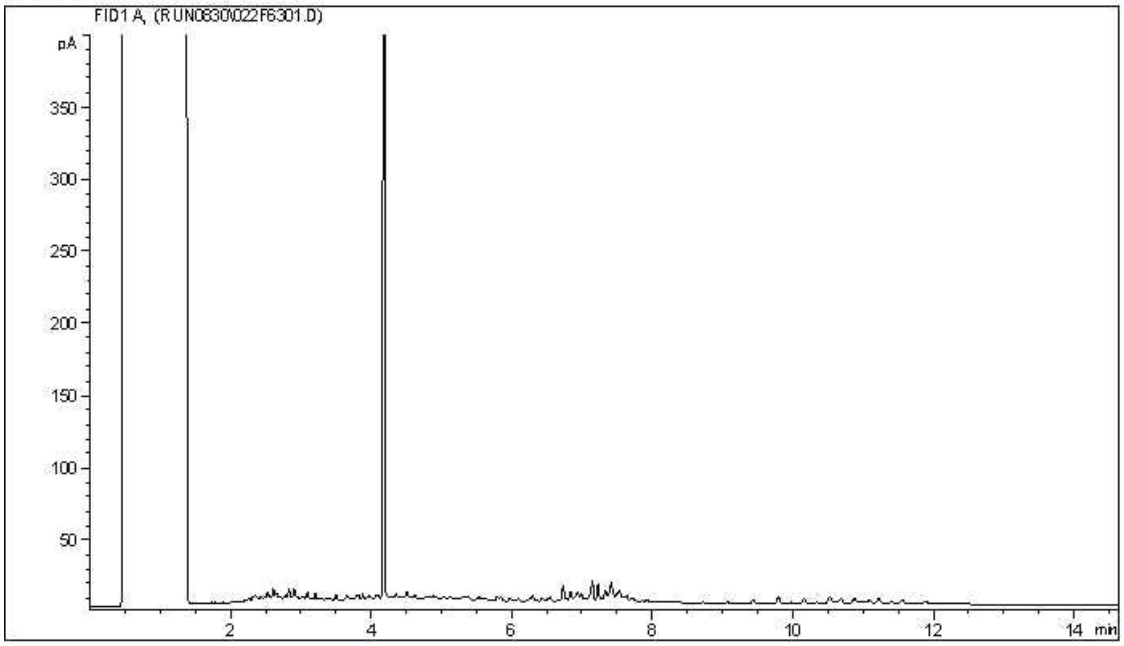
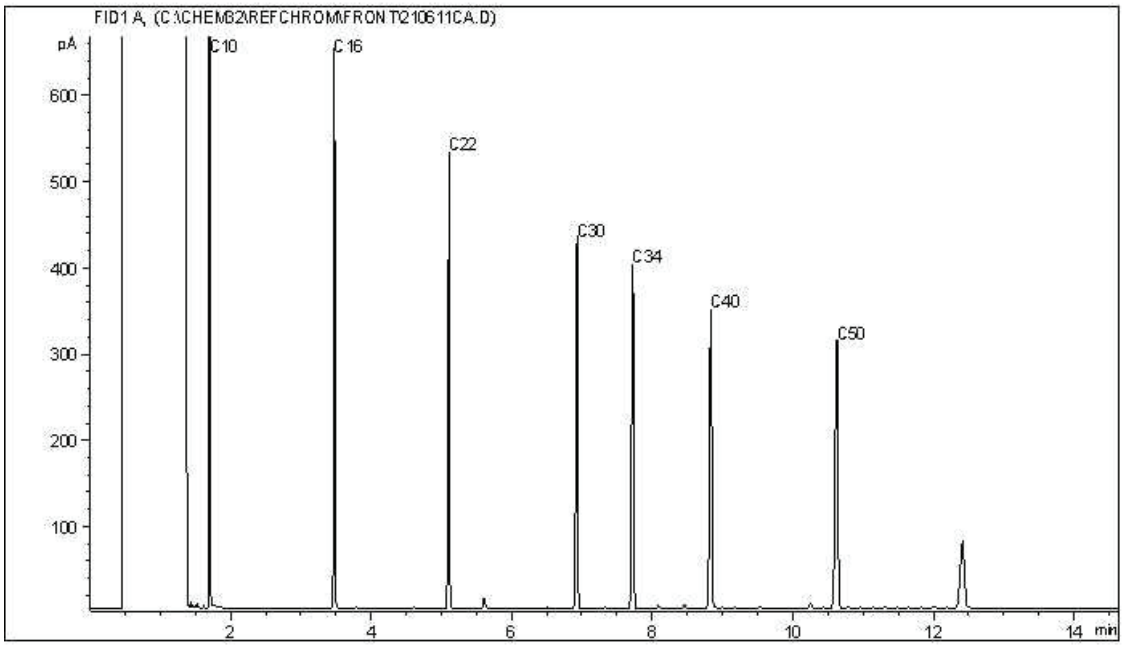
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



Carbon Range Distribution - Reference Chromatogram



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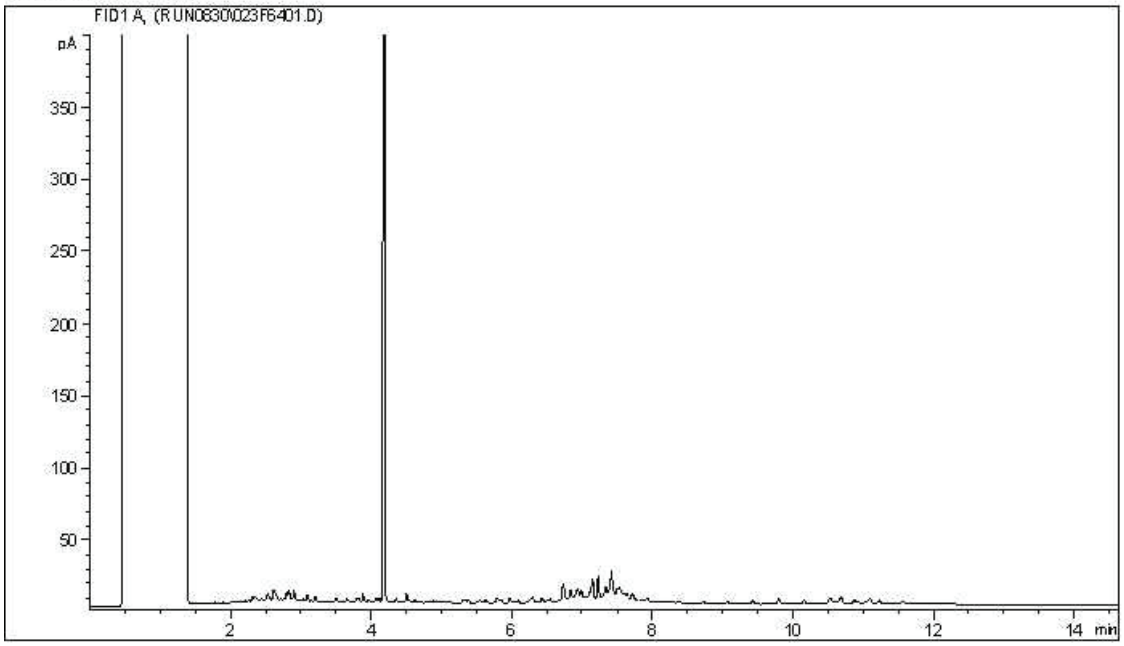
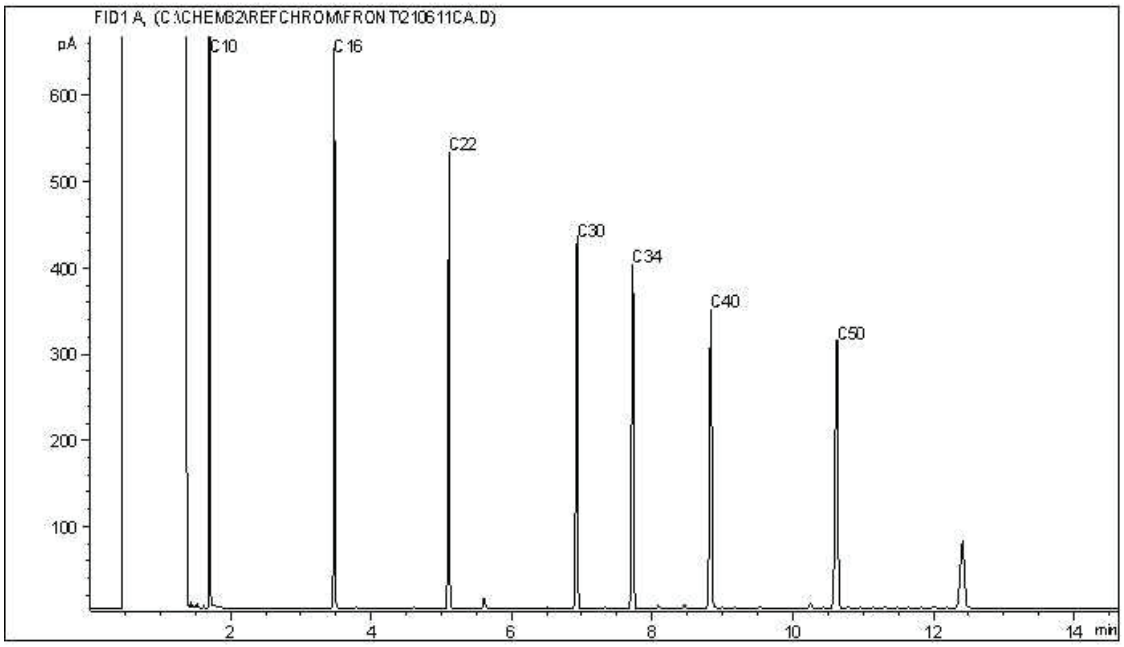
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



Carbon Range Distribution - Reference Chromatogram



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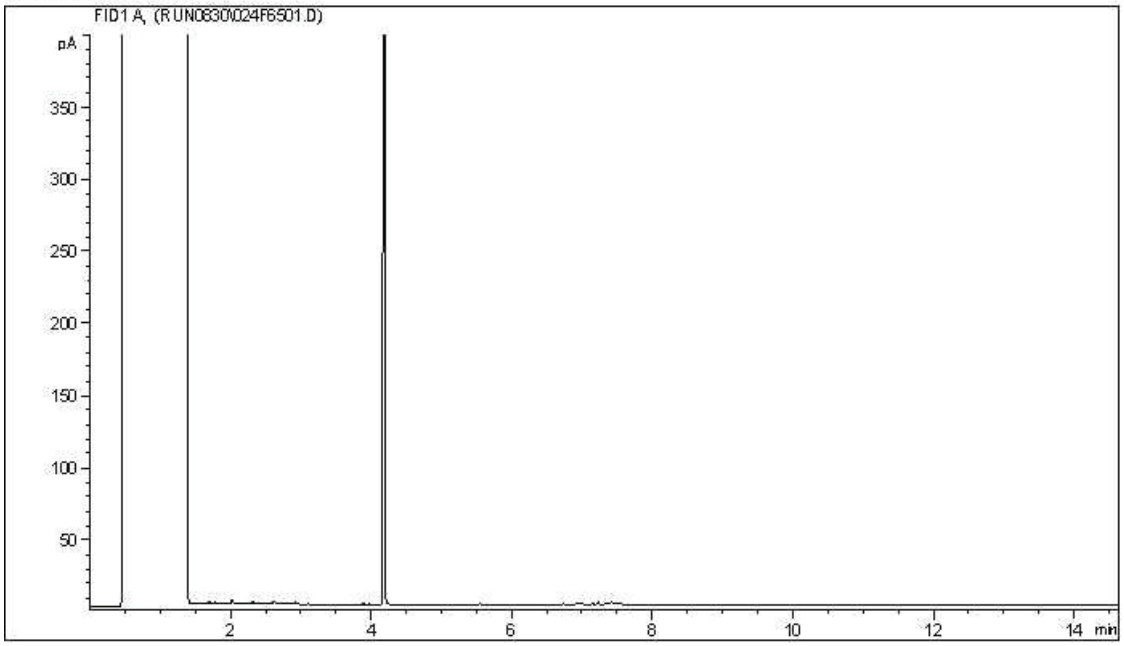
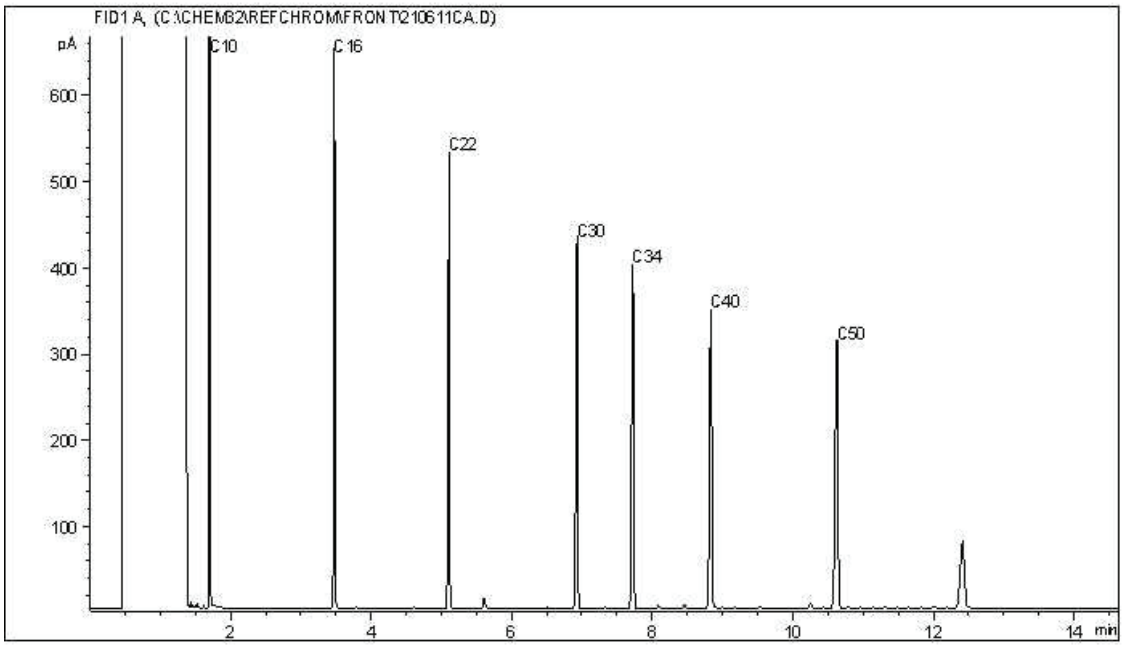


Carbon Range Distribution - Reference Chromatogram



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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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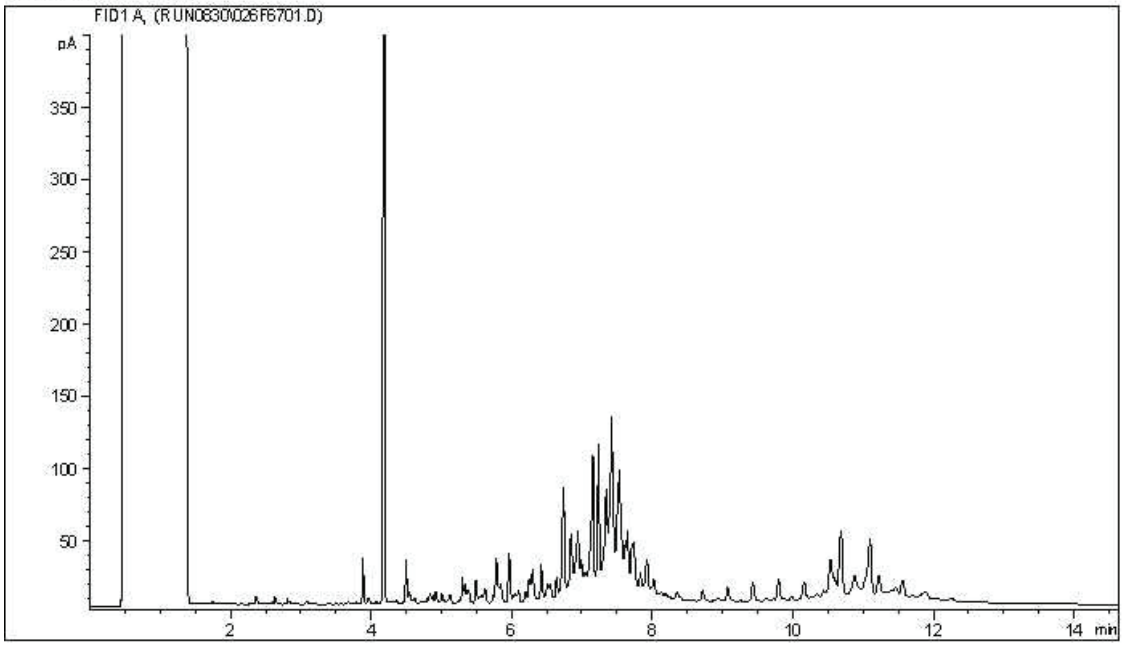
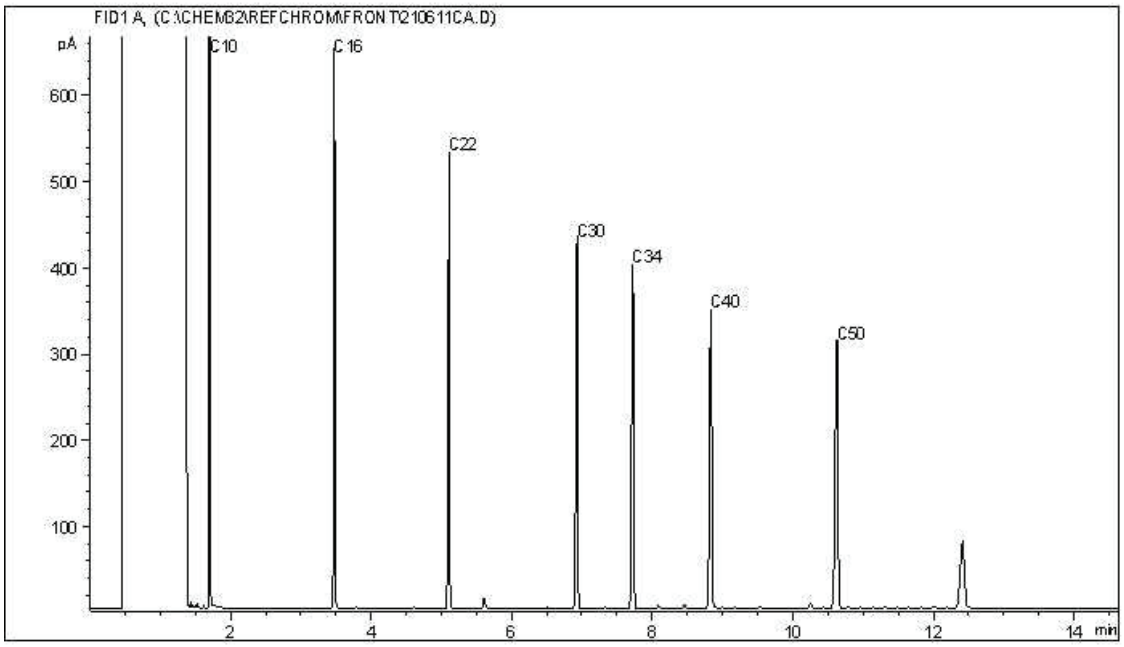


Carbon Range Distribution - Reference Chromatogram



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

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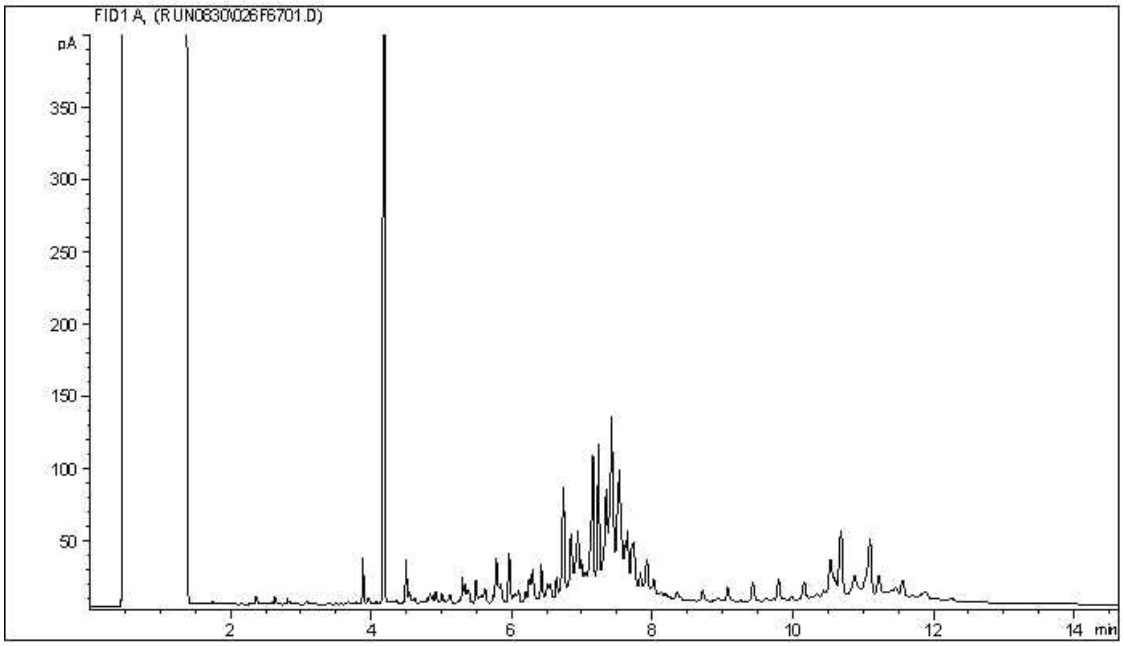
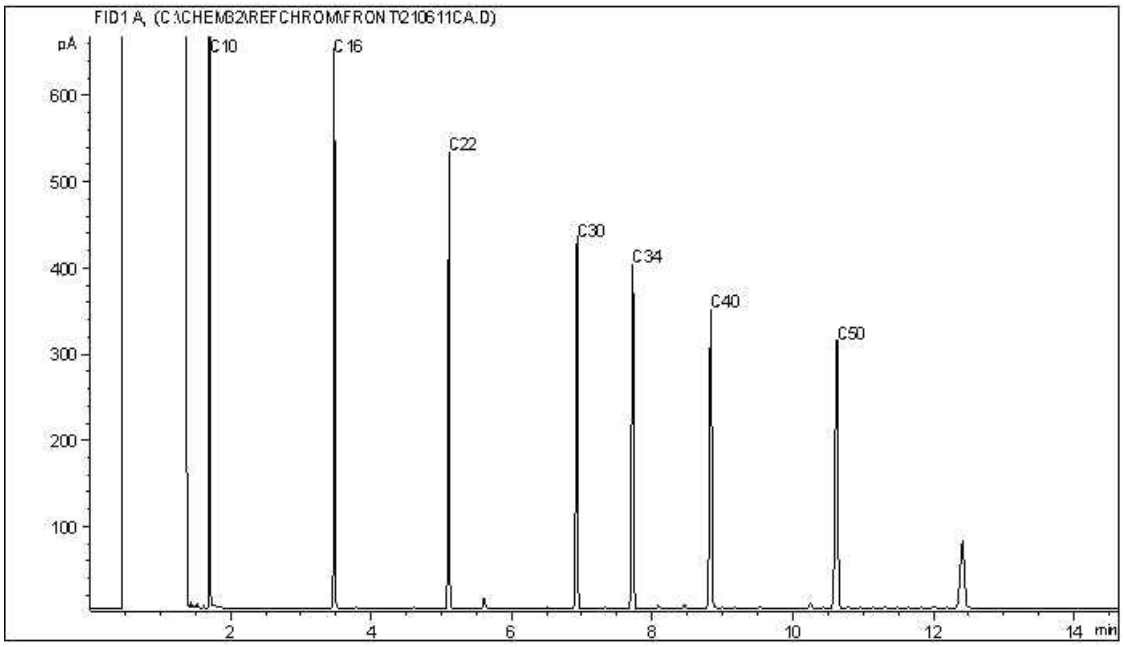


Carbon Range Distribution - Reference Chromatogram



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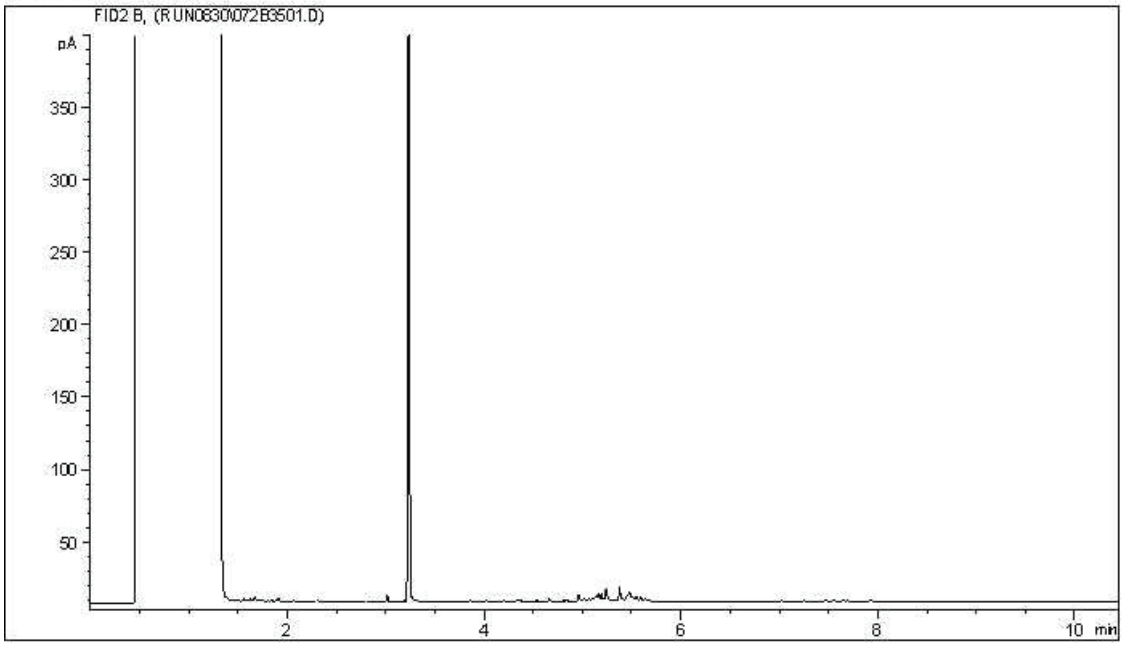
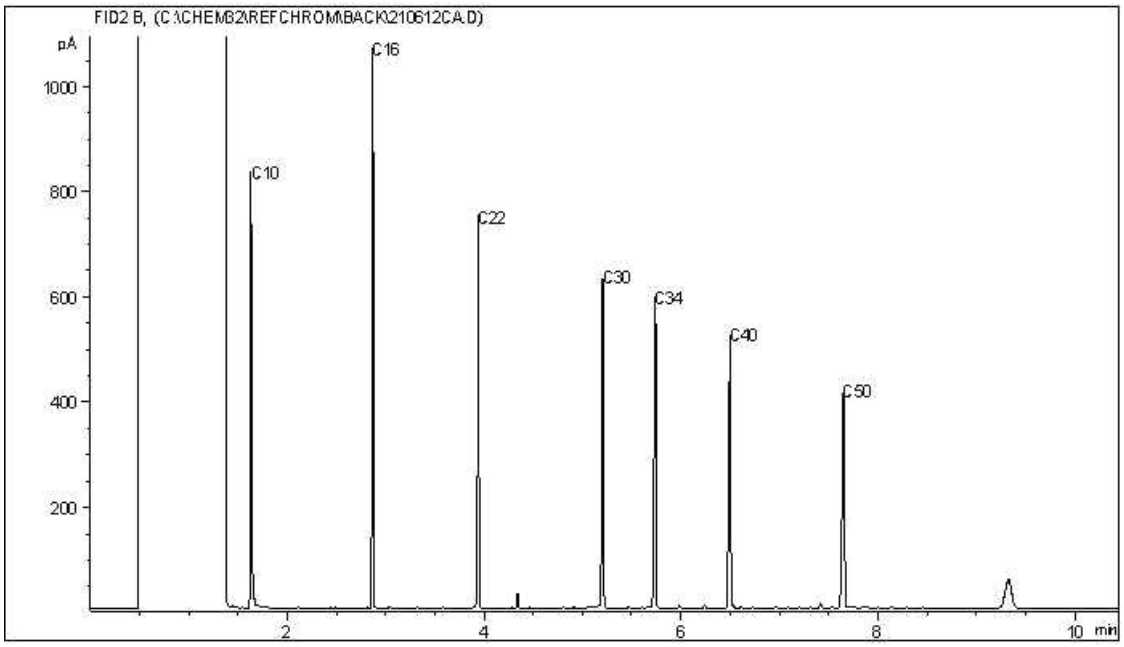
Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



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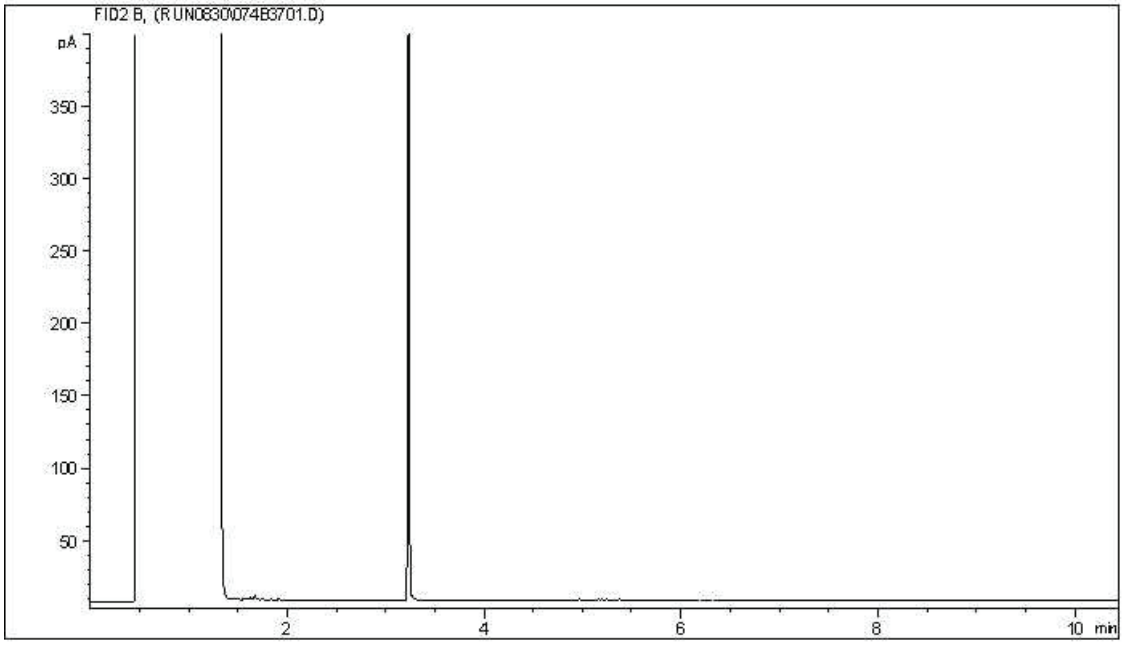

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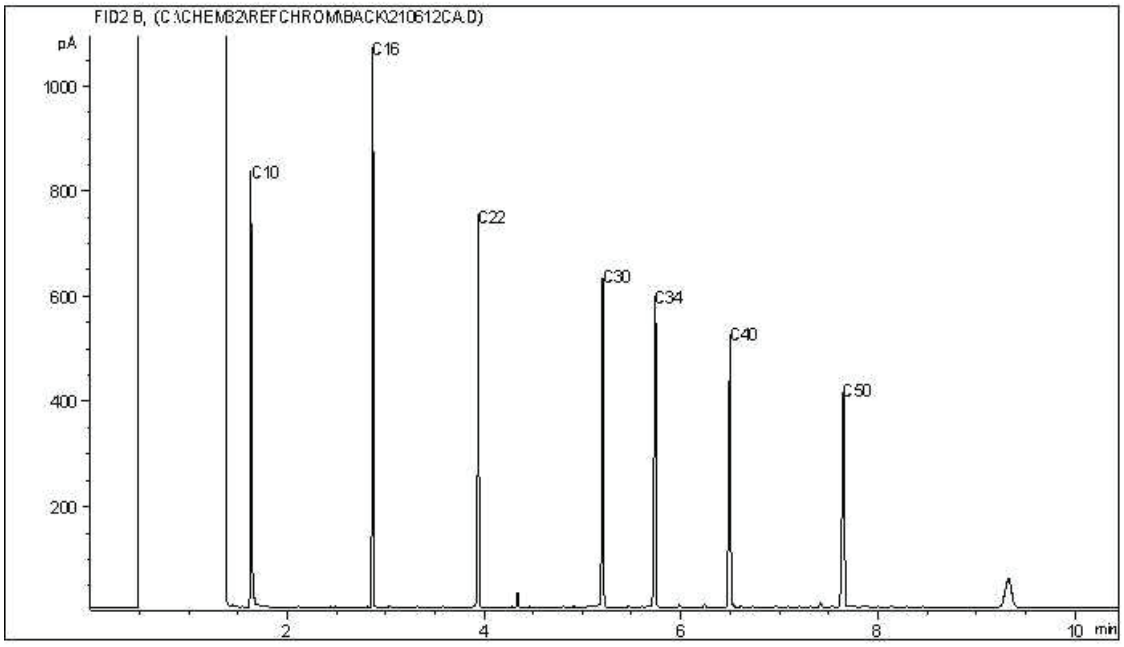

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Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell

Sampling Date: August 19, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C162508

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?	No
Has lab warranted all samples were analyzed with limited headspace present?:	Yes

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

	Yes	No	NA	Comments
Surrogate Recovery	X			All laboratory QC results are within
Method Blank Concentration	X			acceptance criteria.
Laboratory Duplicate RPD	X			
Matrix Spike Recovery	X			
Blank Spike Recovery	X			

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

	Yes	No	NA	Comments
Field Blank Concentration			X	Samples TP21-13-05 and DUP J exceed the alert limits
Trip Blank Concentration			X	for F1 (C6-C10)-BTEX (87%) and F2 (C10-C16) (105%).
Field Duplicate RPD		X		All remaining field QC samples are within alert limits.

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

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

Please see QA/QC appendix for details

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: September 3, 2021

Your P.O. #: 20368099-7000-1011
Your Project #: 20368099-6000-1011

Attention: Aurelie Belavance

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

Your C.O.C. #: 644511-01, 644511-15-01, 644511-16-01, 644511-17-01, 644511-18-01, 644511-19-01

Report Date: 2021/09/09
Report #: R3069088
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C162523
Received: 2021/08/23, 20:30

Sample Matrix: Soil
Samples Received: 41

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
Boron (Hot Water Soluble) (1)	3	2021/08/30	2021/08/30	AB SOP-00034 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	1	N/A	2021/08/29	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	20	N/A	2021/08/30	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	20	N/A	2021/08/31	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	21	N/A	2021/08/31		Auto Calc
F1-BTEX (1)	20	N/A	2021/09/01		Auto Calc
Hexavalent Chromium (1, 3)	2	2021/08/27	2021/08/27	AB SOP-00063	SM 23 3500-Cr B m
Hexavalent Chromium (1, 3)	1	2021/08/30	2021/08/31	AB SOP-00063	SM 23 3500-Cr B m
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 4)	1	2021/08/29	2021/08/30	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 4)	5	2021/08/30	2021/08/30	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 4)	1	2021/08/30	2021/08/31	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	3	2021/08/28	2021/08/30	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	5	2021/08/29	2021/08/30	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	2	2021/08/29	2021/08/31	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	10	2021/08/29	2021/09/01	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	1	2021/08/30	2021/08/31	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	13	2021/08/30	2021/09/01	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 6)	1	N/A	2021/08/28		Auto Calc
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 6)	1	N/A	2021/08/30		Auto Calc
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 6)	5	N/A	2021/08/31		Auto Calc
CCME Hydrocarbons (F4G in soil) (1, 5)	1	2021/08/30	2021/08/31	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)	3	N/A	2021/08/28	AB SOP-00002	CCME PHC-CWS m
Moisture (1)	3	N/A	2021/08/29	AB SOP-00002	CCME PHC-CWS m

Your P.O. #: 20368099-7000-1011
Your Project #: 20368099-6000-1011

Attention: Aurelie Belavance

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

Your C.O.C. #: 644511-01, 644511-15-01, 644511-16-01, 644511-17-01, 644511-18-01, 644511-19-01

Report Date: 2021/09/09
Report #: R3069088
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C162523
Received: 2021/08/23, 20:30

Sample Matrix: Soil
Samples Received: 41

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Moisture (1)	18	N/A	2021/08/30	AB SOP-00002	CCME PHC-CWS m
Moisture (1)	17	N/A	2021/08/31	AB SOP-00002	CCME PHC-CWS m
Nitrite-N and Nitrate-N (soluble) (1)	3	2021/08/31	2021/08/31	AB SOP-00033 / AB SOP-00023	SM 23 4110 B m
Soluble Ions (1)	3	2021/08/31	2021/08/31	AB SOP-00033 / AB SOP-00042	EPA 6010d R5 m
Soluble Paste (1)	3	2021/08/31	2021/08/31	AB SOP-00033	Carter 2nd ed 15.2 m
Soluble Ions Calculation (1)	3	N/A	2021/08/28		Auto Calc

Remarks:

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

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

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

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

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

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

Your P.O. #: 20368099-7000-1011
Your Project #: 20368099-6000-1011

Attention: Aurelie Belavance

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

Your C.O.C. #: 644511-01, 644511-15-01, 644511-16-01, 644511-17-01, 644511-18-01, 644511-19-01

Report Date: 2021/09/09
Report #: R3069088
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C162523
Received: 2021/08/23, 20:30

(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.
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Encryption Key

AUTHORIZED REPORT
RAPPORT AUTORISÉ

Bureau Veritas
09 Sep 2021 12:33:09

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

BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO249	AEO249		AEO250		AEO251	AEO252		
Sampling Date		2021/08/17 09:18	2021/08/17 09:18		2021/08/17 09:19		2021/08/17 09:20	2021/08/17 09:36		
COC Number		644511-15-01	644511-15-01		644511-15-01		644511-15-01	644511-15-01		
	UNITS	BH19-37-01	BH19-37-01 Lab-Dup	RDL	BH19-37-03	RDL	BH19-37-06	TP19-16-01	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	73	N/A	10	68 (1)	26	<10	79	10	A334975
F3 (C16-C34 Hydrocarbons)	mg/kg	340	N/A	50	1400 (1)	130	63	250	50	A334975
F4 (C34-C50 Hydrocarbons)	mg/kg	83	N/A	50	410 (1)	130	<50	<50	50	A334975
Reached Baseline at C50	mg/kg	Yes	N/A	N/A	Yes	N/A	Yes	Yes	N/A	A334975
Physical Properties										
Moisture	%	15	N/A	0.30	62	0.30	18	13	0.30	A335452
Volatiles										
Xylenes (Total)	mg/kg	0.15	N/A	0.045	<0.15	0.15	<0.045	<0.045	0.045	A333210
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	10	<24	24	<10	<10	10	A333210
Field Preserved Volatiles										
Benzene	mg/kg	0.0097	0.013	0.0050	0.031 (2)	0.017	<0.0050	<0.0050	0.0050	A334586
Toluene	mg/kg	0.23	0.23	0.050	<0.080 (3)	0.080	<0.050	<0.050	0.050	A334586
Ethylbenzene	mg/kg	0.023	0.023	0.010	<0.034 (2)	0.034	<0.010	<0.010	0.010	A334586
m & p-Xylene	mg/kg	0.11	0.12	0.040	<0.13 (2)	0.13	<0.040	<0.040	0.040	A334586
o-Xylene	mg/kg	0.036	0.034	0.020	<0.067 (2)	0.067	<0.020	<0.020	0.020	A334586
F1 (C6-C10)	mg/kg	<10	<10	10	<24 (3)	24	<10	<10	10	A334586
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	96	94	N/A	97	N/A	93	95	N/A	A334586
4-Bromofluorobenzene (sur.)	%	96	95	N/A	97	N/A	97	96	N/A	A334586
D10-o-Xylene (sur.)	%	93	95	N/A	97	N/A	99	90	N/A	A334586
D4-1,2-Dichloroethane (sur.)	%	101	100	N/A	101	N/A	100	102	N/A	A334586
O-TERPHENYL (sur.)	%	97	N/A	N/A	95	N/A	94	93	N/A	A334975

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.

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BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO253	AEO253	AEO254	AEO254		AEO255		
Sampling Date		2021/08/17 09:37	2021/08/17 09:37	2021/08/17 09:48	2021/08/17 09:48		2021/08/17 10:03		
COC Number		644511-15-01	644511-15-01	644511-15-01	644511-15-01		644511-15-01		
	UNITS	TP19-16-03	TP19-16-03 Lab-Dup	TP19-16-05	TP19-16-05 Lab-Dup	QC Batch	BH19-39-01	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	120	130	<10	N/A	A335451	50	10	A334975
F3 (C16-C34 Hydrocarbons)	mg/kg	370	330	<50	N/A	A335451	640	50	A334975
F4 (C34-C50 Hydrocarbons)	mg/kg	90	82	<50	N/A	A335451	190	50	A334975
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	N/A	A335451	Yes	N/A	A334975
Physical Properties									
Moisture	%	16	N/A	17	17	A335452	31	0.30	A335452
Volatiles									
Xylenes (Total)	mg/kg	<0.045	N/A	<0.045	N/A	A333210	<0.045	0.045	A333210
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	<10	N/A	A333210	<10	10	A333210
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	N/A	<0.0050	N/A	A334586	0.013	0.0050	A334586
Toluene	mg/kg	<0.050	N/A	<0.050	N/A	A334586	<0.050	0.050	A334586
Ethylbenzene	mg/kg	<0.010	N/A	<0.010	N/A	A334586	<0.010	0.010	A334586
m & p-Xylene	mg/kg	<0.040	N/A	<0.040	N/A	A334586	<0.040	0.040	A334586
o-Xylene	mg/kg	<0.020	N/A	<0.020	N/A	A334586	<0.020	0.020	A334586
F1 (C6-C10)	mg/kg	<10	N/A	<10	N/A	A334586	<10	10	A334586
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	96	N/A	96	N/A	A334586	95	N/A	A334586
4-Bromofluorobenzene (sur.)	%	96	N/A	98	N/A	A334586	96	N/A	A334586
D10-o-Xylene (sur.)	%	90	N/A	109	N/A	A334586	97	N/A	A334586
D4-1,2-Dichloroethane (sur.)	%	102	N/A	100	N/A	A334586	100	N/A	A334586
O-TERPHENYL (sur.)	%	100	101	121	N/A	A335451	93	N/A	A334975

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

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BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO256		AEO257	AEO258		AEO270		
Sampling Date		2021/08/17 10:04		2021/08/17 10:09	2021/08/17 10:09		2021/08/17 13:49		
COC Number		644511-15-01		644511-15-01	644511-15-01		644511-16-01		
	UNITS	BH19-39-03	QC Batch	BH19-39-06	DUP D	QC Batch	BH19-94-01	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	A334975	<10	<10	A335451	61	10	A335451
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	A334975	<50	<50	A335451	320	50	A335451
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	A334975	<50	<50	A335451	87	50	A335451
Reached Baseline at C50	mg/kg	N/A	A334975	Yes	Yes	A335451	Yes	N/A	A335451
Physical Properties									
Moisture	%	10	A335452	18	17	A335452	19	0.30	A335452
Volatiles									
Xylenes (Total)	mg/kg	<0.045	A333210	<0.045	<0.045	A333210	<0.045	0.045	A333349
F1 (C6-C10) - BTEX	mg/kg	<10	A333210	<10	<10	A333210	<10	10	A333349
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	A334586	<0.0050	<0.0050	A334586	<0.0050	0.0050	A334586
Toluene	mg/kg	<0.050	A334586	<0.050	<0.050	A334586	<0.050	0.050	A334586
Ethylbenzene	mg/kg	<0.010	A334586	<0.010	<0.010	A334586	<0.010	0.010	A334586
m & p-Xylene	mg/kg	<0.040	A334586	<0.040	<0.040	A334586	<0.040	0.040	A334586
o-Xylene	mg/kg	<0.020	A334586	<0.020	<0.020	A334586	<0.020	0.020	A334586
F1 (C6-C10)	mg/kg	<10	A334586	<10	<10	A334586	<10	10	A334586
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	94	A334586	95	96	A334586	98	N/A	A334586
4-Bromofluorobenzene (sur.)	%	98	A334586	98	95	A334586	97	N/A	A334586
D10-o-Xylene (sur.)	%	97	A334586	97	100	A334586	96	N/A	A334586
D4-1,2-Dichloroethane (sur.)	%	100	A334586	101	100	A334586	102	N/A	A334586
O-TERPHENYL (sur.)	%	N/A	A334975	110	110	A335451	110	N/A	A335451

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO271	AEO272	AEO273	AEO274	AEO275		
Sampling Date		2021/08/17 13:50	2021/08/17 13:51	2021/08/17 10:19	2021/08/17 10:21	2021/08/17 10:39		
COC Number		644511-16-01	644511-16-01	644511-16-01	644511-16-01	644511-16-01		
	UNITS	BH19-94-03	BH19-94-05	TP19-17-01	TP19-17-03	TP19-17-06	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	110	220	<10	10	A335451
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	320	580	<50	50	A335451
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	63	150	<50	50	A335451
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	N/A	A335451
Physical Properties								
Moisture	%	7.4	17	12	17	17	0.30	A335452
Volatiles								
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	<0.045	0.045	A333349
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	<10	10	A333349
Field Preserved Volatiles								
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A334586
Toluene	mg/kg	<0.050	<0.050	<0.050	0.38	<0.050	0.050	A334586
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A334586
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	A334586
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A334586
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	<10	10	A334586
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	94	93	95	95	94	N/A	A334586
4-Bromofluorobenzene (sur.)	%	101	99	96	98	96	N/A	A334586
D10-o-Xylene (sur.)	%	98	90	97	98	98	N/A	A334586
D4-1,2-Dichloroethane (sur.)	%	103	102	101	102	101	N/A	A334586
O-TERPHENYL (sur.)	%	102	103	102	117	127	N/A	A335451

RDL = Reportable Detection Limit
N/A = Not Applicable

BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO276	AEO276		AEO277	AEO278	AEO279		
Sampling Date		2021/08/17 10:21	2021/08/17 10:21		2021/08/17 10:50	2021/08/17 10:51	2021/08/17 10:52		
COC Number		644511-16-01	644511-16-01		644511-16-01	644511-16-01	644511-16-01		
	UNITS	DUP E	DUP E Lab-Dup	QC Batch	TP19-18-02	TP19-18-03	TP19-18-05	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	190	N/A	A335451	99	77	<10	10	A335167
F3 (C16-C34 Hydrocarbons)	mg/kg	540	N/A	A335451	270	200	<50	50	A335167
F4 (C34-C50 Hydrocarbons)	mg/kg	130	N/A	A335451	<50	<50	<50	50	A335167
Reached Baseline at C50	mg/kg	Yes	N/A	A335451	Yes	Yes	Yes	N/A	A335167
Physical Properties									
Moisture	%	14	15	A335403	12	13	5.9	0.30	A335214
Volatiles									
Xylenes (Total)	mg/kg	<0.045	N/A	A333349	<0.045	<0.045	<0.045	0.045	A333349
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	A333349	<10	<10	<10	10	A333349
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	N/A	A334586	<0.0050	<0.0050	0.0078	0.0050	A334586
Toluene	mg/kg	0.28	N/A	A334586	<0.050	<0.050	<0.050	0.050	A334586
Ethylbenzene	mg/kg	<0.010	N/A	A334586	<0.010	<0.010	<0.010	0.010	A334586
m & p-Xylene	mg/kg	<0.040	N/A	A334586	<0.040	<0.040	<0.040	0.040	A334586
o-Xylene	mg/kg	<0.020	N/A	A334586	<0.020	<0.020	<0.020	0.020	A334586
F1 (C6-C10)	mg/kg	<10	N/A	A334586	<10	<10	<10	10	A334586
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	93	N/A	A334586	95	96	94	N/A	A334586
4-Bromofluorobenzene (sur.)	%	95	N/A	A334586	97	96	97	N/A	A334586
D10-o-Xylene (sur.)	%	98	N/A	A334586	98	96	96	N/A	A334586
D4-1,2-Dichloroethane (sur.)	%	102	N/A	A334586	101	101	100	N/A	A334586
O-TERPHENYL (sur.)	%	109	N/A	A335451	105	112	99	N/A	A335167

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

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BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO295	AEO295	AEO296	AEO296		AEO297		
Sampling Date		2021/08/17 11:09	2021/08/17 11:09	2021/08/17 11:12	2021/08/17 11:12		2021/08/17 11:13		
COC Number		644511-17-01	644511-17-01	644511-17-01	644511-17-01		644511-17-01		
	UNITS	TP19-19-01	TP19-19-01 Lab-Dup	TP19-19-03	TP19-19-03 Lab-Dup	RDL	TP19-19-05	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	130	N/A	150	N/A	10	N/A	10	A336003
F3 (C16-C34 Hydrocarbons)	mg/kg	280	N/A	340	N/A	50	N/A	50	A336003
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	N/A	75	N/A	50	N/A	50	A336003
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	N/A	N/A	N/A	A336003
Physical Properties									
Moisture	%	9.8	N/A	17	18	0.30	57	0.30	A336200
Volatiles									
Xylenes (Total)	mg/kg	<0.045	N/A	<0.045	N/A	0.045	<0.17	0.17	A333349
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	11	N/A	10	<26	26	A333349
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	N/A	0.0050	0.084 (1)	0.020	A334646
Toluene	mg/kg	<0.050	<0.050	<0.050	N/A	0.050	0.17 (2)	0.050	A334646
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	N/A	0.010	0.034 (2)	0.014	A334646
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	N/A	0.040	<0.16 (1)	0.16	A334646
o-Xylene	mg/kg	<0.020	<0.020	<0.020	N/A	0.020	<0.078 (1)	0.078	A334646
F1 (C6-C10)	mg/kg	<10	<10	11	N/A	10	<26 (2)	26	A334646
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	104	102	106	N/A	N/A	103	N/A	A334646
4-Bromofluorobenzene (sur.)	%	100	99	99	N/A	N/A	99	N/A	A334646
D10-o-Xylene (sur.)	%	107	107	131	N/A	N/A	121	N/A	A334646
D4-1,2-Dichloroethane (sur.)	%	106	103	105	N/A	N/A	104	N/A	A334646
O-TERPHENYL (sur.)	%	95	N/A	102	N/A	N/A	N/A	N/A	A336003

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

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BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO298	AEO299	AEO300	AEO300	AEO301	AEO302		
Sampling Date		2021/08/17 11:17	2021/08/17 15:03	2021/08/17 15:04	2021/08/17 15:04	2021/08/17 15:10	2021/08/17 14:22		
COC Number		644511-17-01	644511-17-01	644511-17-01	644511-17-01	644511-17-01	644511-17-01		
	UNITS	**TP19-19-06**	**TP21-81-01**	**TP21-81-03**	**TP21-81-03 Lab-Dup**	**TP21-81-06**	**TP19-09-02**	**RDL**	**QC Batch**
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	130	290	350	<10	130	10	A336003
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	430	530	700	<50	320	50	A336003
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	100	98	180	<50	62	50	A336003
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A336003
Physical Properties									
Moisture	%	15	13	15	N/A	17	12	0.30	A336200
Volatiles									
Xylenes (Total)	mg/kg	<0.045	0.064	0.25	N/A	<0.045	0.053	0.045	A333349
F1 (C6-C10) - BTEX	mg/kg	<10	<10	23	N/A	<10	<10	10	A333349
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	0.0083	0.011	N/A	<0.0050	<0.0050	0.0050	A334646
Toluene	mg/kg	<0.050	0.072	0.24	N/A	<0.050	0.15	0.050	A334646
Ethylbenzene	mg/kg	<0.010	0.015	0.039	N/A	<0.010	<0.010	0.010	A334646
m & p-Xylene	mg/kg	<0.040	0.064	0.18	N/A	<0.040	0.053	0.040	A334646
o-Xylene	mg/kg	<0.020	<0.020	0.076	N/A	<0.020	<0.020	0.020	A334646
F1 (C6-C10)	mg/kg	<10	<10	24	N/A	<10	<10	10	A334646
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	102	103	103	N/A	105	104	N/A	A334646
4-Bromofluorobenzene (sur.)	%	99	100	98	N/A	98	99	N/A	A334646
D10-o-Xylene (sur.)	%	107	117	120	N/A	118	121	N/A	A334646
D4-1,2-Dichloroethane (sur.)	%	103	103	103	N/A	99	101	N/A	A334646
O-TERPHENYL (sur.)	%	101	100	96	109	100	98	N/A	A336003

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

BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO303		AEO304		AEO315	AEO316		
Sampling Date		2021/08/17 14:23		2021/08/17 14:24		2021/08/17 15:22	2021/08/17 15:23		
COC Number		644511-17-01		644511-17-01		644511-18-01	644511-18-01		
	UNITS	TP19-09-03	RDL	TP19-09-06	RDL	TP21-74-02	TP21-74-03	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	230	10	<10	10	110	220	10	A336003
F3 (C16-C34 Hydrocarbons)	mg/kg	510	50	<50	50	330	460	50	A336003
F4 (C34-C50 Hydrocarbons)	mg/kg	120	50	<50	50	91	120	50	A336003
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	Yes	Yes	N/A	A336003
Physical Properties									
Moisture	%	15	0.30	5.9	0.30	N/A	N/A	0.30	A336200
Volatiles									
Xylenes (Total)	mg/kg	<0.045	0.045	<0.045	0.045	<0.045	0.55	0.045	A333349
F1 (C6-C10) - BTEX	mg/kg	17	10	<15	15	<10	16	10	A333349
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	0.0050	<0.0050	0.0050	<0.0050	0.0082	0.0050	A334646
Toluene	mg/kg	0.25	0.050	<0.050	0.050	<0.050	0.35	0.050	A334646
Ethylbenzene	mg/kg	0.014	0.010	<0.010	0.010	<0.010	0.064	0.010	A334646
m & p-Xylene	mg/kg	<0.040	0.040	<0.040	0.040	<0.040	0.33	0.040	A334646
o-Xylene	mg/kg	<0.020	0.020	<0.020	0.020	<0.020	0.22	0.020	A334646
F1 (C6-C10)	mg/kg	17	10	<15 (1)	15	<10	17	10	A334646
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	104	N/A	104	N/A	104	103	N/A	A334646
4-Bromofluorobenzene (sur.)	%	99	N/A	100	N/A	101	100	N/A	A334646
D10-o-Xylene (sur.)	%	114	N/A	112	N/A	122	119	N/A	A334646
D4-1,2-Dichloroethane (sur.)	%	100	N/A	102	N/A	104	105	N/A	A334646
O-TERPHENYL (sur.)	%	117	N/A	110	N/A	100	95	N/A	A336003

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limit raised due to interferent.

BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO317		AEO318	AEO319	AEO320		AEO321		
Sampling Date		2021/08/17 15:24		2021/08/17 15:24	2021/08/17 14:02	2021/08/17 14:03		2021/08/17 14:10		
COC Number		644511-18-01		644511-18-01	644511-18-01	644511-18-01		644511-18-01		
	UNITS	**TP21-74-05**	**RDL**	**DUP F**	**TP19-08-02**	**TP19-08-03**	**RDL**	**TP19-08-06**	**RDL**	**QC Batch**
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	10	N/A	95	N/A	10	<10	10	A336003
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	50	N/A	370	N/A	50	<50	50	A336003
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	50	N/A	100	N/A	50	<50	50	A336003
Reached Baseline at C50	mg/kg	N/A	N/A	N/A	Yes	N/A	N/A	Yes	N/A	A336003
Physical Properties										
Moisture	%	N/A	0.30	12	10	12	0.30	14	0.30	A336200
Volatiles										
Xylenes (Total)	mg/kg	<0.045	0.045	0.27	0.074	0.17	0.045	0.080	0.045	A333349
F1 (C6-C10) - BTEX	mg/kg	<11	11	17	<10	77	10	<24	24	A333349
Field Preserved Volatiles										
Benzene	mg/kg	<0.0050	0.0050	0.010	0.014	0.010	0.0050	<0.0050	0.0050	A334646
Toluene	mg/kg	<0.050	0.050	0.19	0.078	0.30	0.050	<0.050	0.050	A334646
Ethylbenzene	mg/kg	<0.010	0.010	0.036	0.015	0.022	0.010	0.020	0.010	A334646
m & p-Xylene	mg/kg	<0.040	0.040	0.17	0.074	0.12	0.040	0.080	0.040	A334646
o-Xylene	mg/kg	<0.020	0.020	0.099	<0.020	0.059	0.020	<0.020	0.020	A334646
F1 (C6-C10)	mg/kg	<11 (1)	11	18	<10	77	10	<24 (1)	24	A334646
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	102	N/A	103	105	103	N/A	102	N/A	A334646
4-Bromofluorobenzene (sur.)	%	101	N/A	100	101	99	N/A	100	N/A	A334646
D10-o-Xylene (sur.)	%	114	N/A	125	109	115	N/A	126	N/A	A334646
D4-1,2-Dichloroethane (sur.)	%	102	N/A	103	103	103	N/A	102	N/A	A334646
O-TERPHENYL (sur.)	%	N/A	N/A	N/A	104	N/A	N/A	97	N/A	A336003

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limit raised due to interferent.

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO322	AEO325		AEO326			AEO327		
Sampling Date		2021/08/17 14:04	2021/08/17 14:40		2021/08/17 14:41			2021/08/17 14:46		
COC Number		644511-18-01	644511-19-01		644511-19-01			644511-19-01		
	UNITS	**TP19-08-04**	**TP19-11-01**	**QC Batch**	**TP19-11-03**	**RDL**	**QC Batch**	**TP19-11-05**	**RDL**	**QC Batch**
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	92	A336003	280	10	A335451	N/A	10	A335451
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	360	A336003	550	50	A335451	N/A	50	A335451
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	90	A336003	120	50	A335451	N/A	50	A335451
Reached Baseline at C50	mg/kg	N/A	Yes	A336003	Yes	N/A	A335451	N/A	N/A	A335451
Physical Properties										
Moisture	%	22	11	A336200	11	0.30	A335403	27	0.30	A336200
Volatiles										
Xylenes (Total)	mg/kg	0.71	0.25	A333349	0.20	0.045	A333349	<0.045	0.045	A333349
F1 (C6-C10) - BTEX	mg/kg	45	<10	A333349	13	10	A333349	<23	23	A333349
Field Preserved Volatiles										
Benzene	mg/kg	<0.0050	0.017	A334646	0.019	0.0050	A334646	<0.0050	0.0050	A335198
Toluene	mg/kg	<0.050	0.62	A334646	0.24	0.050	A334646	<0.050	0.050	A335198
Ethylbenzene	mg/kg	0.11	0.052	A334646	0.027	0.010	A334646	<0.010	0.010	A335198
m & p-Xylene	mg/kg	0.50	0.18	A334646	0.15	0.040	A334646	<0.040	0.040	A335198
o-Xylene	mg/kg	0.20	0.068	A334646	0.049	0.020	A334646	<0.020	0.020	A335198
F1 (C6-C10)	mg/kg	46	<10	A334646	13	10	A334646	<23 (1)	23	A335198
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	102	103	A334646	102	N/A	A334646	95	N/A	A335198
4-Bromofluorobenzene (sur.)	%	99	99	A334646	101	N/A	A334646	99	N/A	A335198
D10-o-Xylene (sur.)	%	128	125	A334646	122	N/A	A334646	95	N/A	A335198
D4-1,2-Dichloroethane (sur.)	%	102	103	A334646	104	N/A	A334646	102	N/A	A335198
O-TERPHENYL (sur.)	%	N/A	104	A336003	111	N/A	A335451	N/A	N/A	N/A

RDL = Reportable Detection Limit
N/A = Not Applicable
(1) Detection limit raised due to interferent.

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

CCME REGULATED METALS - SOILS (SOIL)

BV Labs ID		AEO315		AEO316	AEO317		
Sampling Date		2021/08/17 15:22		2021/08/17 15:23	2021/08/17 15:24		
COC Number		644511-18-01		644511-18-01	644511-18-01		
	UNITS	TP21-74-02	QC Batch	TP21-74-03	TP21-74-05	RDL	QC Batch
Elements							
Soluble (Hot water) Boron (B)	mg/kg	0.39	A336116	0.49	0.29	0.10	A336116
Hex. Chromium (Cr 6+)	mg/kg	<0.080	A336364	<0.080	<0.080	0.080	A334489
Total Antimony (Sb)	mg/kg	0.58	A335392	0.51	<0.50	0.50	A335392
Total Arsenic (As)	mg/kg	9.1	A335392	6.8	9.0	1.0	A335392
Total Barium (Ba)	mg/kg	2700	A335392	2400	220	1.0	A335392
Total Beryllium (Be)	mg/kg	<0.40	A335392	<0.40	<0.40	0.40	A335392
Total Cadmium (Cd)	mg/kg	0.18	A335392	0.16	0.15	0.050	A335392
Total Chromium (Cr)	mg/kg	72	A335392	130	27	1.0	A335392
Total Cobalt (Co)	mg/kg	5.9	A335392	5.4	7.0	0.50	A335392
Total Copper (Cu)	mg/kg	12	A335392	15	9.6	1.0	A335392
Total Lead (Pb)	mg/kg	25	A335392	25	6.5	0.50	A335392
Total Mercury (Hg)	mg/kg	0.080	A335392	0.083	<0.050	0.050	A335392
Total Molybdenum (Mo)	mg/kg	2.2	A335392	3.0	1.2	0.40	A335392
Total Nickel (Ni)	mg/kg	40	A335392	67	25	1.0	A335392
Total Selenium (Se)	mg/kg	<0.50	A335392	<0.50	<0.50	0.50	A335392
Total Silver (Ag)	mg/kg	<0.20	A335392	<0.20	<0.20	0.20	A335392
Total Thallium (Tl)	mg/kg	<0.10	A335392	<0.10	<0.10	0.10	A335392
Total Tin (Sn)	mg/kg	<1.0	A335392	<1.0	<1.0	1.0	A335392
Total Uranium (U)	mg/kg	0.71	A335392	0.57	0.47	0.20	A335392
Total Vanadium (V)	mg/kg	28	A335392	24	25	1.0	A335392
Total Zinc (Zn)	mg/kg	44	A335392	36	41	10	A335392

RDL = Reportable Detection Limit

BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		AEO315		AEO316		AEO317	AEO317		
Sampling Date		2021/08/17 15:22		2021/08/17 15:23		2021/08/17 15:24	2021/08/17 15:24		
COC Number		644511-18-01		644511-18-01		644511-18-01	644511-18-01		
	UNITS	TP21-74-02	RDL	TP21-74-03	RDL	TP21-74-05	TP21-74-05 Lab-Dup	RDL	QC Batch
Calculated Parameters									
Calculated Sulphate (SO4)	mg/kg	150	2.1	110	2.1	11	N/A	1.3	A333147
Calculated Nitrate (N)	mg/kg	<0.085	0.085	<0.083	0.083	<0.051	N/A	0.051	A333147
Soluble Parameters									
Soluble Nitrite (N)	mg/L	<0.20	0.20	<0.20	0.20	<0.20	<0.20	0.20	A337473
Soluble Nitrate (N)	mg/L	1.2	0.20	<0.20	0.20	0.29	<0.20	0.20	A337473
Saturation %	%	43	N/A	42	N/A	26	24	N/A	A335174
Soluble Sulphate (SO4)	mg/L	350	5.0	270	5.0	43	N/A	5.0	A338090

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

BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		AEO256		AEO297		AEO317	AEO318	AEO320		
Sampling Date		2021/08/17 10:04		2021/08/17 11:13		2021/08/17 15:24	2021/08/17 15:24	2021/08/17 14:03		
COC Number		644511-15-01		644511-17-01		644511-18-01	644511-18-01	644511-18-01		
	UNITS	BH19-39-03	RDL	TP19-19-05	RDL	TP21-74-05	DUP F	TP19-08-03	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	<23 (1)	23	<10	170	170	10	A335211
F3 (C16-C34 Hydrocarbons)	mg/kg	<71	71	290	170	<71	370	400	71	A333320
F3A (C16-C22)	mg/kg	<50	50	<120 (1)	120	<50	170	180	50	A335211
F3B (C22-C34)	mg/kg	<50	50	290 (1)	120	<50	200	220	50	A335211
F2% (BIC)	mg/kg	NC	N/A	NC	N/A	NC	NC	NC	N/A	A333320
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	<120 (1)	120	<50	77	91	50	A335211
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	Yes	Yes	Yes	N/A	A335211
Surrogate Recovery (%)										
O-TERPHENYL (sur.)	%	89	N/A	89	N/A	89	93	96	N/A	A335211

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

BV Labs ID		AEO322	AEO327		
Sampling Date		2021/08/17 14:04	2021/08/17 14:46		
COC Number		644511-18-01	644511-19-01		
	UNITS	TP19-08-04	TP19-11-05	RDL	QC Batch
Ext. Pet. Hydrocarbon					
F2 (C10-C16 Hydrocarbons)	mg/kg	37	95	10	A335211
F3 (C16-C34 Hydrocarbons)	mg/kg	1800	1500	71	A333320
F3A (C16-C22)	mg/kg	180	170	50	A335211
F3B (C22-C34)	mg/kg	1600	1300	50	A335211
F2% (BIC)	mg/kg	NC	NC	N/A	A333320
F4 (C34-C50 Hydrocarbons)	mg/kg	980	690	50	A335211
Reached Baseline at C50	mg/kg	Yes	No	N/A	A335211
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	N/A	4300	500	A337167
Surrogate Recovery (%)					
O-TERPHENYL (sur.)	%	100	97	N/A	A335211

RDL = Reportable Detection Limit
N/A = Not Applicable

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

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

PHYSICAL TESTING (SOIL)

BV Labs ID		AEO315	AEO316	AEO317		
Sampling Date		2021/08/17 15:22	2021/08/17 15:23	2021/08/17 15:24		
COC Number		644511-18-01	644511-18-01	644511-18-01		
	UNITS	**TP21-74-02**	**TP21-74-03**	**TP21-74-05**	**RDL**	**QC Batch**
Physical Properties						
Moisture	%	11	13	11	0.30	A334625
RDL = Reportable Detection Limit						

BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		AEO315	AEO315	AEO316	AEO317		
Sampling Date		2021/08/17 15:22	2021/08/17 15:22	2021/08/17 15:23	2021/08/17 15:24		
COC Number		644511-18-01	644511-18-01	644511-18-01	644511-18-01		
	UNITS	TP21-74-02	TP21-74-02 Lab-Dup	TP21-74-03	TP21-74-05	RDL	QC Batch
Elements							
Total Fusion Barium (Ba)	mg/kg	3700	3900	4000	980	50	A340316

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

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

GENERAL COMMENTS

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

Package 1	5.7°C
Package 2	4.0°C
Package 3	7.3°C
Package 4	5.0°C
Package 5	7.0°C

Results relate only to the items tested.

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

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A334489	KWE	Matrix Spike	Hex. Chromium (Cr 6+)	2021/08/27		97	%	75 - 125
A334489	KWE	Spiked Blank	Hex. Chromium (Cr 6+)	2021/08/27		110	%	80 - 120
A334489	KWE	Method Blank	Hex. Chromium (Cr 6+)	2021/08/27	<0.080		mg/kg	
A334489	KWE	RPD	Hex. Chromium (Cr 6+)	2021/08/27	NC		%	35
A334586	RSU	Matrix Spike [AEO249-02]	1,4-Difluorobenzene (sur.)	2021/08/30		97	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		91	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		101	%	50 - 140
			Benzene	2021/08/30		97	%	50 - 140
			Toluene	2021/08/30		100	%	50 - 140
			Ethylbenzene	2021/08/30		102	%	50 - 140
			m & p-Xylene	2021/08/30		104	%	50 - 140
			o-Xylene	2021/08/30		106	%	50 - 140
			F1 (C6-C10)	2021/08/30		78	%	60 - 140
A334586	RSU	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/30		95	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		96	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		88	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		102	%	50 - 140
			Benzene	2021/08/30		89	%	60 - 130
			Toluene	2021/08/30		94	%	60 - 130
			Ethylbenzene	2021/08/30		93	%	60 - 130
			m & p-Xylene	2021/08/30		95	%	60 - 130
			o-Xylene	2021/08/30		88	%	60 - 130
			F1 (C6-C10)	2021/08/30		88	%	60 - 140
A334586	RSU	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/30		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		95	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		86	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		99	%	50 - 140
			Benzene	2021/08/30	<0.0050		mg/kg	
			Toluene	2021/08/30	<0.050		mg/kg	
			Ethylbenzene	2021/08/30	<0.010		mg/kg	
			m & p-Xylene	2021/08/30	<0.040		mg/kg	
			o-Xylene	2021/08/30	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/30	<10		mg/kg	
A334586	RSU	RPD [AEO249-02]	Benzene	2021/08/30	29		%	50
			Toluene	2021/08/30	0.55		%	50
			Ethylbenzene	2021/08/30	1.1		%	50
			m & p-Xylene	2021/08/30	0.66		%	50
			o-Xylene	2021/08/30	3.6		%	50
			F1 (C6-C10)	2021/08/30	NC		%	30
A334625	RIL	Method Blank	Moisture	2021/08/28	<0.30		%	
A334625	RIL	RPD	Moisture	2021/08/28	8.4		%	20
A334646	DO1	Matrix Spike [AEO295-02]	1,4-Difluorobenzene (sur.)	2021/08/31		95	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		98	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		107	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		101	%	50 - 140
			Benzene	2021/08/31		99	%	50 - 140
			Toluene	2021/08/31		94	%	50 - 140
			Ethylbenzene	2021/08/31		101	%	50 - 140
			m & p-Xylene	2021/08/31		94	%	50 - 140
			o-Xylene	2021/08/31		98	%	50 - 140
			F1 (C6-C10)	2021/08/31		93	%	60 - 140
A334646	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/31		91	%	50 - 140

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			4-Bromofluorobenzene (sur.)	2021/08/31		88	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		95	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		97	%	50 - 140
			Benzene	2021/08/31		86	%	60 - 130
			Toluene	2021/08/31		89	%	60 - 130
			Ethylbenzene	2021/08/31		90	%	60 - 130
			m & p-Xylene	2021/08/31		87	%	60 - 130
			o-Xylene	2021/08/31		79	%	60 - 130
			F1 (C6-C10)	2021/08/31		88	%	60 - 140
A334646	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/01		106	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/01		86	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/01		74	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/01		74	%	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	
A334646	DO1	RPD [AEO295-02]	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
			o-Xylene	2021/08/31	NC		%	50
			F1 (C6-C10)	2021/08/31	NC		%	30
A334975	MHF	Matrix Spike	O-TERPHENYL (sur.)	2021/08/28		125	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/28		121	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/28		126	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/28		125	%	60 - 140
A334975	MHF	Spiked Blank	O-TERPHENYL (sur.)	2021/08/28		109	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/28		108	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/28		113	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/28		112	%	60 - 140
A334975	MHF	Method Blank	O-TERPHENYL (sur.)	2021/08/28		136	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/28	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/28	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/28	<50		mg/kg	
A334975	MHF	RPD	F2 (C10-C16 Hydrocarbons)	2021/08/28	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/28	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/28	NC		%	40
A335167	GG3	Matrix Spike	O-TERPHENYL (sur.)	2021/08/30		124	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		NC	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		111	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		100	%	60 - 140
A335167	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/30		96	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		88	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		92	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		83	%	60 - 140
A335167	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/30		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/30	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/30	<50		mg/kg	
A335167	GG3	RPD	F2 (C10-C16 Hydrocarbons)	2021/08/30	4.3		%	40

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F3 (C16-C34 Hydrocarbons)	2021/08/30	3.2		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/30	NC		%	40
A335174	KKC	QC Standard	Saturation %	2021/08/31		96	%	75 - 125
A335174	KKC	RPD [AEO317-03]	Saturation %	2021/08/31	4.8		%	12
A335174	KKC	RPD	Saturation %	2021/08/31	1.9		%	12
A335198	JNG	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/08/29		97	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/29		128	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/29		109	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/29		103	%	50 - 140
			Benzene	2021/08/29		83	%	50 - 140
			Toluene	2021/08/29		89	%	50 - 140
			Ethylbenzene	2021/08/29		90	%	50 - 140
			m & p-Xylene	2021/08/29		86	%	50 - 140
			o-Xylene	2021/08/29		82	%	50 - 140
			F1 (C6-C10)	2021/08/29		87	%	60 - 140
A335198	JNG	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/29		87	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/29		89	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/29		86	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/29		98	%	50 - 140
			Benzene	2021/08/29		69	%	60 - 130
			Toluene	2021/08/29		77	%	60 - 130
			Ethylbenzene	2021/08/29		76	%	60 - 130
			m & p-Xylene	2021/08/29		75	%	60 - 130
			o-Xylene	2021/08/29		64	%	60 - 130
			F1 (C6-C10)	2021/08/29		100	%	60 - 140
A335198	JNG	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/30		93	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		97	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		107	%	50 - 140
			Benzene	2021/08/30	<0.0050		mg/kg	
			Toluene	2021/08/30	<0.050		mg/kg	
			Ethylbenzene	2021/08/30	<0.010		mg/kg	
			m & p-Xylene	2021/08/30	<0.040		mg/kg	
			o-Xylene	2021/08/30	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/30	<10		mg/kg	
A335198	JNG	RPD	Benzene	2021/08/29	18		%	50
			Toluene	2021/08/29	NC		%	50
			Ethylbenzene	2021/08/29	1.8		%	50
			m & p-Xylene	2021/08/29	11		%	50
			o-Xylene	2021/08/29	2.4		%	50
			F1 (C6-C10)	2021/08/29	9.2		%	30
A335211	GG3	Matrix Spike	O-TERPHENYL (sur.)	2021/08/30		93	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		86	%	60 - 140
			F3A (C16-C22)	2021/08/30		89	%	60 - 140
			F3B (C22-C34)	2021/08/30		88	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		89	%	60 - 140
A335211	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/30		97	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		92	%	60 - 140
			F3A (C16-C22)	2021/08/30		95	%	60 - 140
			F3B (C22-C34)	2021/08/30		93	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		94	%	60 - 140
A335211	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/30		102	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30	<10		mg/kg	

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F3A (C16-C22)	2021/08/30	<50		mg/kg	
			F3B (C22-C34)	2021/08/30	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	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
A335214	RIL	Method Blank	Moisture	2021/08/29	<0.30		%	
A335214	RIL	RPD	Moisture	2021/08/29	6.8		%	20
A335392	LQ1	Matrix Spike	Total Antimony (Sb)	2021/08/30		103	%	75 - 125
			Total Arsenic (As)	2021/08/30		NC	%	75 - 125
			Total Barium (Ba)	2021/08/30		NC	%	75 - 125
			Total Beryllium (Be)	2021/08/30		113	%	75 - 125
			Total Cadmium (Cd)	2021/08/30		107	%	75 - 125
			Total Chromium (Cr)	2021/08/30		NC	%	75 - 125
			Total Cobalt (Co)	2021/08/30		105	%	75 - 125
			Total Copper (Cu)	2021/08/30		NC	%	75 - 125
			Total Lead (Pb)	2021/08/30		107	%	75 - 125
			Total Mercury (Hg)	2021/08/30		110	%	75 - 125
			Total Molybdenum (Mo)	2021/08/30		115	%	75 - 125
			Total Nickel (Ni)	2021/08/30		NC	%	75 - 125
			Total Selenium (Se)	2021/08/30		106	%	75 - 125
			Total Silver (Ag)	2021/08/30		110	%	75 - 125
			Total Thallium (Tl)	2021/08/30		106	%	75 - 125
			Total Tin (Sn)	2021/08/30		109	%	75 - 125
			Total Uranium (U)	2021/08/30		116	%	75 - 125
			Total Vanadium (V)	2021/08/30		122	%	75 - 125
			Total Zinc (Zn)	2021/08/30		NC	%	75 - 125
A335392	LQ1	QC Standard	Total Antimony (Sb)	2021/08/30		101	%	15 - 182
			Total Arsenic (As)	2021/08/30		112	%	53 - 147
			Total Barium (Ba)	2021/08/30		108	%	80 - 119
			Total Cadmium (Cd)	2021/08/30		108	%	72 - 128
			Total Chromium (Cr)	2021/08/30		102	%	59 - 141
			Total Cobalt (Co)	2021/08/30		110	%	58 - 142
			Total Copper (Cu)	2021/08/30		113	%	83 - 117
			Total Lead (Pb)	2021/08/30		118	%	79 - 121
			Total Molybdenum (Mo)	2021/08/30		111	%	67 - 133
			Total Nickel (Ni)	2021/08/30		120	%	79 - 121
			Total Silver (Ag)	2021/08/30		113	%	47 - 153
			Total Tin (Sn)	2021/08/30		107	%	67 - 133
			Total Uranium (U)	2021/08/30		114	%	77 - 123
			Total Vanadium (V)	2021/08/30		112	%	79 - 121
			Total Zinc (Zn)	2021/08/30		110	%	79 - 121
A335392	LQ1	Spiked Blank	Total Antimony (Sb)	2021/08/30		110	%	80 - 120
			Total Arsenic (As)	2021/08/30		104	%	80 - 120
			Total Barium (Ba)	2021/08/30		104	%	80 - 120
			Total Beryllium (Be)	2021/08/30		104	%	80 - 120
			Total Cadmium (Cd)	2021/08/30		103	%	80 - 120
			Total Chromium (Cr)	2021/08/30		107	%	80 - 120
			Total Cobalt (Co)	2021/08/30		108	%	80 - 120
			Total Copper (Cu)	2021/08/30		111	%	80 - 120
			Total Lead (Pb)	2021/08/30		106	%	80 - 120
			Total Mercury (Hg)	2021/08/30		111	%	80 - 120
			Total Molybdenum (Mo)	2021/08/30		110	%	80 - 120
			Total Nickel (Ni)	2021/08/30		110	%	80 - 120

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Selenium (Se)	2021/08/30		107	%	80 - 120
			Total Silver (Ag)	2021/08/30		108	%	80 - 120
			Total Thallium (Tl)	2021/08/30		106	%	80 - 120
			Total Tin (Sn)	2021/08/30		103	%	80 - 120
			Total Uranium (U)	2021/08/30		111	%	80 - 120
			Total Vanadium (V)	2021/08/30		109	%	80 - 120
			Total Zinc (Zn)	2021/08/30		104	%	80 - 120
A335392	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	
A335392	LQ1	RPD	Total Antimony (Sb)	2021/08/30	13		%	30
			Total Arsenic (As)	2021/08/30	23		%	30
			Total Barium (Ba)	2021/08/30	0.45		%	35
			Total Beryllium (Be)	2021/08/30	0.65		%	30
			Total Cadmium (Cd)	2021/08/30	1.4		%	30
			Total Chromium (Cr)	2021/08/30	1.5		%	30
			Total Cobalt (Co)	2021/08/30	0.56		%	30
			Total Copper (Cu)	2021/08/30	2.8		%	30
			Total Lead (Pb)	2021/08/30	9.6		%	35
			Total Mercury (Hg)	2021/08/30	19		%	35
			Total Molybdenum (Mo)	2021/08/30	23		%	35
			Total Nickel (Ni)	2021/08/30	0.89		%	30
			Total Selenium (Se)	2021/08/30	NC		%	30
			Total Silver (Ag)	2021/08/30	NC		%	35
			Total Thallium (Tl)	2021/08/30	7.0		%	30
			Total Tin (Sn)	2021/08/30	NC		%	35
			Total Uranium (U)	2021/08/30	2.9		%	30
			Total Vanadium (V)	2021/08/30	0.18		%	30
			Total Zinc (Zn)	2021/08/30	3.5		%	30
A335403	SVI	Method Blank	Moisture	2021/08/30	<0.30		%	
A335403	SVI	RPD [AEO276-01]	Moisture	2021/08/30	9.1		%	20
A335451	EC0	Matrix Spike [AEO253-01]	O-TERPHENYL (sur.)	2021/08/31		101	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		97	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		105	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		106	%	60 - 140
A335451	EC0	Spiked Blank	O-TERPHENYL (sur.)	2021/08/31		96	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		93	%	60 - 140

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			F3 (C16-C34 Hydrocarbons)	2021/08/31		99	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		99	%	60 - 140
A335451	EC0	Method Blank	O-TERPHENYL (sur.)	2021/08/31		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/31	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/31	<50		mg/kg	
A335451	EC0	RPD [AEO253-01]	F2 (C10-C16 Hydrocarbons)	2021/08/31	10		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/31	10		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/31	8.9		%	40
A335452	SVI	Method Blank	Moisture	2021/08/30	<0.30		%	
A335452	SVI	RPD [AEO254-01]	Moisture	2021/08/30	3.0		%	20
A336003	EC0	Matrix Spike [AEO300-01]	O-TERPHENYL (sur.)	2021/09/01		102	%	60 - 140
			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
A336003	EC0	Spiked Blank	O-TERPHENYL (sur.)	2021/08/31		95	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		92	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		89	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		97	%	60 - 140
A336003	EC0	Method Blank	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	
			F4 (C34-C50 Hydrocarbons)	2021/08/31	<50		mg/kg	
A336003	EC0	RPD [AEO300-01]	F2 (C10-C16 Hydrocarbons)	2021/09/01	18		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/01	26		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/01	NC		%	40
A336116	MPU	Matrix Spike	Soluble (Hot water) Boron (B)	2021/08/30		102	%	75 - 125
A336116	MPU	Spiked Blank	Soluble (Hot water) Boron (B)	2021/08/30		96	%	80 - 120
A336116	MPU	Method Blank	Soluble (Hot water) Boron (B)	2021/08/30	<0.10		mg/kg	
A336116	MPU	RPD	Soluble (Hot water) Boron (B)	2021/08/30	10		%	35
A336200	SVI	Method Blank	Moisture	2021/08/31	<0.30		%	
A336200	SVI	RPD [AEO296-01]	Moisture	2021/08/31	6.9		%	20
A336364	KWE	Matrix Spike	Hex. Chromium (Cr 6+)	2021/08/31		96	%	75 - 125
A336364	KWE	Spiked Blank	Hex. Chromium (Cr 6+)	2021/08/31		109	%	80 - 120
A336364	KWE	Method Blank	Hex. Chromium (Cr 6+)	2021/08/31	<0.080		mg/kg	
A336364	KWE	RPD	Hex. Chromium (Cr 6+)	2021/08/31	NC		%	35
A337167	JB9	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/08/31		109	%	60 - 140
A337167	JB9	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/08/31	<500		mg/kg	
A337473	KD9	Matrix Spike [AEO317-03]	Soluble Nitrite (N)	2021/08/31		99	%	75 - 125
			Soluble Nitrate (N)	2021/08/31		100	%	75 - 125
A337473	KD9	QC Standard	Soluble Nitrate (N)	2021/08/31		92	%	75 - 125
A337473	KD9	Spiked Blank	Soluble Nitrite (N)	2021/08/31		100	%	80 - 120
			Soluble Nitrate (N)	2021/08/31		102	%	80 - 120
A337473	KD9	Method Blank	Soluble Nitrite (N)	2021/08/31	<0.20		mg/L	
			Soluble Nitrate (N)	2021/08/31	<0.20		mg/L	
A337473	KD9	RPD [AEO317-03]	Soluble Nitrite (N)	2021/08/31	NC		%	30
			Soluble Nitrate (N)	2021/08/31	NC		%	30
A338090	MPU	QC Standard	Soluble Sulphate (SO4)	2021/08/31		100	%	75 - 125
A338090	MPU	Method Blank	Soluble Sulphate (SO4)	2021/08/31	<5.0		mg/L	
A338090	MPU	RPD	Soluble Sulphate (SO4)	2021/08/31	9.5		%	30
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	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A340316	JAB	RPD [AEO315-03]	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).

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

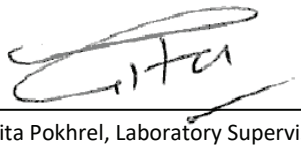
BV Labs Job #: C162523
Report Date: 2021/09/09

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1011
Your P.O. #: 20368099-7000-1011
Sampler Initials: PT

VALIDATION SIGNATURE PAGE

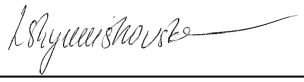
The analytical data and all QC contained in this report were reviewed and validated by:

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

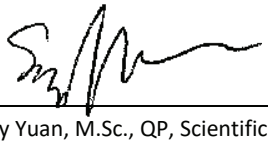


Gita Pokhrel, Laboratory Supervisor

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



Luba Shymushovska, B.Sc., QP, Senior Analyst, Organics



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

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

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

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MCAL

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #	
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COOLER OBSERVATIONS:

CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT	✓		TEMP	1	2	3
INTACT	✓			7	5	5
ICE PRESENT	✓					
CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT	✓		TEMP	1	2	3
INTACT	✓			4	4	4
ICE PRESENT	✓					
CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT	✓		TEMP	1	2	3
INTACT	✓			8	6	8
ICE PRESENT	✓					
CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT	✓		TEMP	1	2	3
INTACT	✓			5	5	5
ICE PRESENT	✓					
CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT	✓		TEMP	1	2	3
INTACT	✓			8	6	7
ICE PRESENT	✓					
CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT			TEMP	1	2	3
INTACT						
ICE PRESENT						
CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT			TEMP	1	2	3
INTACT						
ICE PRESENT						
CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT			TEMP	1	2	3
INTACT						
ICE PRESENT						
CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT			TEMP	1	2	3
INTACT						
ICE PRESENT						
CUSTODY SEAL	YES	NO	COOLER ID			
PRESENT			TEMP	1	2	3
INTACT						
ICE PRESENT						

MAXXAM JOB#:

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

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
NATASHA MUKUCHA	[signature]	2021/08/24	15:50

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ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #	
Page 1 of 1	
Page ___ of ___	
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COOLER OBSERVATIONS:

MAXXAM JOB#:

Block	Custody Seal Present (YES/NO)	Custody Seal Intact (YES/NO)	Ice Present (YES/NO)	Cooler ID	Temp 1	Temp 2	Temp 3
1	YES ✓	YES ✓	YES ✓		7	4	3
2	YES ✓	YES ✓	YES ✓		5	6	4
3	YES ✓	YES ✓	YES ✓		2	1	7
4	YES ✓	YES ✓	YES ✓		6	8	5
5	YES ✓	YES ✓	YES ✓		6	4	5
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
J.Mercado	[signature]	2021/08/23	8:30 AM

Bureau Veritas Laboratories
4000 19st 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

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 #: C162523	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-15-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	Regulated Metals - Soils	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	BH19-37-01	17 Aug/21	09:18	SOIL			✓									3	
	BH19-37-03		09:19				✓									3	
	BH19-37-06		09:20				✓									3	
	TP19-16-01		09:36				✓									3	
	TP19-16-03		09:37				✓									3	
	TP19-16-05		09:48				✓									3	
	BH19-39-01		10:03				✓									3	
	BH19-39-03		10:04				✓	✓								3	
	BH19-39-06		10:09				✓									3	
	DUP-D		10:09				✓									3	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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:
(call lab for #)

Received in Yellowknife
By: J Mercano
@ 5.3° ATM
AUG 23 2021
See ACTE
Temp:

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAM	21/08/17	18:00	NATASHA MUKUCHA	21/08/24	15:50		[ ]	ACTR	[x] 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.
* 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

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st N.E, Calgary, Alberta Canada T2E 6P8 Tel:(403) 291-3077 Toll-free:800-563-6266 Fax:(403) 291-9469 www.bvlabs.com

CHAIN OF CUSTODY RECORD

Page 2 of 5

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 #: C162623	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-16-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	Regulated Metals - Soils	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	N/A	BH19-94-01	17Aug/21	13:49	Soil			✓									3	
2		BH19-94-03		13:50				✓									3	
3		BH19-94-05		13:51				✓									3	
4		TP19-17-01		10:19				✓									3	
5		TP19-17-03		10:21				✓									3	
6		TP19-17-06		10:39				✓									3	
7		DUP-E		10:21				✓									3	
8		TP19-18-02		10:50				✓									3	
9		TP19-18-03		10:51				✓									3	
10		TP19-18-05		10:52				✓									3	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

Received in Yellowknife
By: J.Mercmo
@ 8:30 Am
AUG 23 2021
See ACTR
Temp: / /

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
PETER TAN	21/08/17	17:00	NATASHA MUKUCHA	21/08/24	15:50	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[ ]	ACTR	[x] 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.
* 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

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st 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

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 #: C167523	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-17-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria: ☐ AT1 ☒ CCME ☐ Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	Regulated Metals - Soils	F1-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	N/A	TP19-19-01	17AUG/21	11:09	SOIL			✓									3	
2		TP19-19-03		11:12				✓									3	
3		TP19-19-05		11:13				✓	✓								3	Received in Yellowknife
4		TP19-19-06		11:17				✓									3	By: J Mercier @ 2:32 PM
5		TP21-81-01		15:03				✓									3	AUG 23 2021
6		TP21-81-03		15:04				✓									3	see ALTR
7		TP21-81-06		15:10				✓									3	Temp: / /
8		TP19-09-02		14:22				✓									3	
9		TP19-09-03		14:23				✓									3	
10		TP19-09-06		14:24				✓									3	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
PETER TAM	21/08/17	17:00	NATASHA MUMUCHA	21/08/24	15:50	

Laboratory Use Only: Time Sensitive ☐ | Temperature (°C) on Receipt: 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.
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** ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st 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

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 #: 162523	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-18-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	Regulated Metals - Soils	BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Hexavalent Chromium, Sulphate / nitrate, True total Barium	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	TP21-74-02	17AUG21	15:22	SOIL		✓	✓		✓							3	+Bag
2		TP21-74-03		15:23			✓	✓		✓							3	+Bag
3		TP21-74-05		15:24			✓	✓	✓	✓							3	+Bag
4		DUP-F		15:24				✓	✓								3	
5		TP19-08-02		14:02				✓									3	Received in Yellowknife By: J Mercredi @ 8:30 AM AUG 23 2021
6		TP19-08-03		14:03				✓	✓								3	
7		TP19-08-06		14:10				✓									3	
8		TP19-08-04		14:04				✓	✓								3	see ALTK
9																		Temp: / /
10																		

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
PETER TAN	21/08/17	17:00	NATASHA MUKUCHA	21/08/24	15:50	

Laboratory Use Only		
Time Sensitive [ ]	Temperature (°C) on Receipt: ACTR	Custody Seal Intact on Cooler? [x] 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.
* 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

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st 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

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 #:	Bottle Order #:
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001	C162623	644511
Address:	2800, 700 -2nd Street SW	Address:	2800, 700 -2nd Street SW	Project:	20368099-6000-1001	COC #:	Project Manager:
	CALGARY AB T2P 2W2		CALGARY AB T2P 2W2	Project Name:		C#644511-19-01	Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Site #:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Sampled By:			

Regulatory Criteria:

- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	ATI 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	N/A	TP19-11-01	17Aug21	14:40	Soil			✓								[illegible]	3	
2		TP19-11-03	↓	14:41				✓									3	
3		TP19-11-05	↓	14:46	↓			✓	✓								3	
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Received in Yellowknife
By: J. Mercer
@ 8 : 30 Am
AUG 23 2021
see ACTR
Temp: / /

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: (call lab for #)

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
PETER TAN	21/08/17	1700.	NATASHA MUKUCHA	21/08/26	15:50	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[ ]	ACTR	[x] Yes [ ] No

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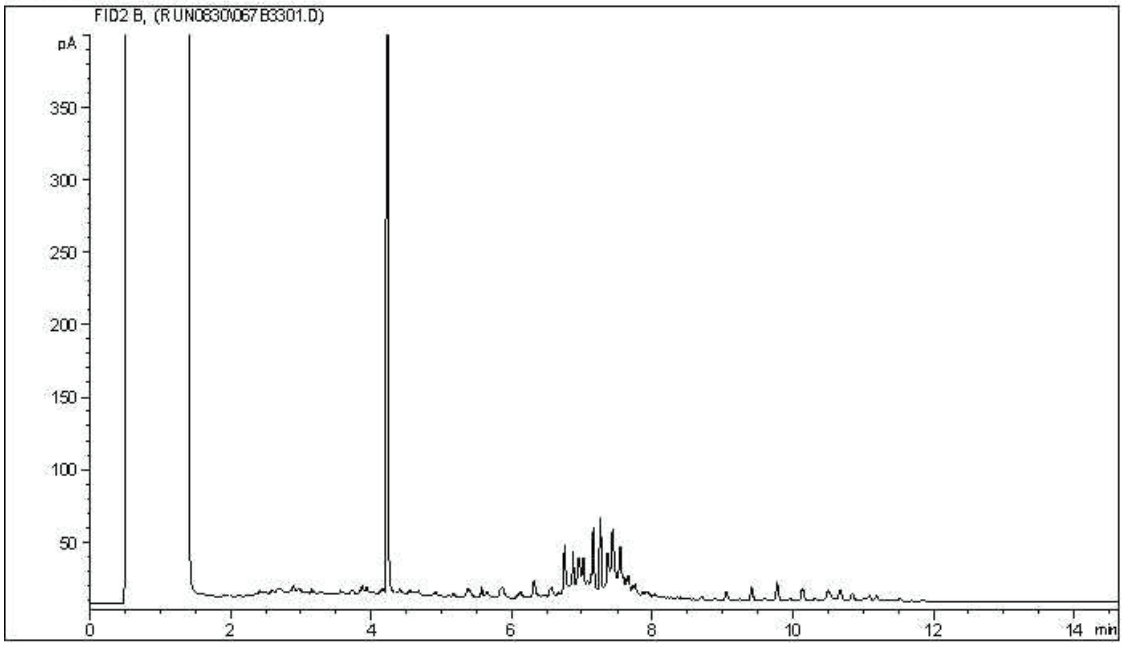
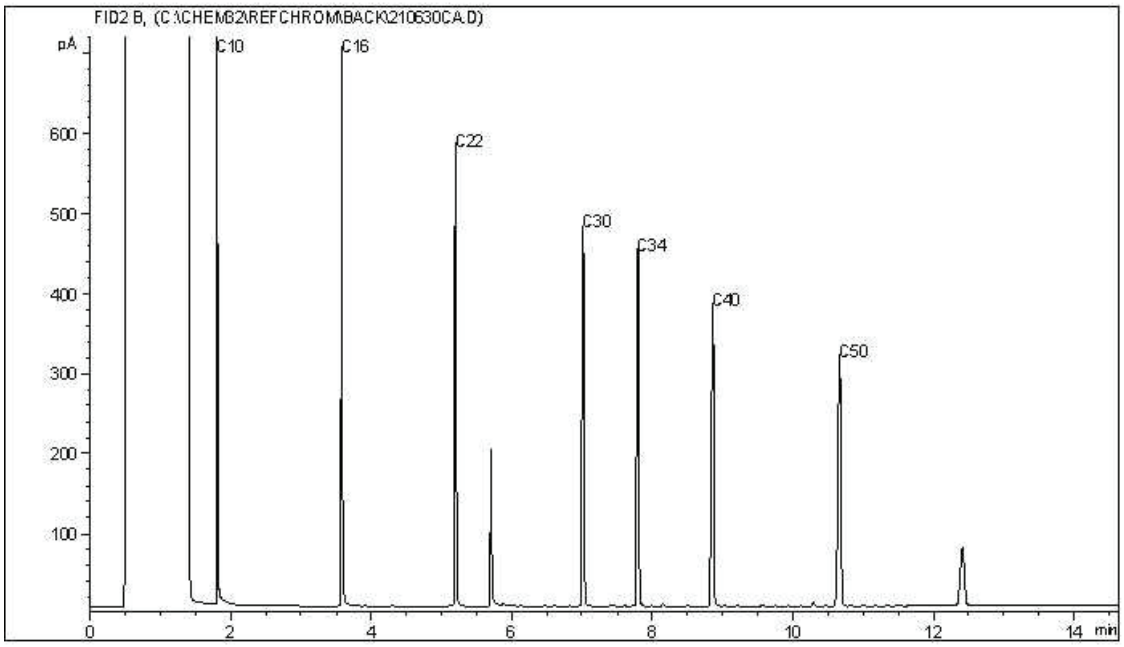
White: BV Labs Yellow: Client

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

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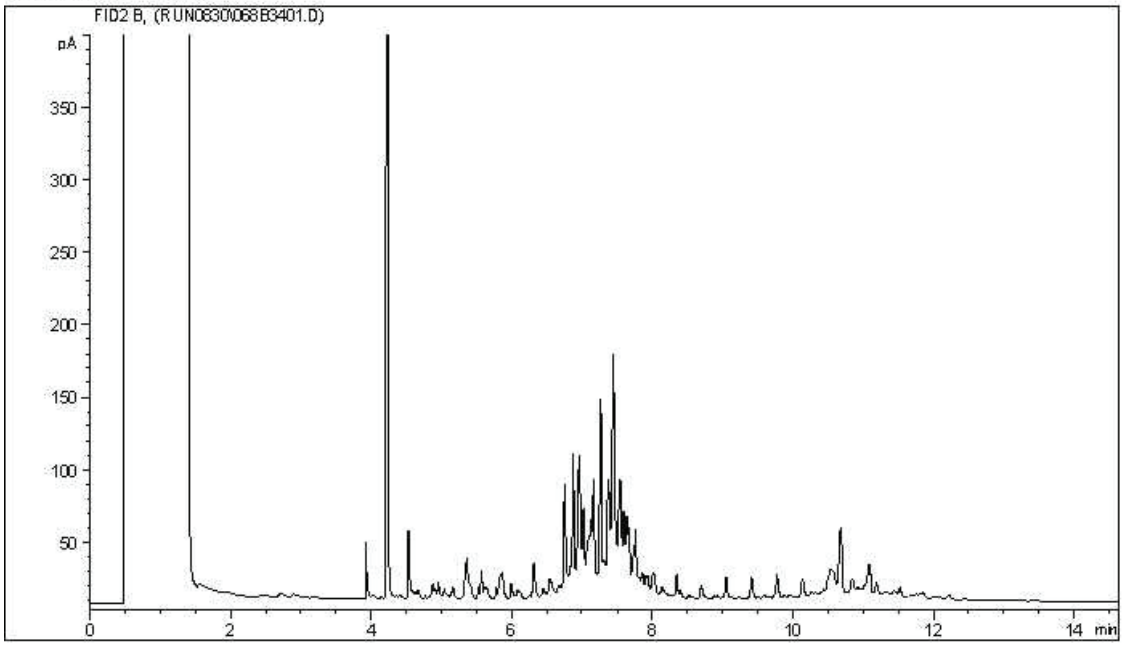

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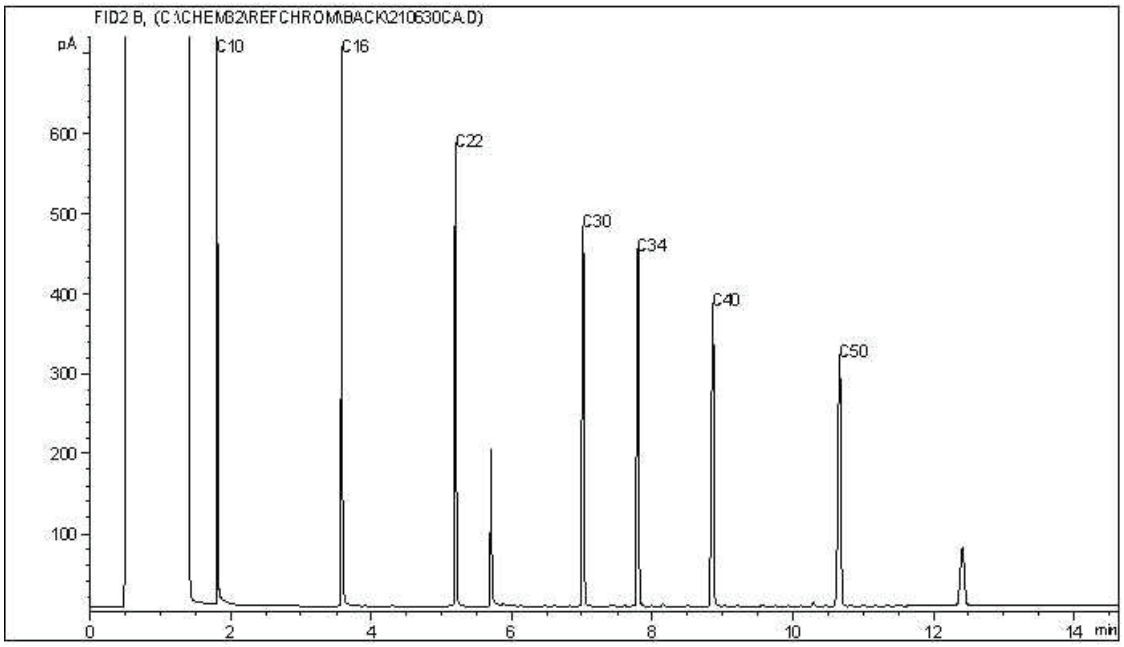

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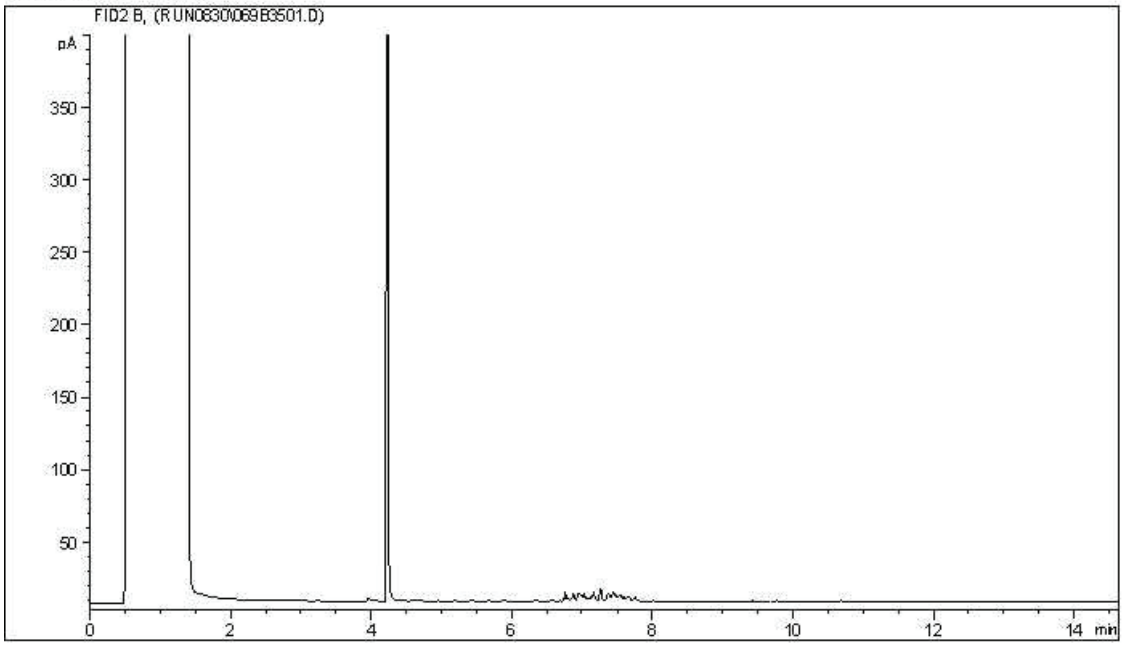
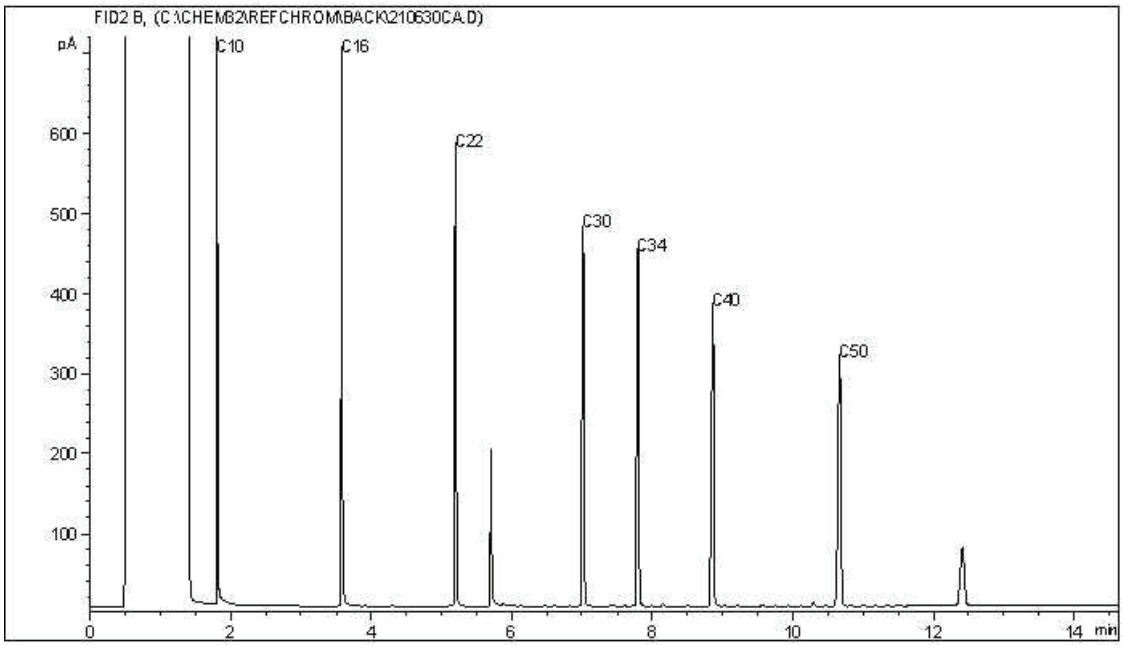


Carbon Range Distribution - Reference Chromatogram



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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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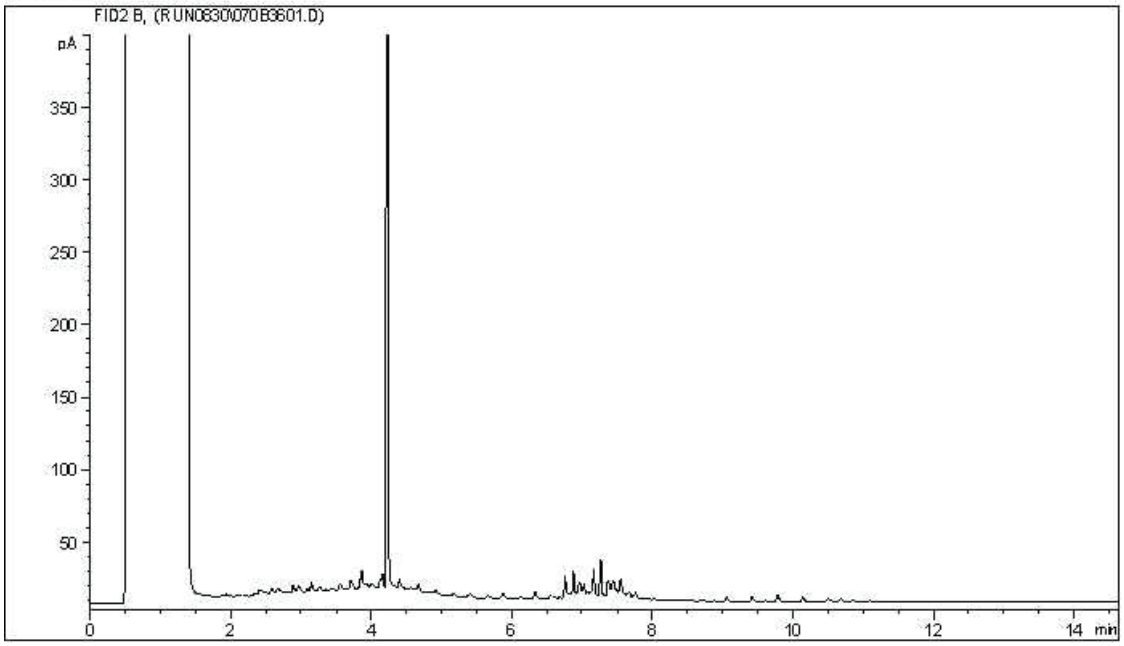
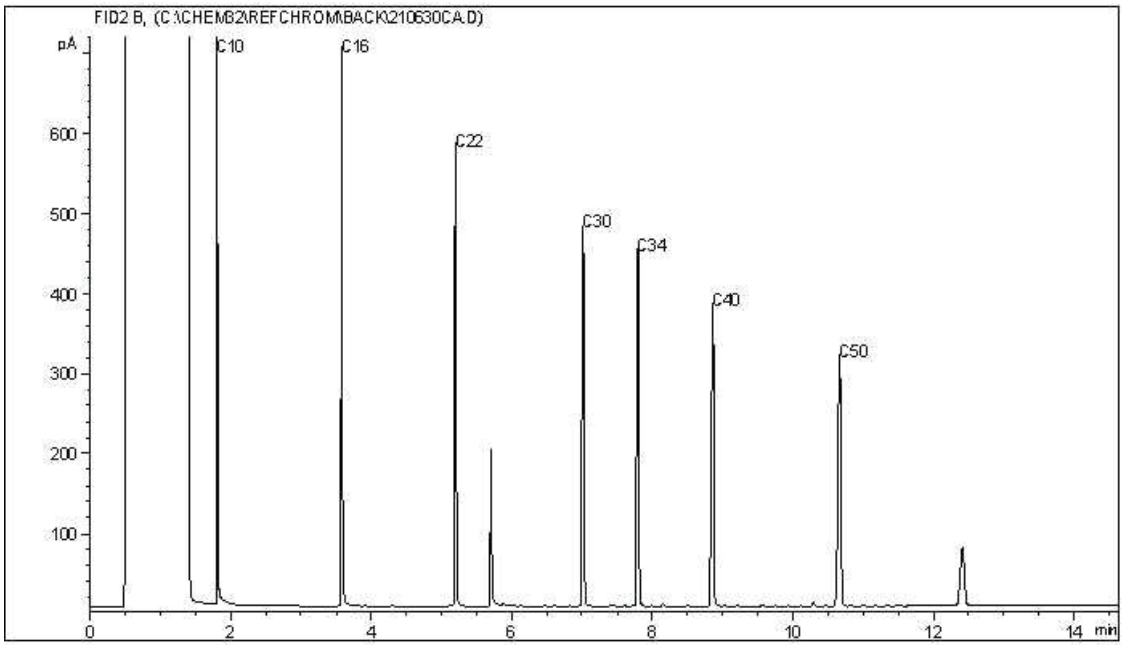


Carbon Range Distribution - Reference Chromatogram



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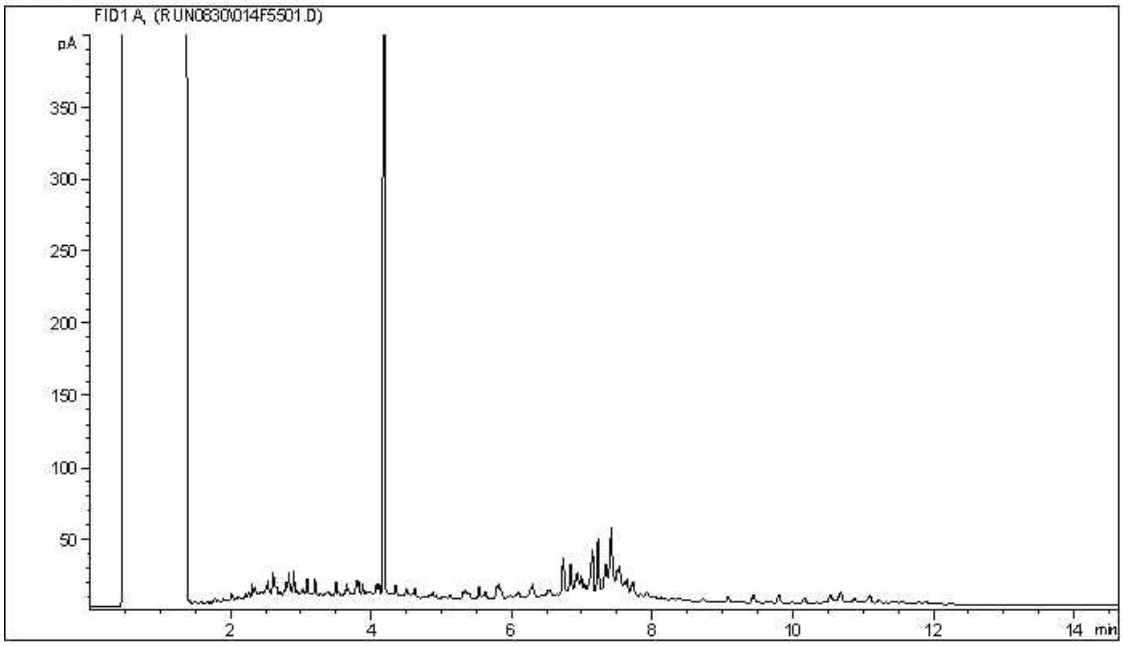
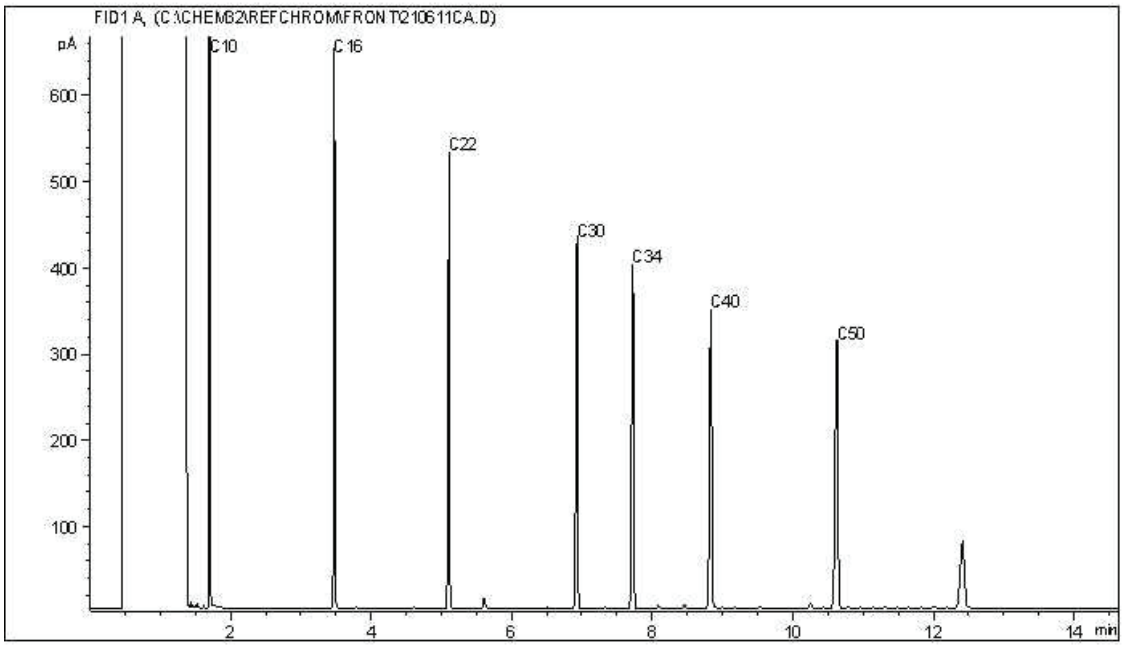
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



Carbon Range Distribution - Reference Chromatogram



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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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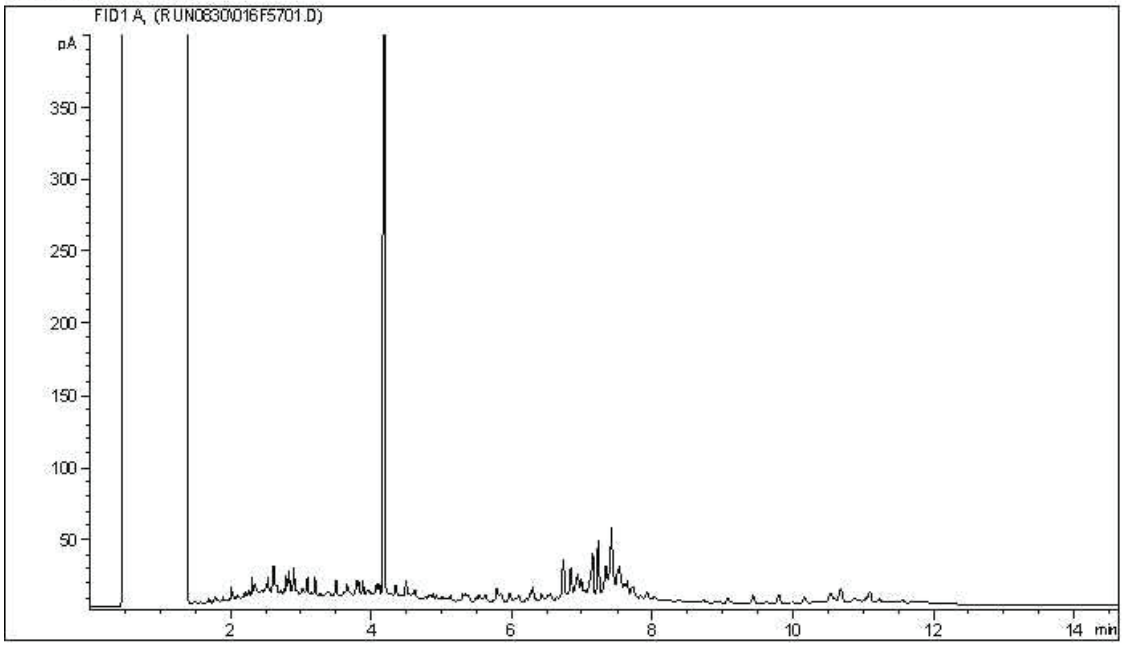

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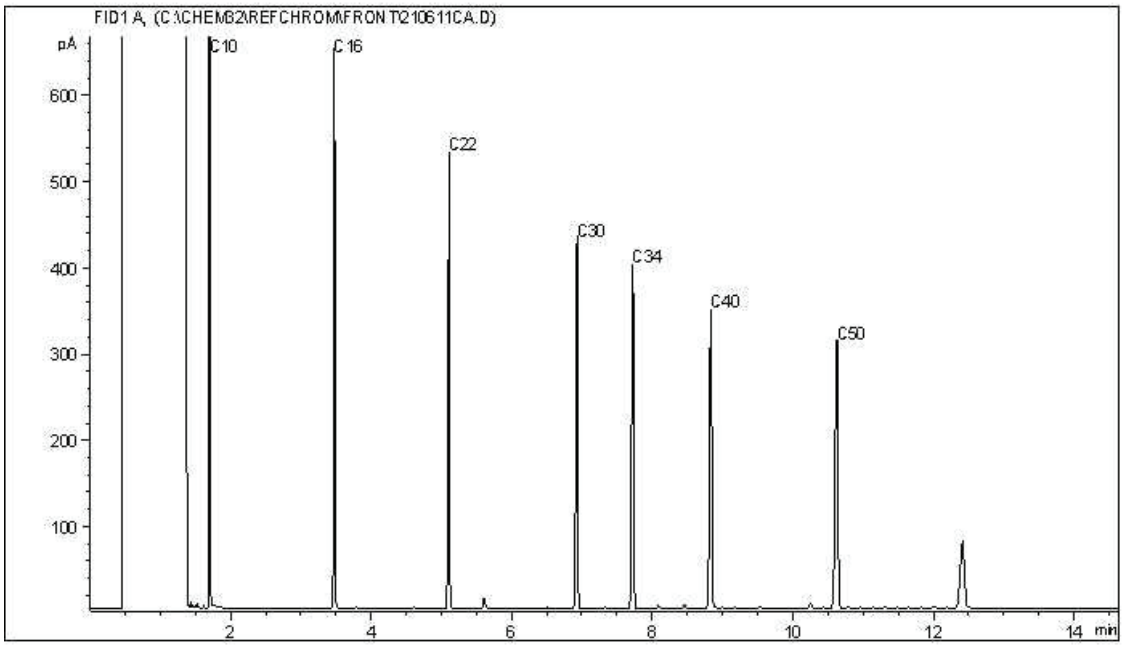

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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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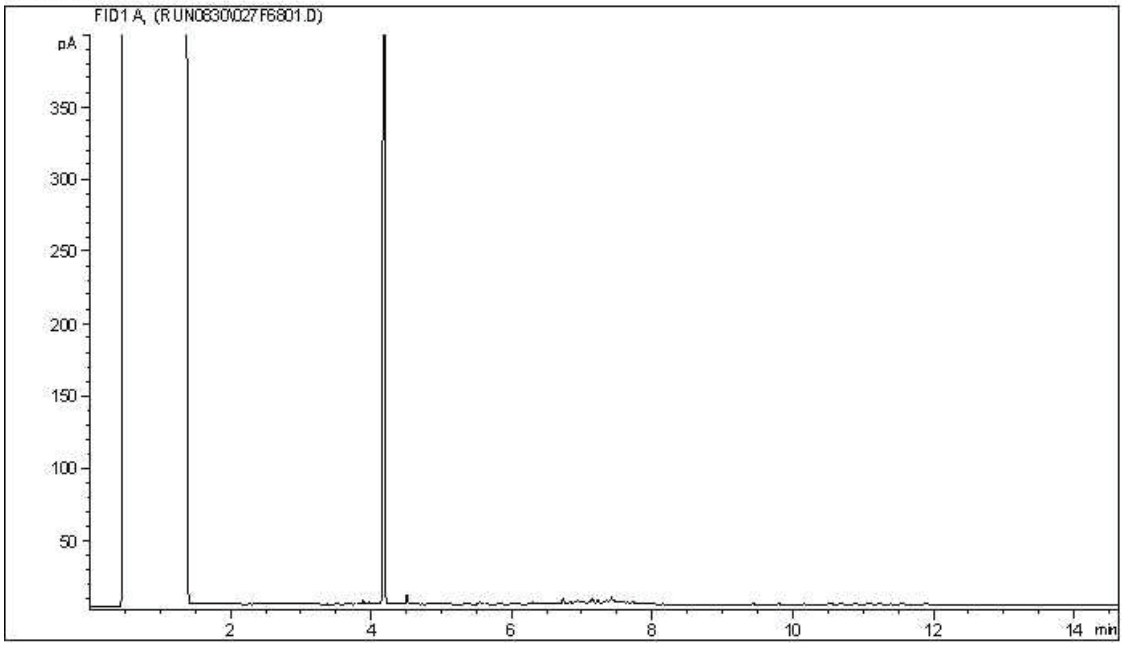

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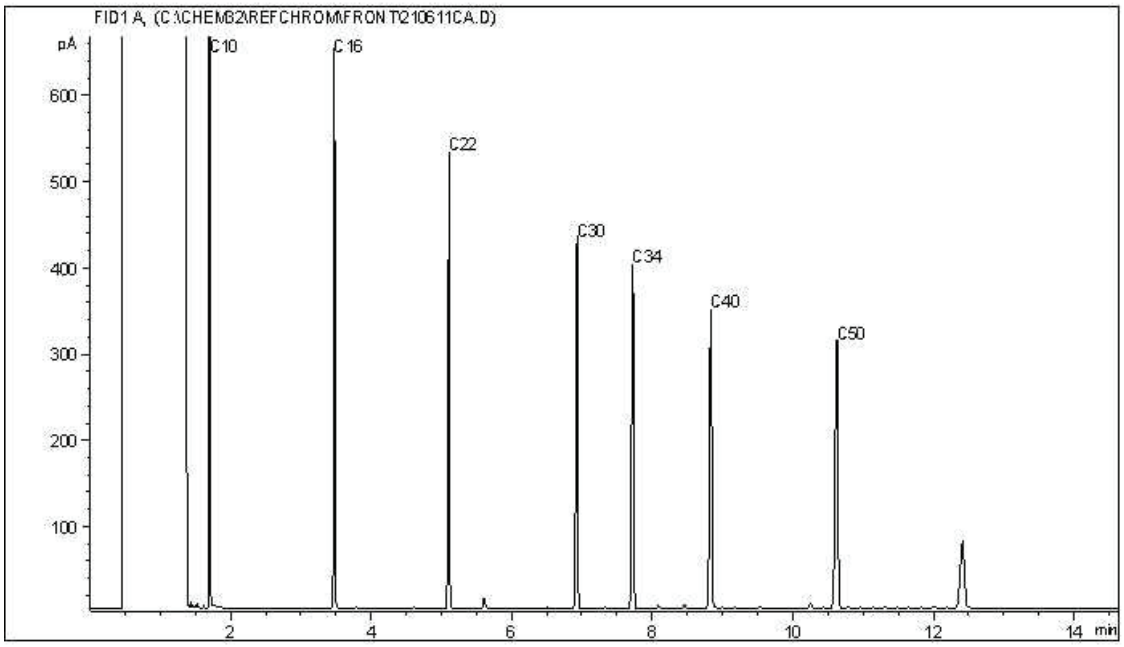

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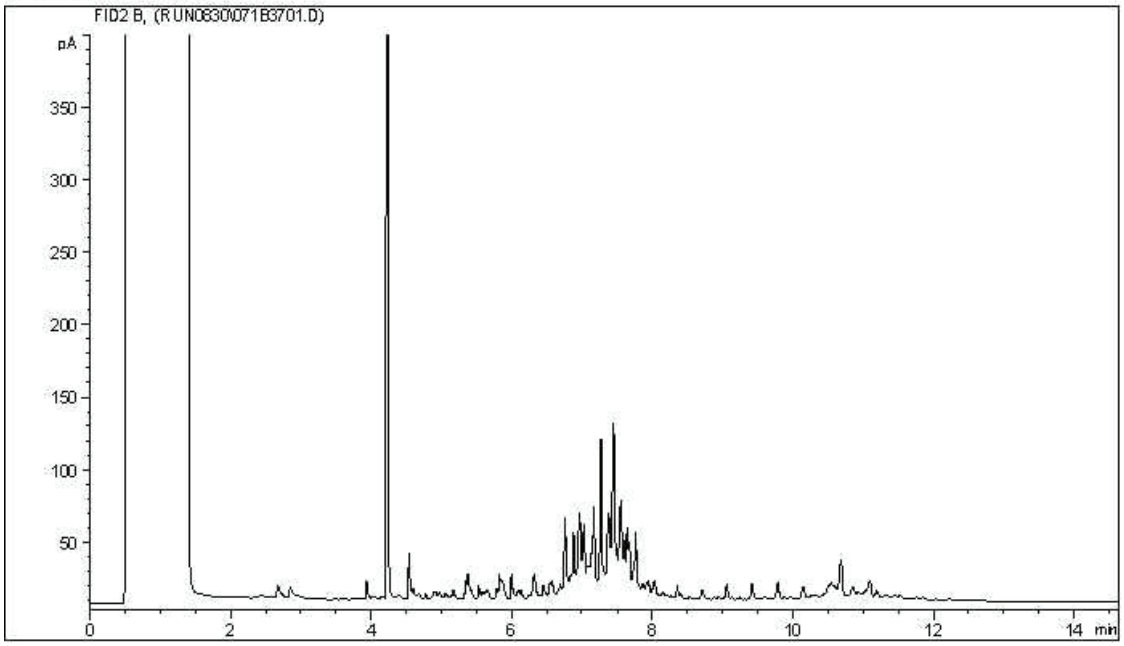

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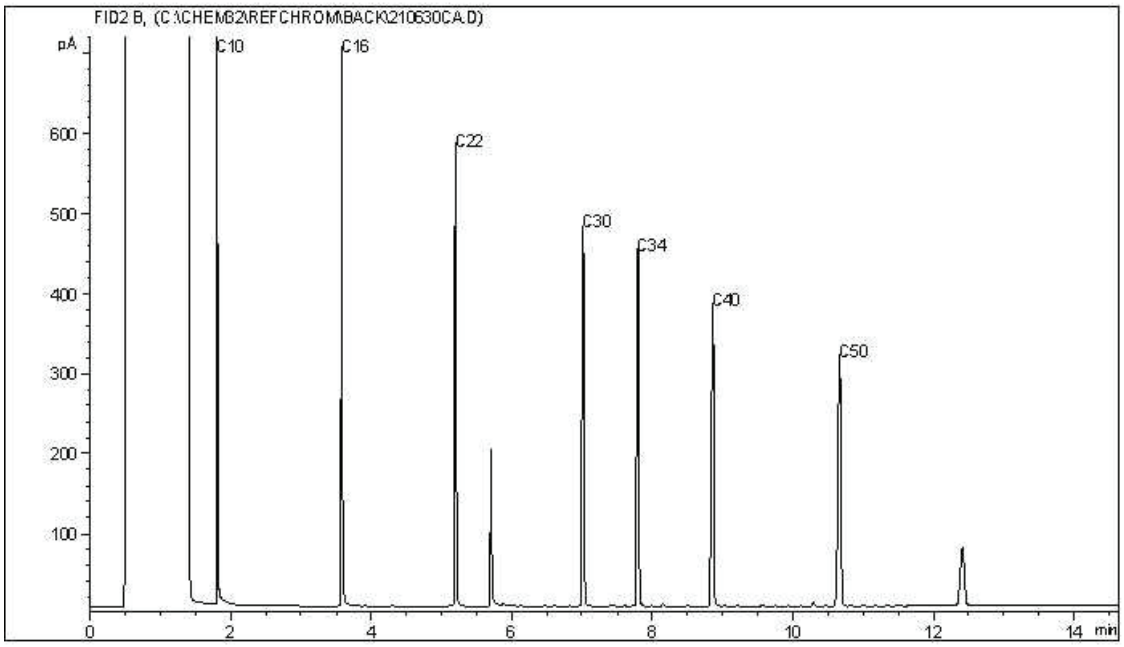

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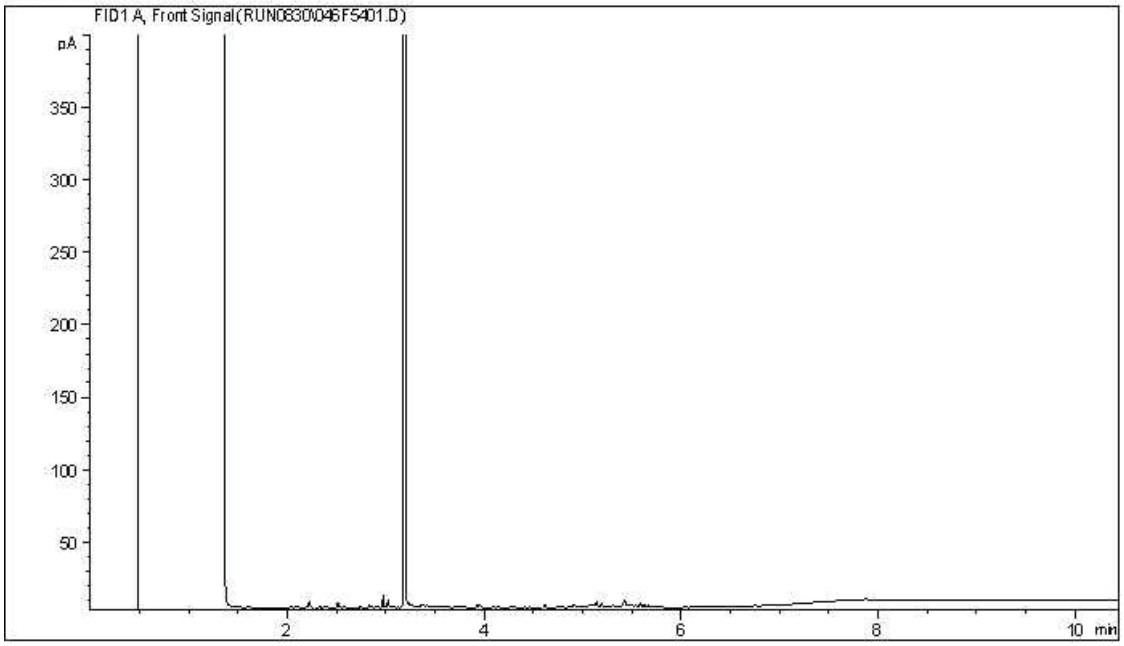
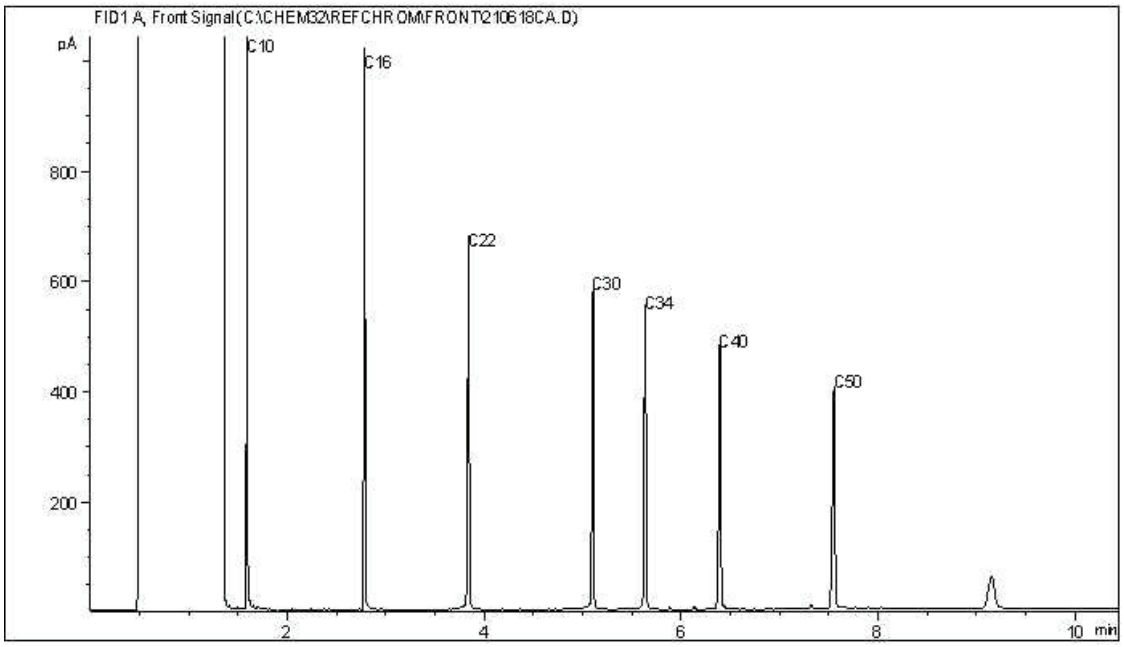
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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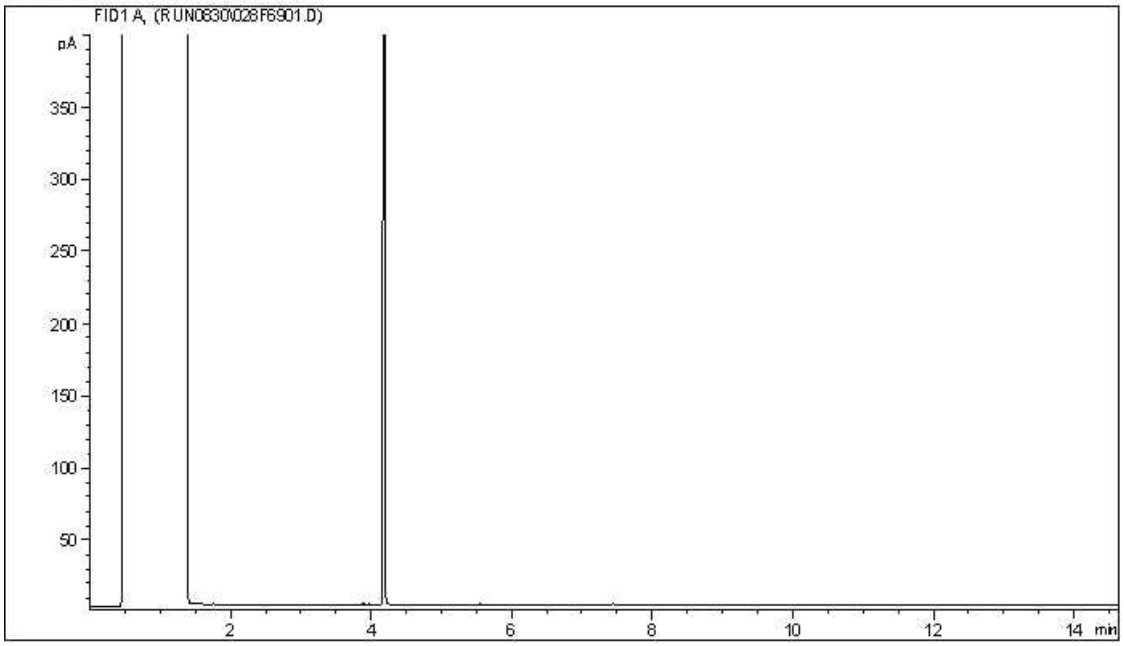
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



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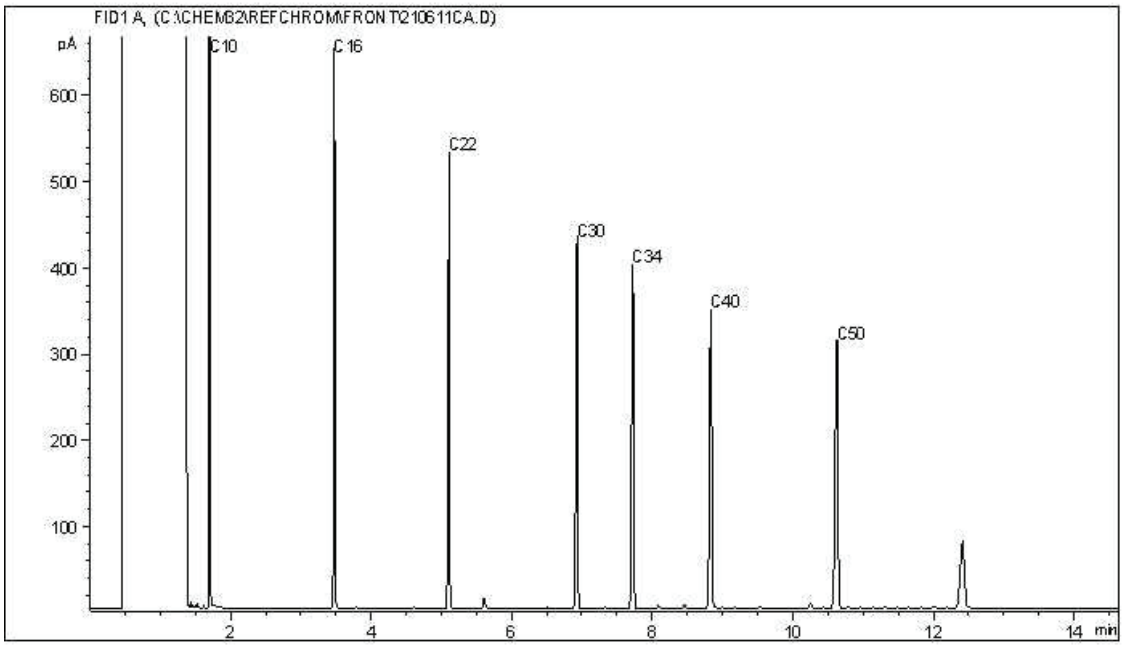

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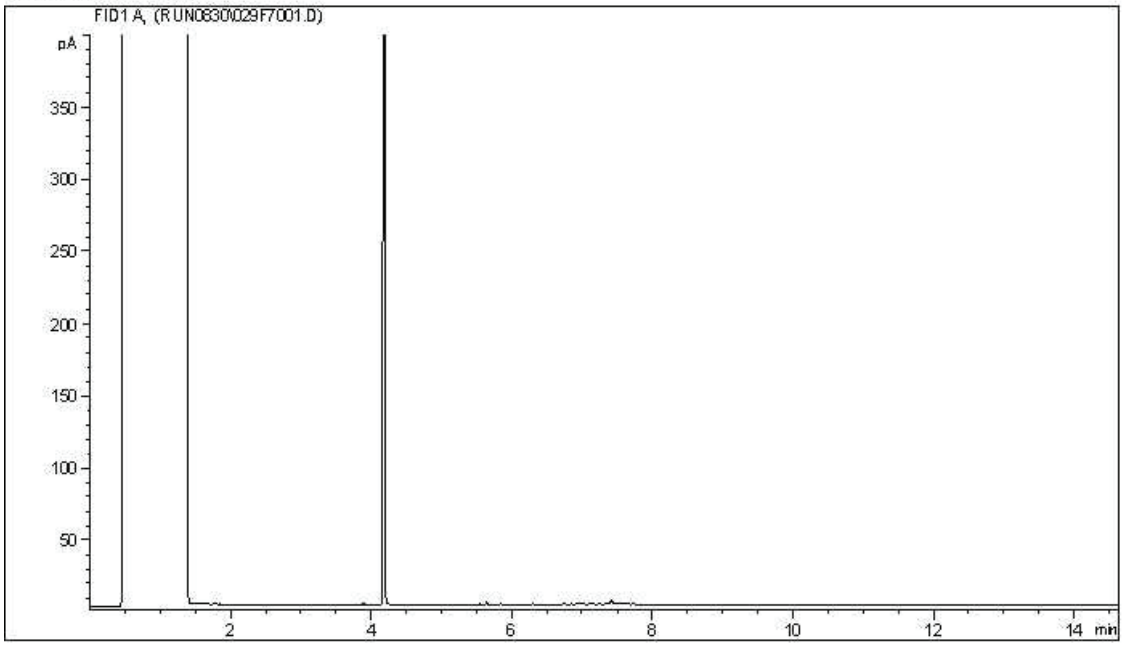

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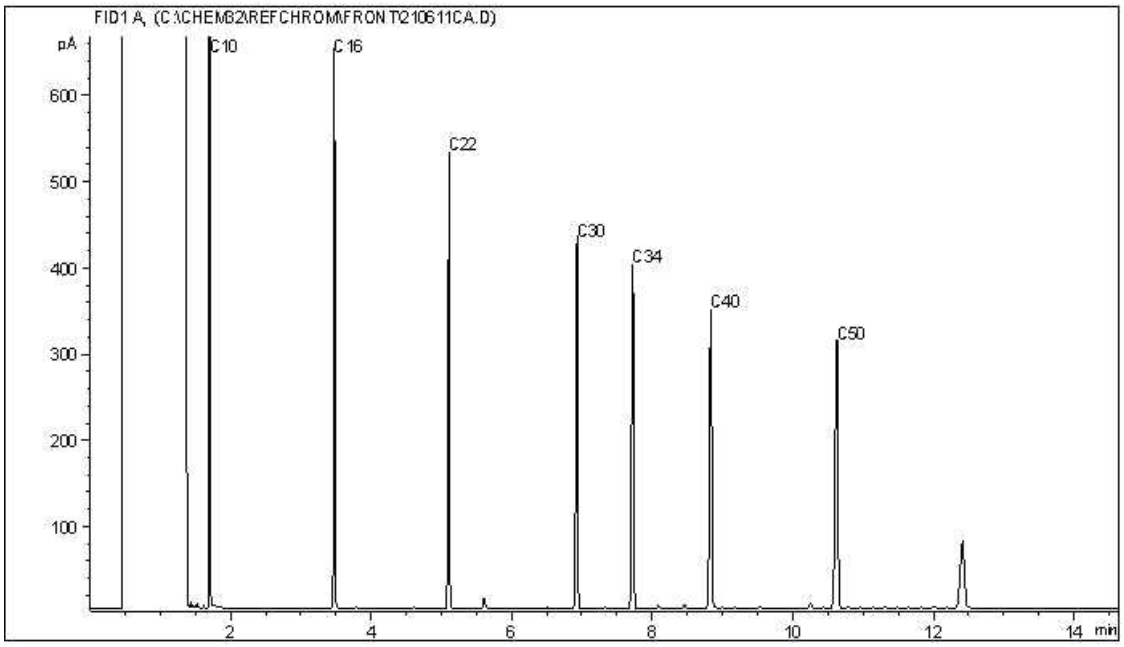

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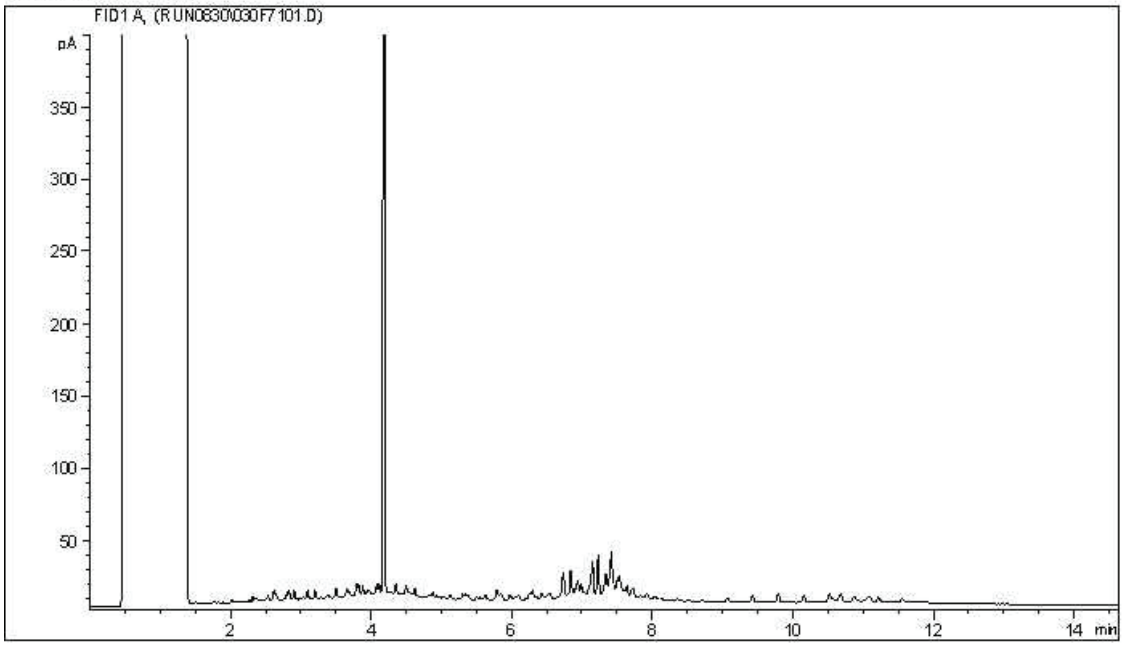

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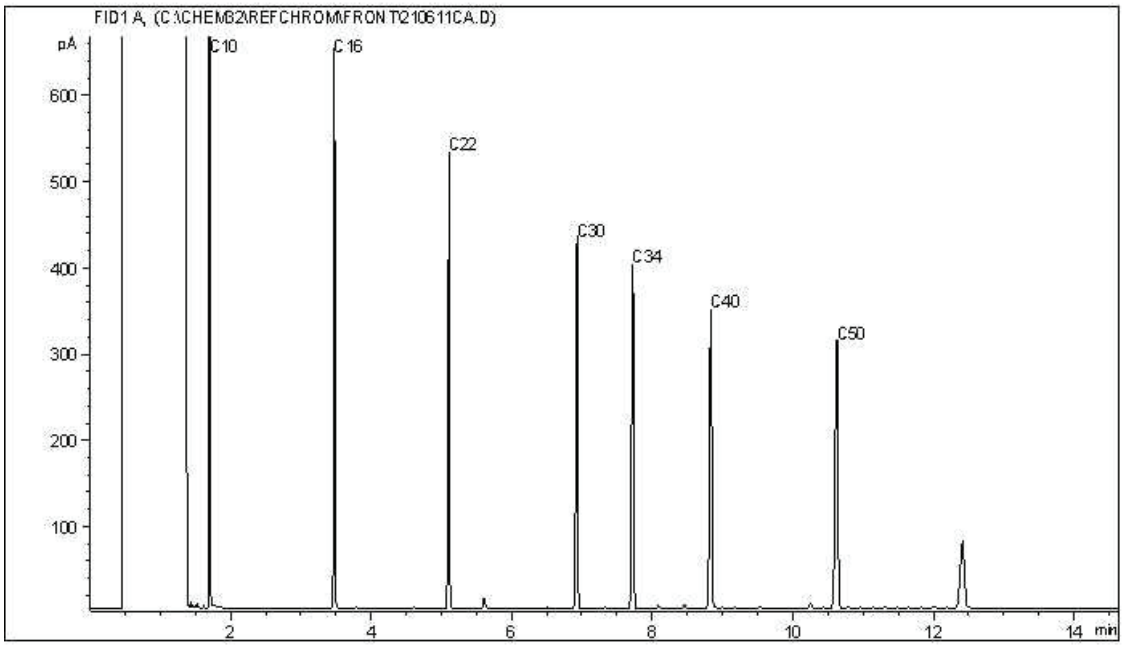

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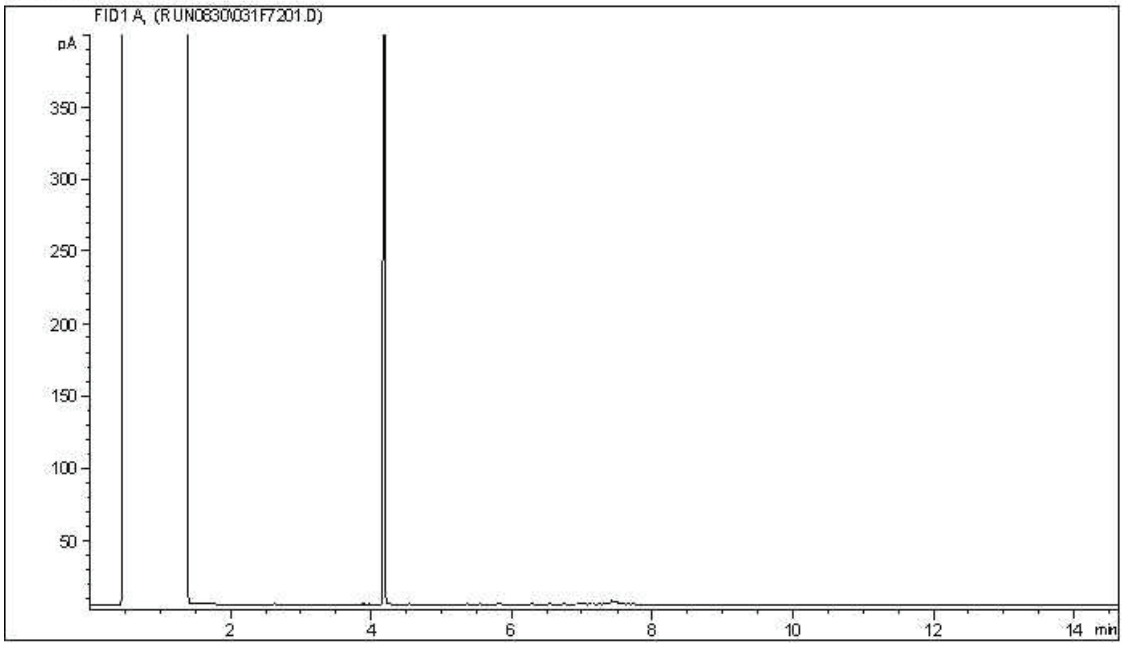

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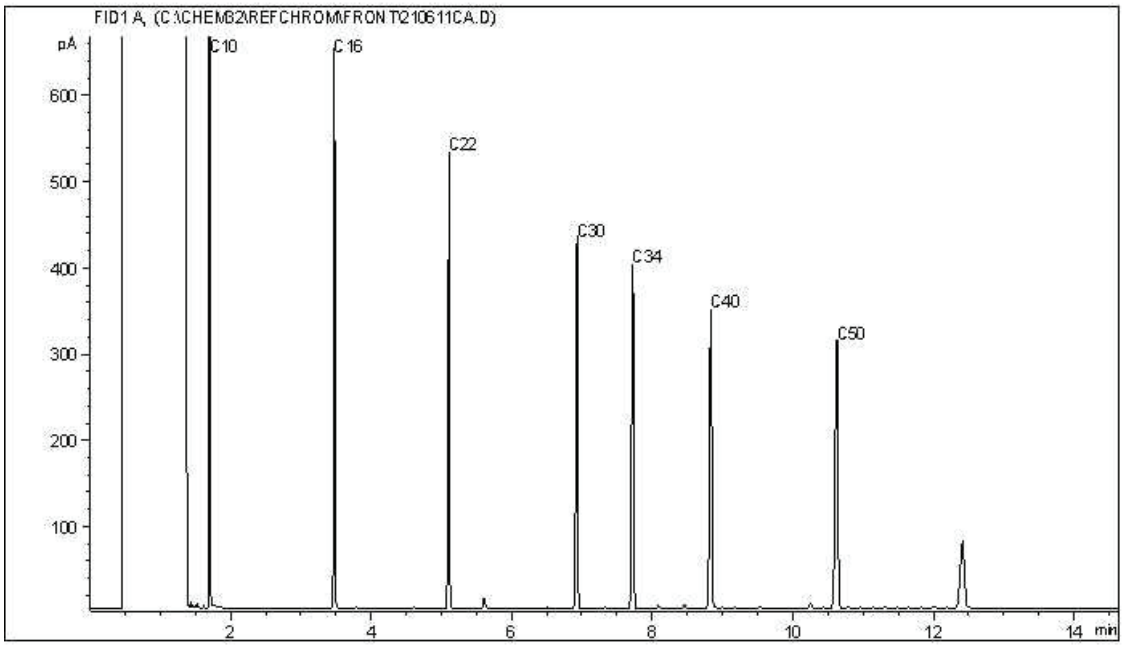

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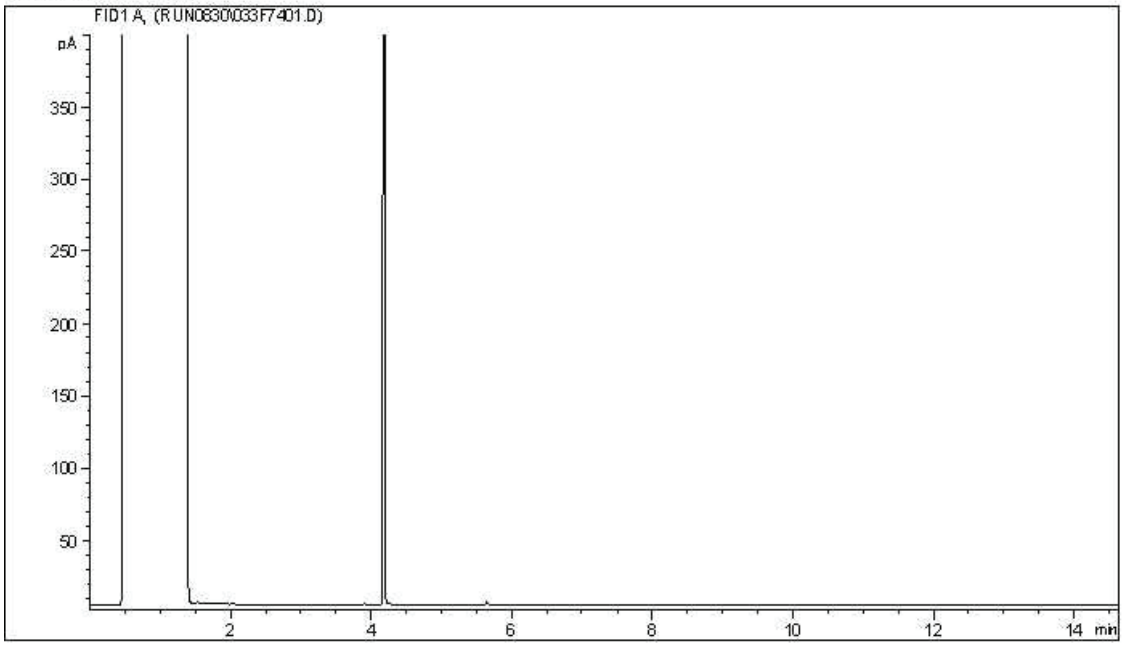

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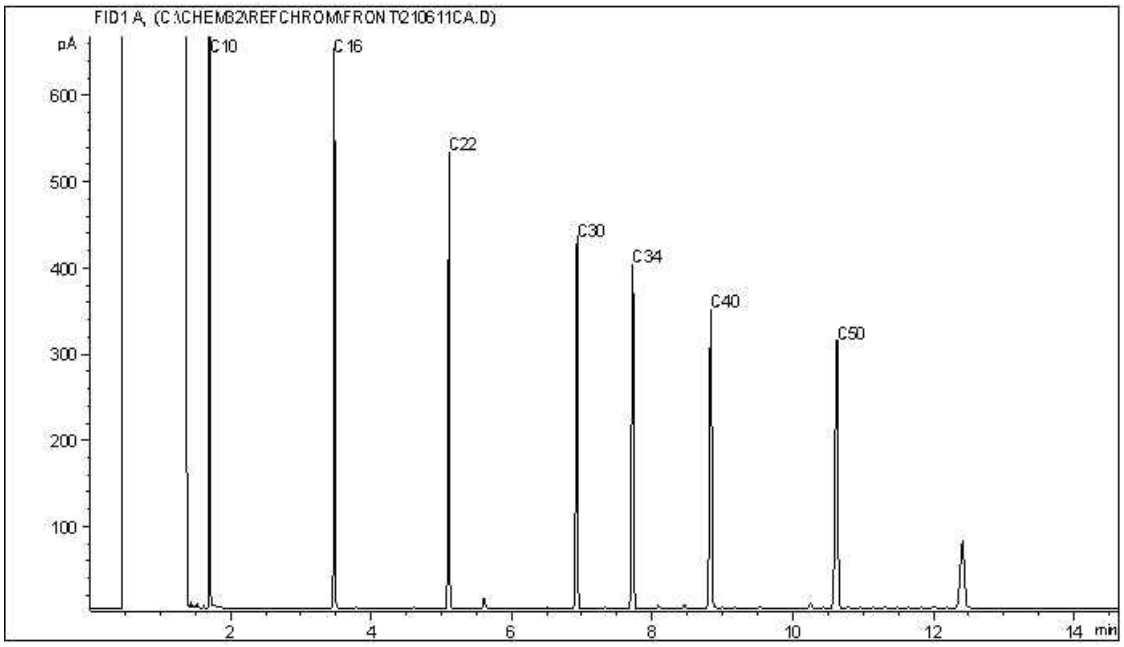

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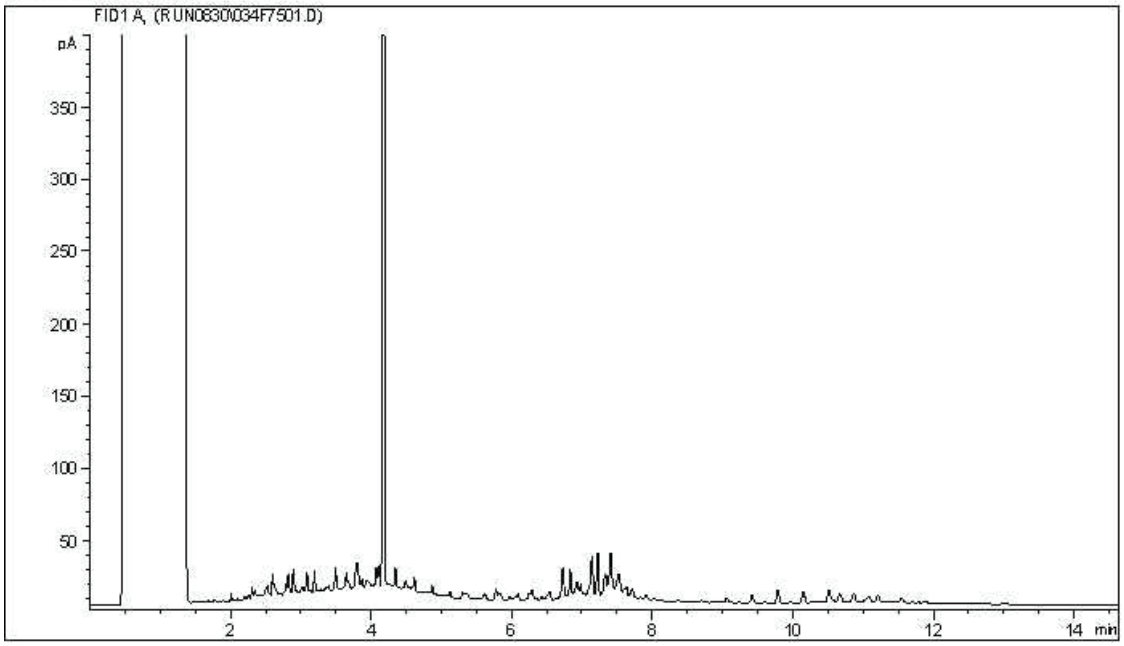

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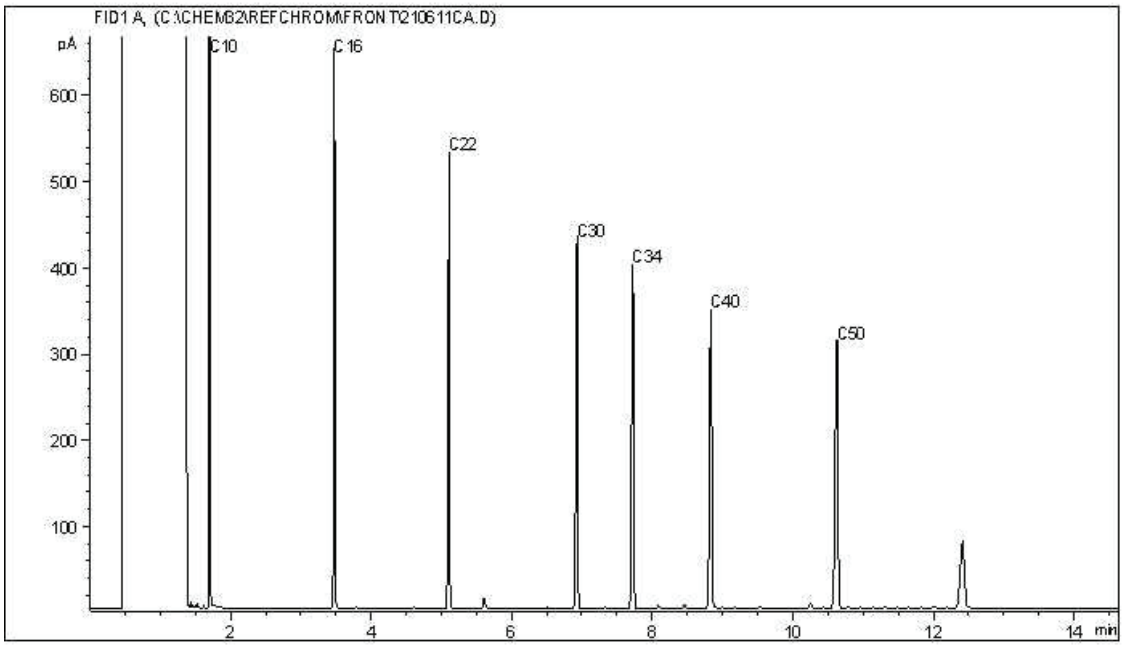

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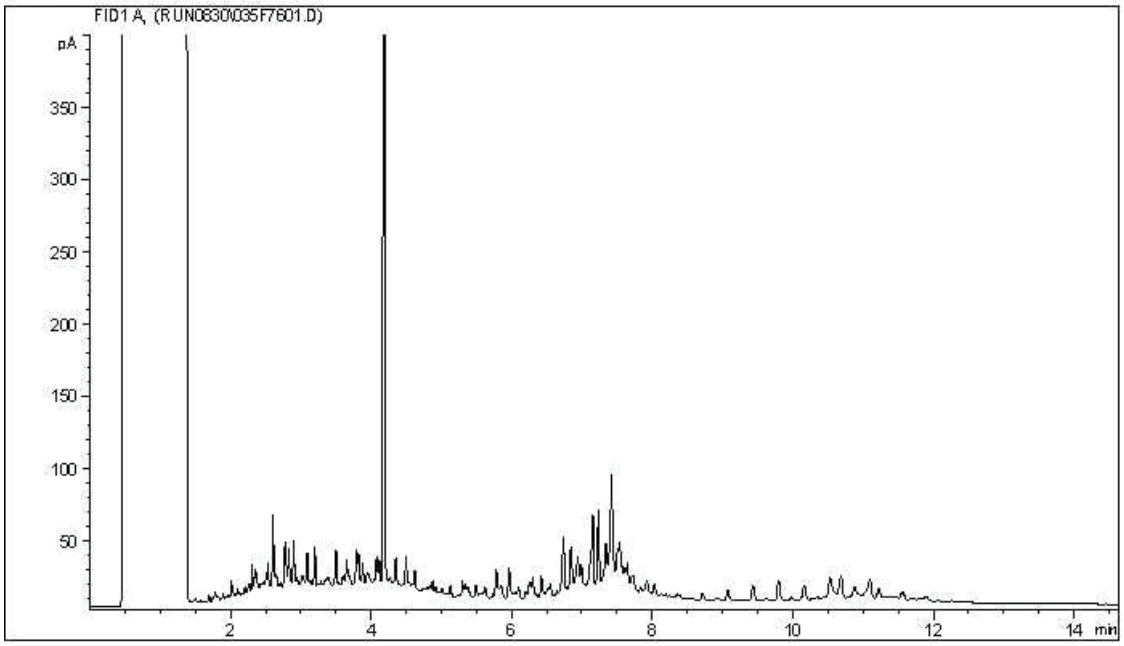
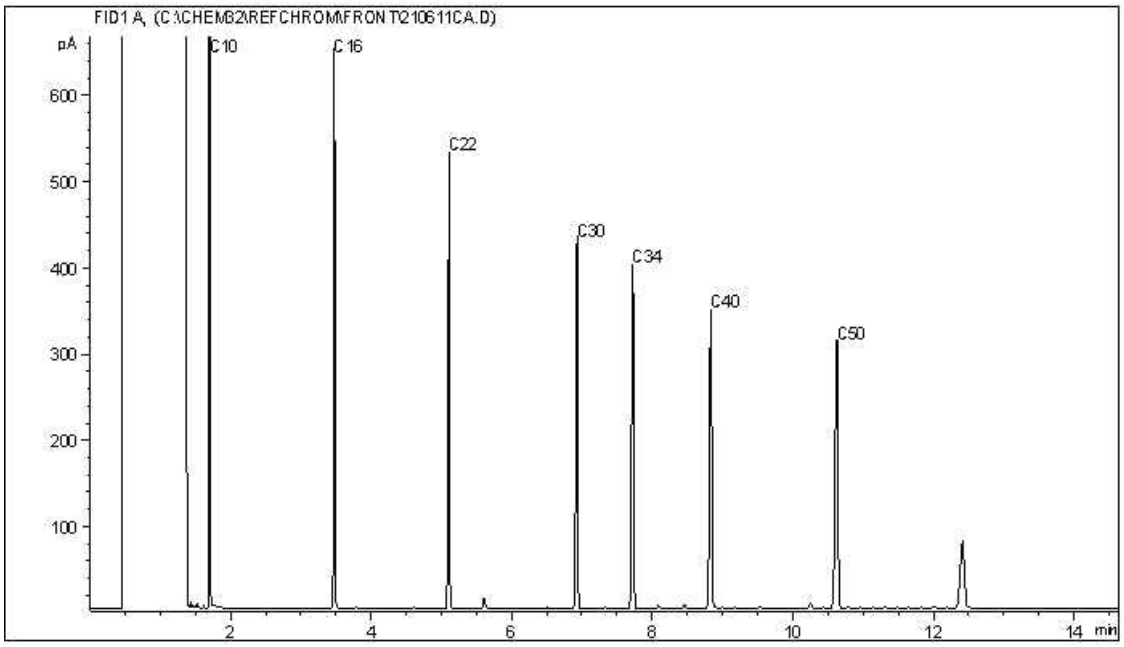


Carbon Range Distribution - Reference Chromatogram



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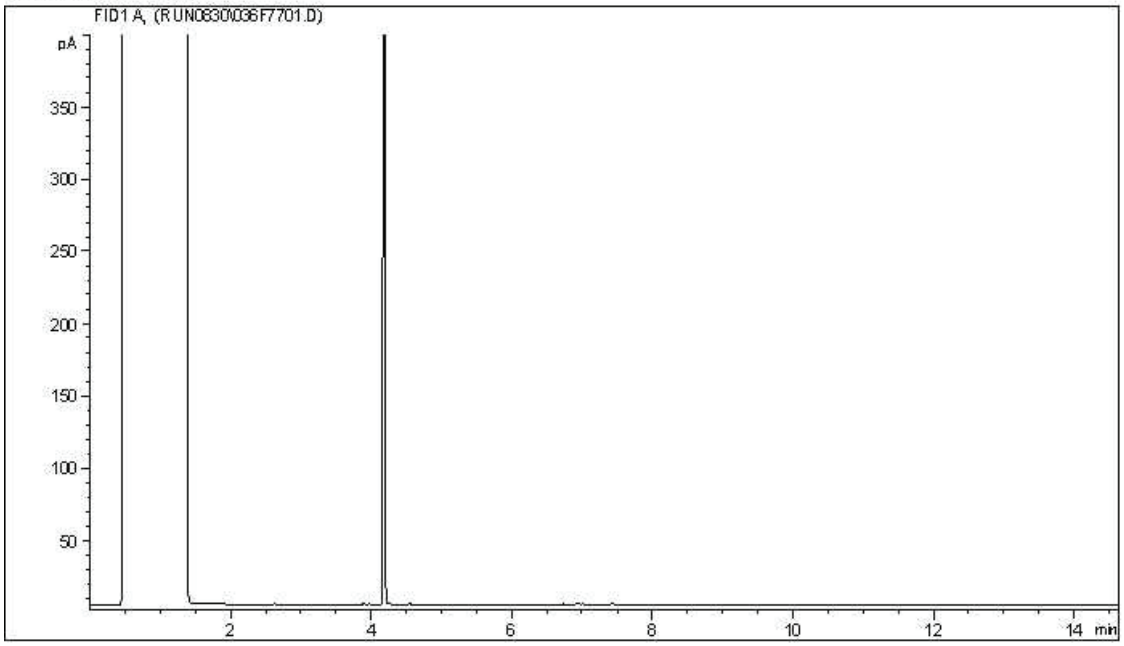
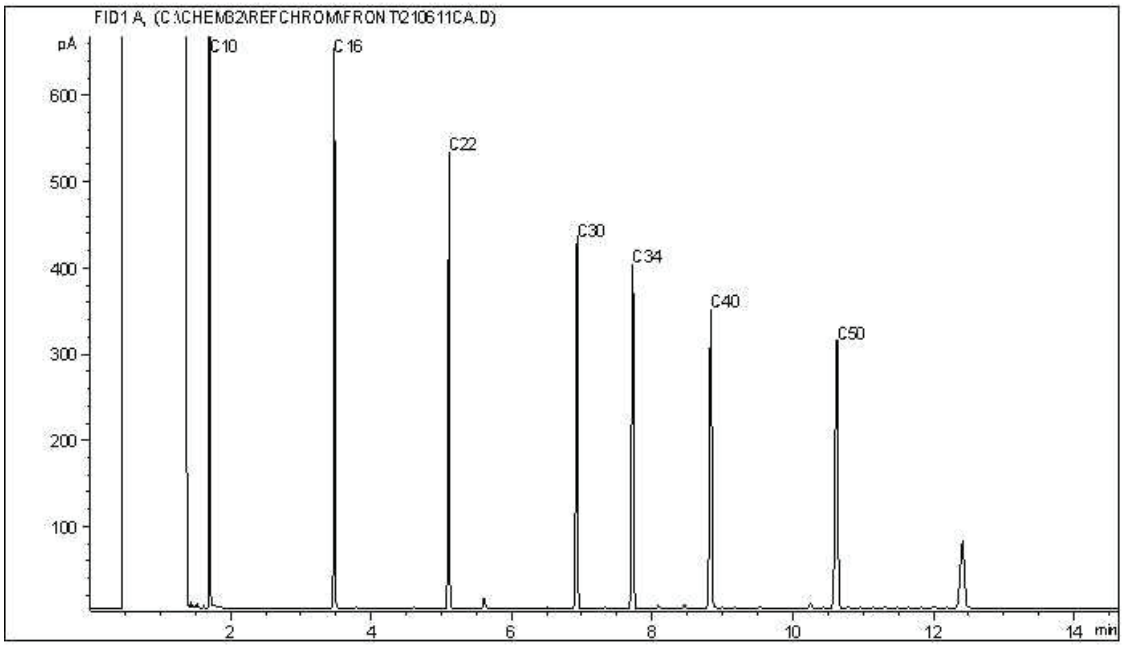
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



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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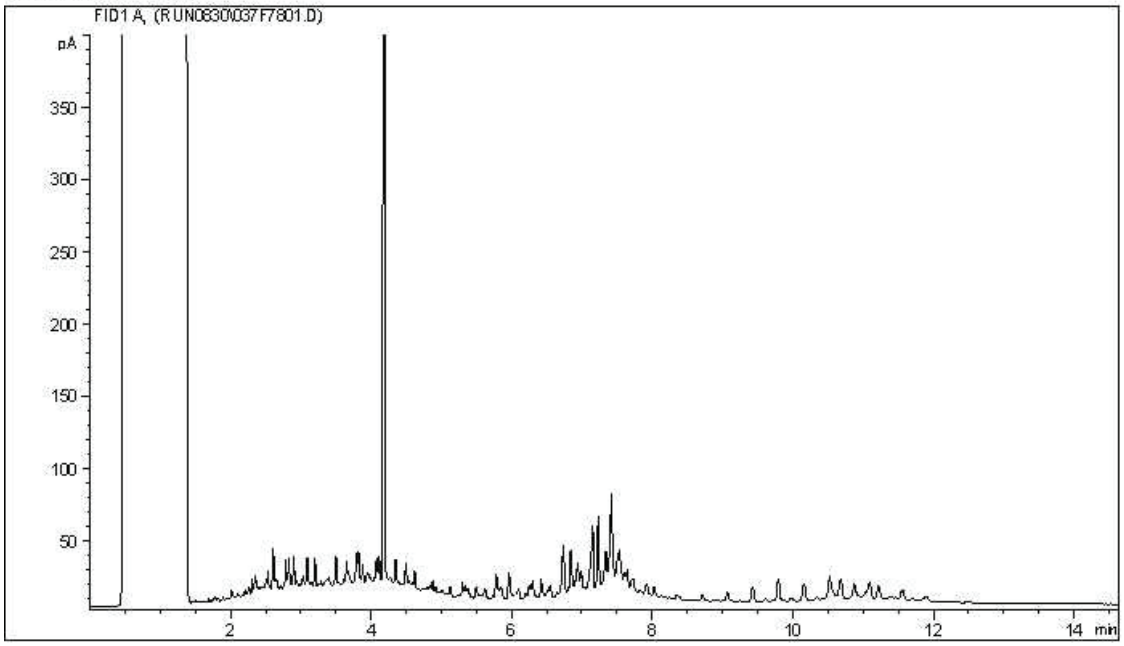
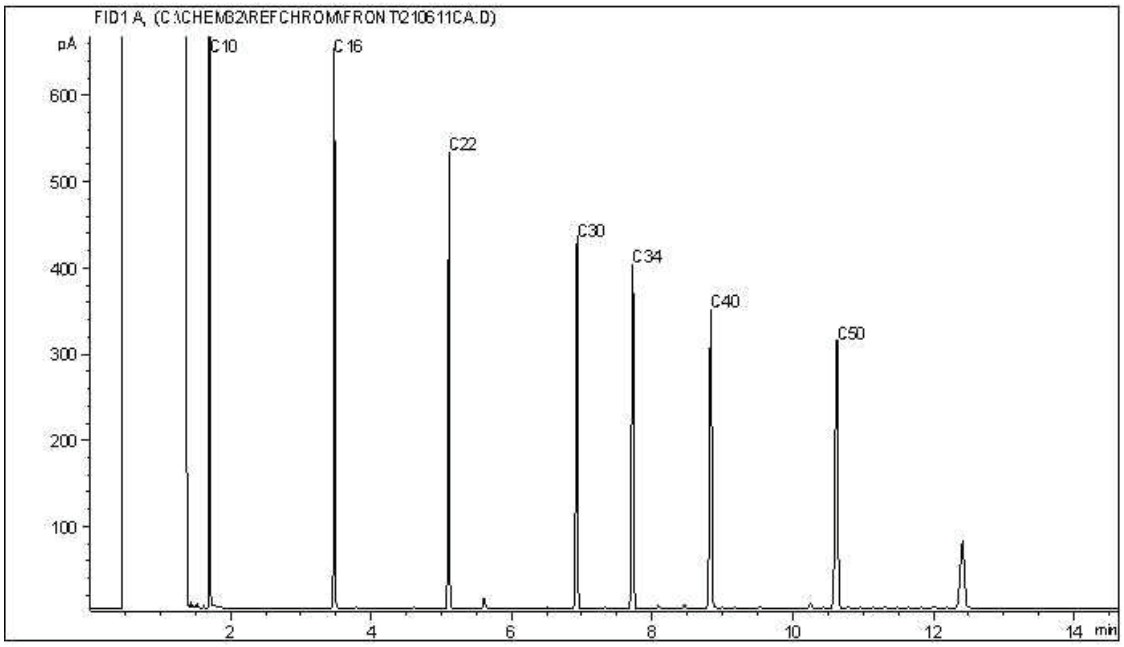
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



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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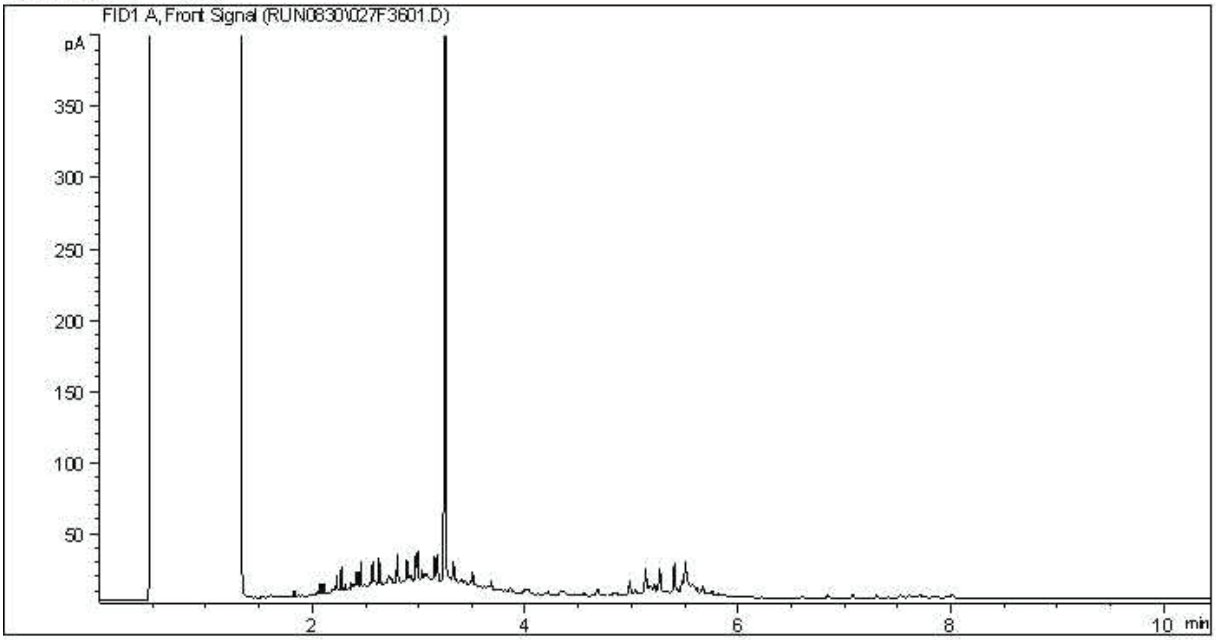
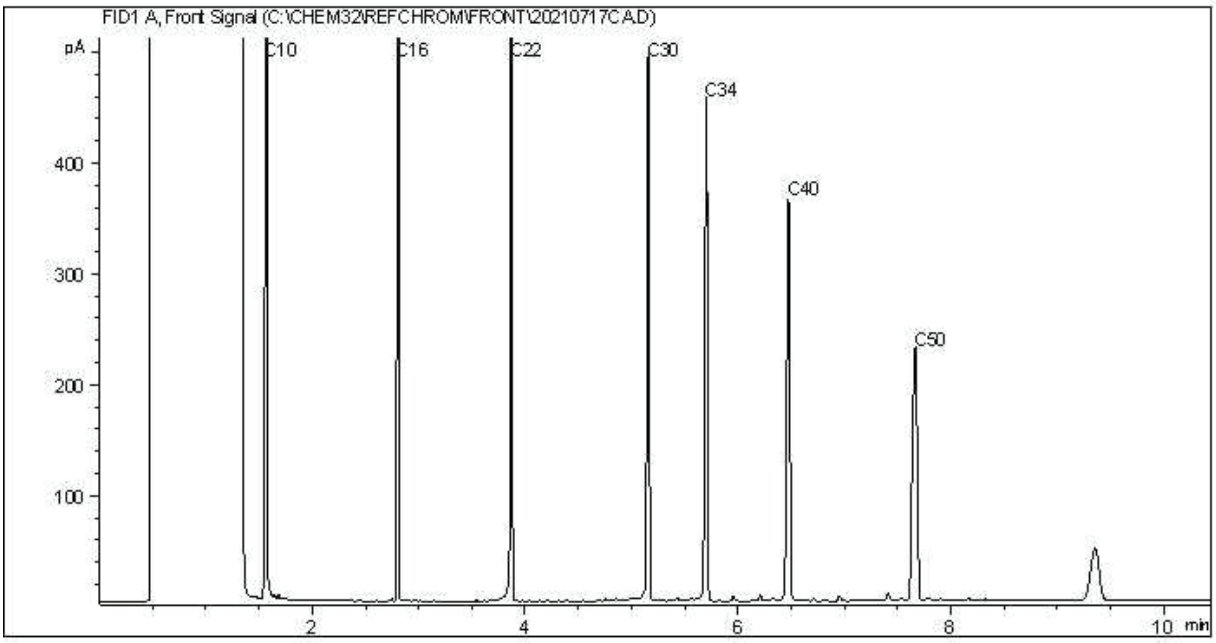
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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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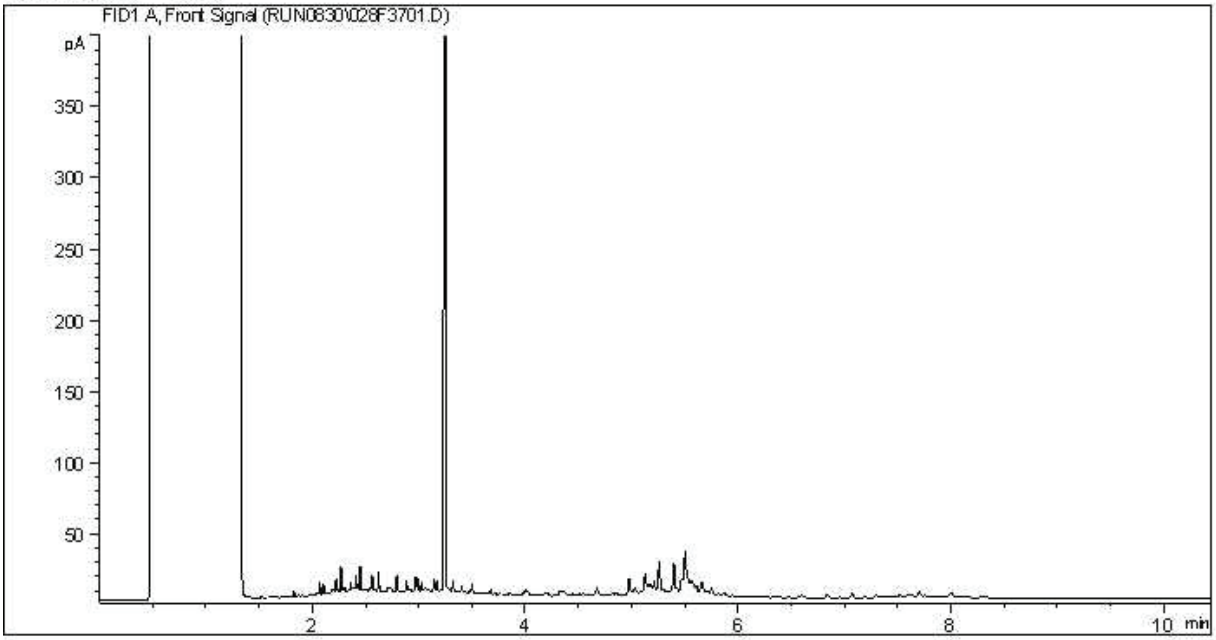
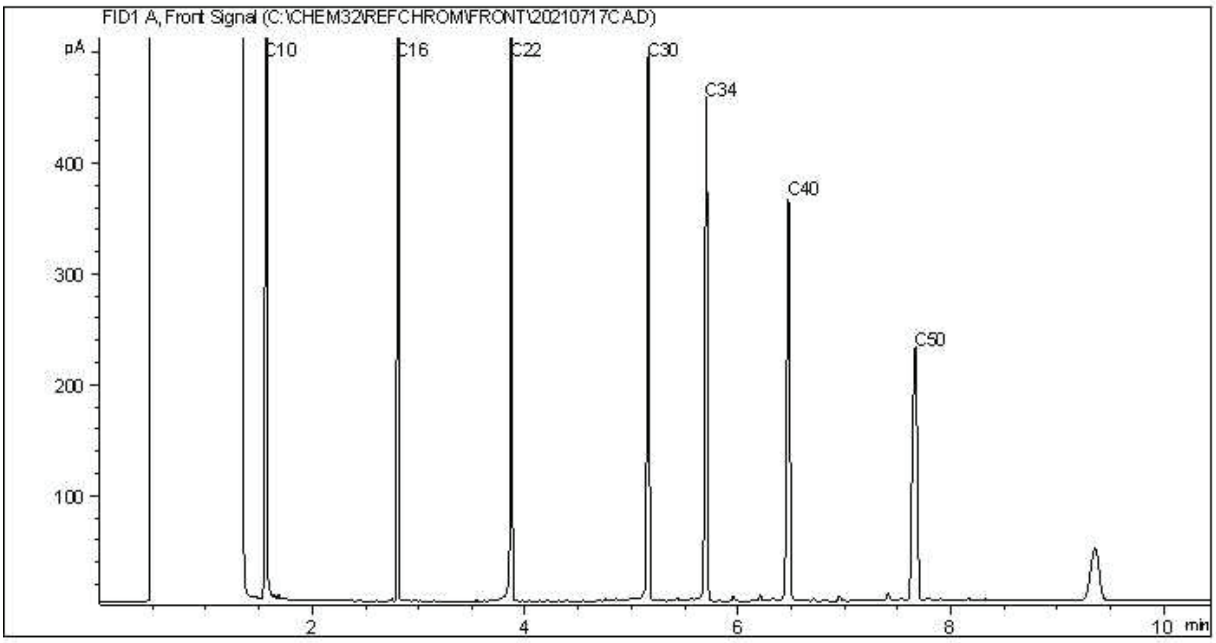
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



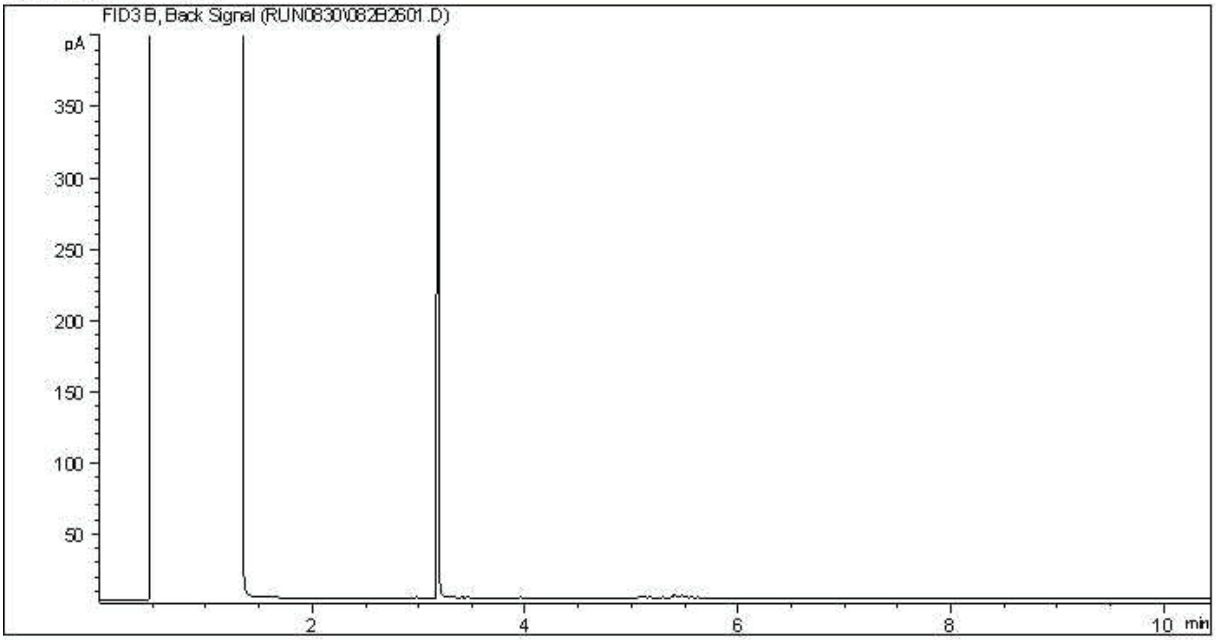
TYPICAL PRODUCT CARBON NUMBER RANGES

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

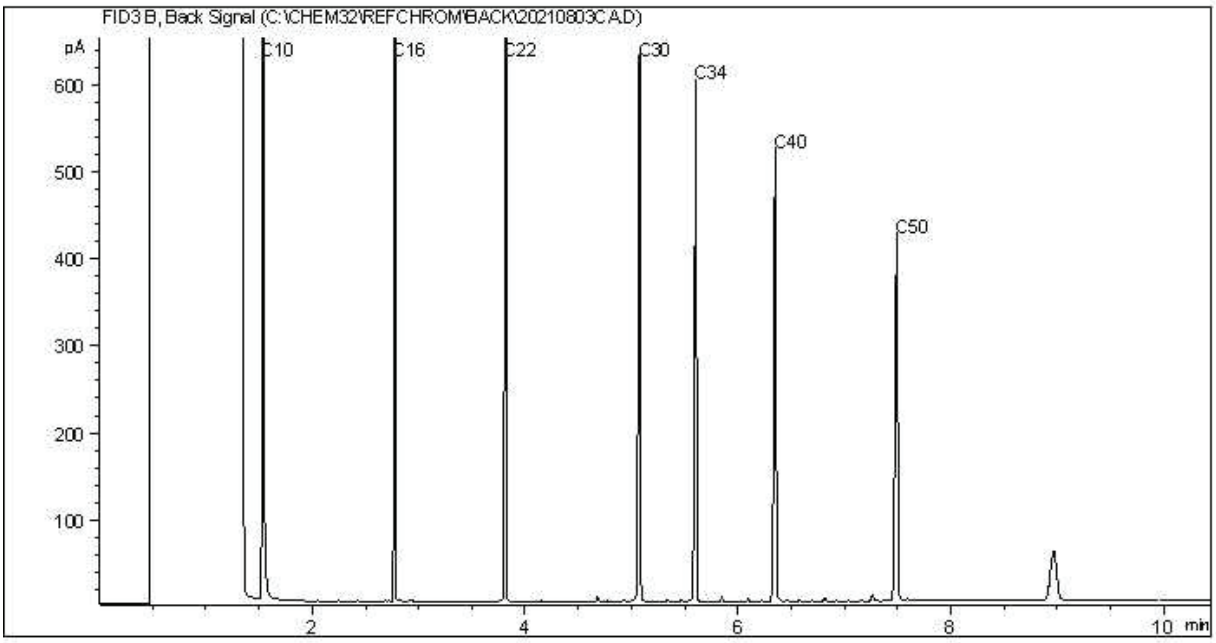
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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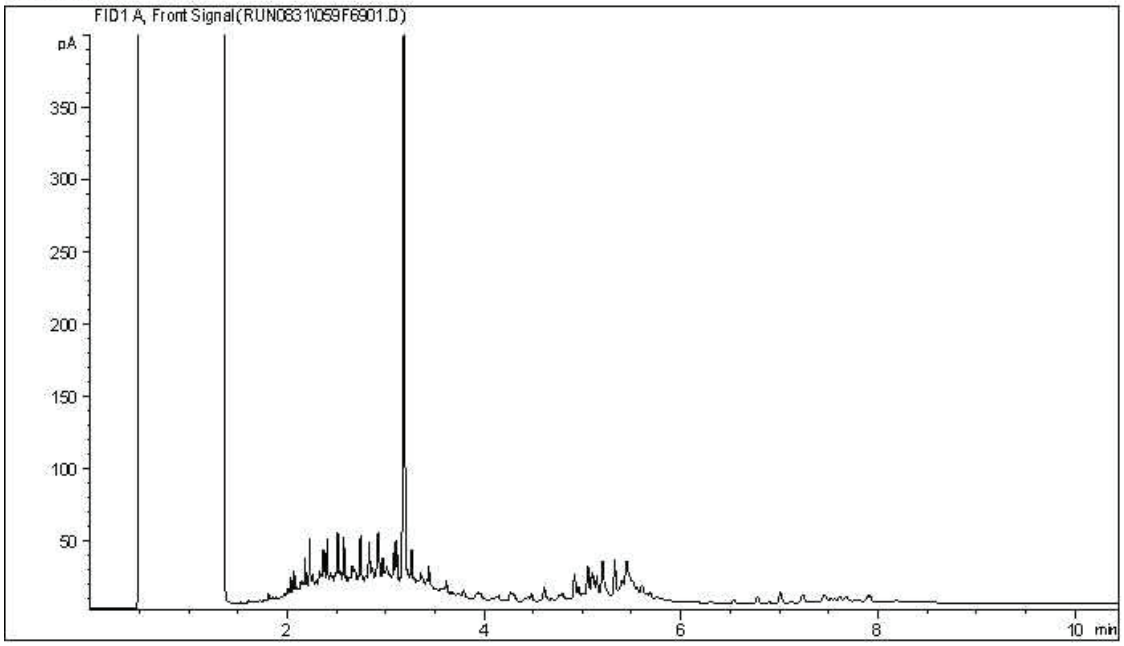
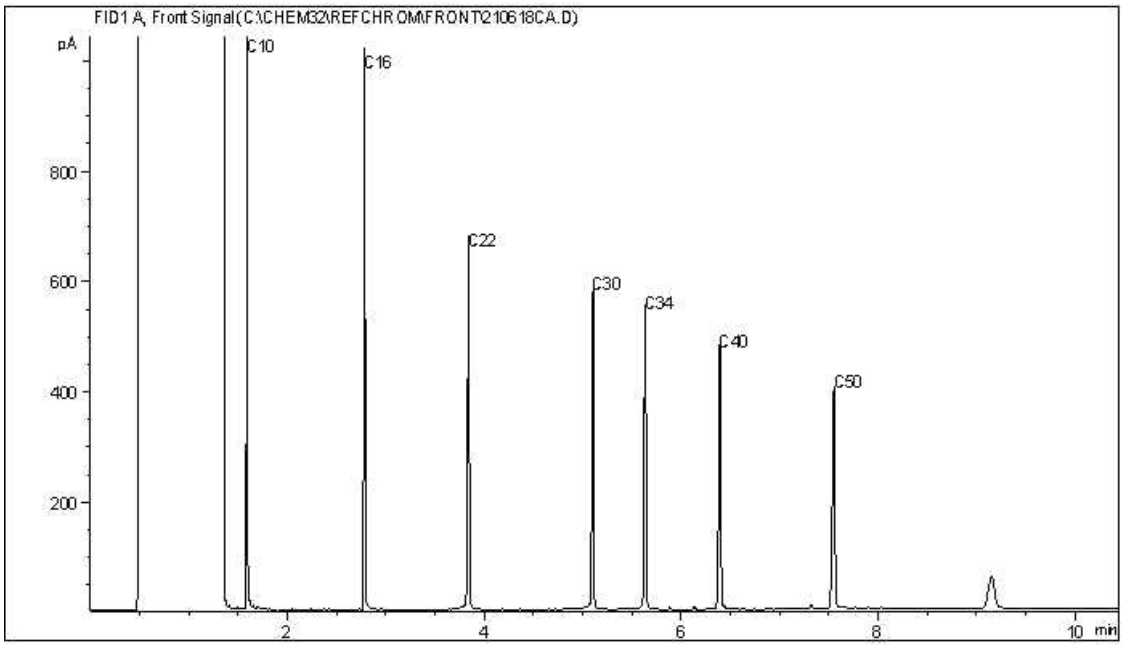
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



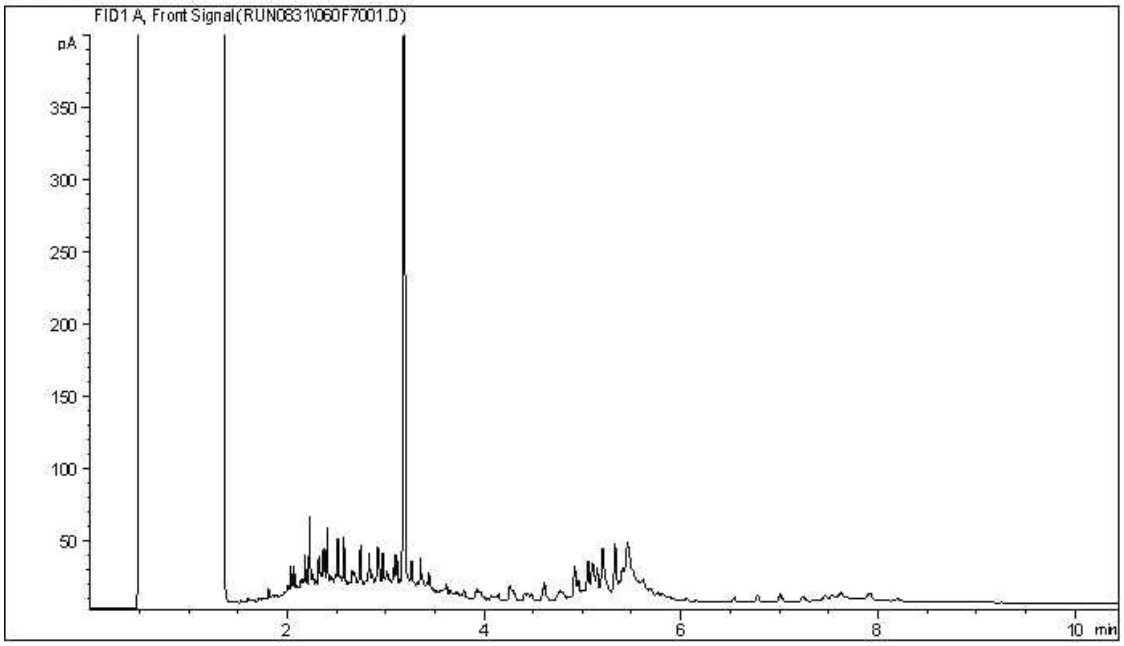
TYPICAL PRODUCT CARBON NUMBER RANGES

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

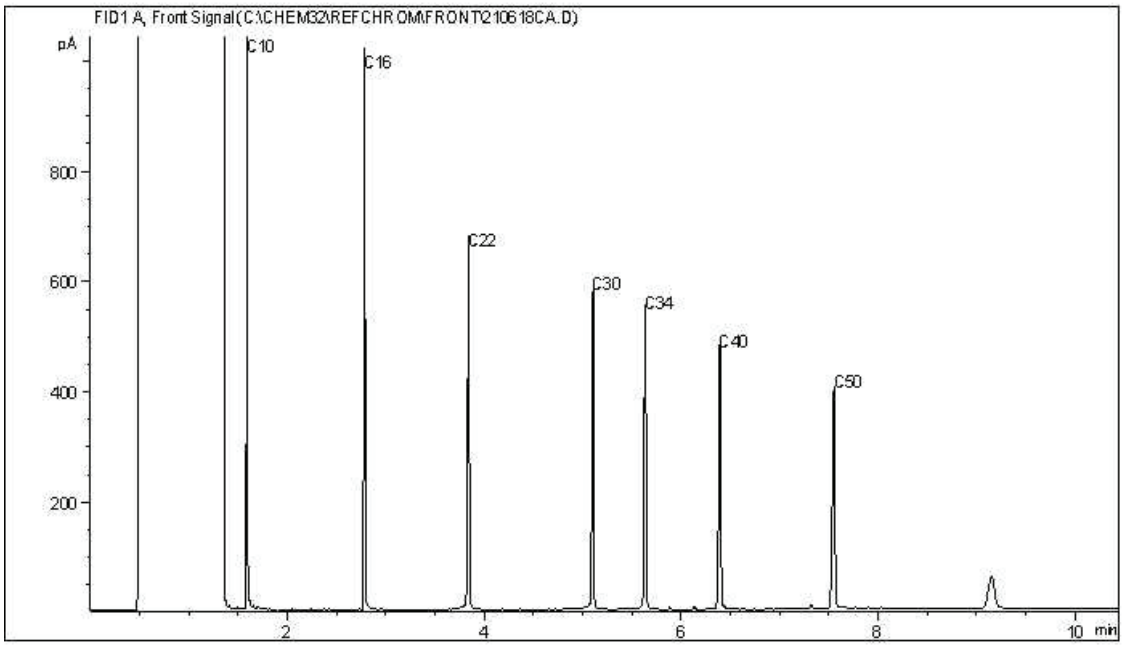
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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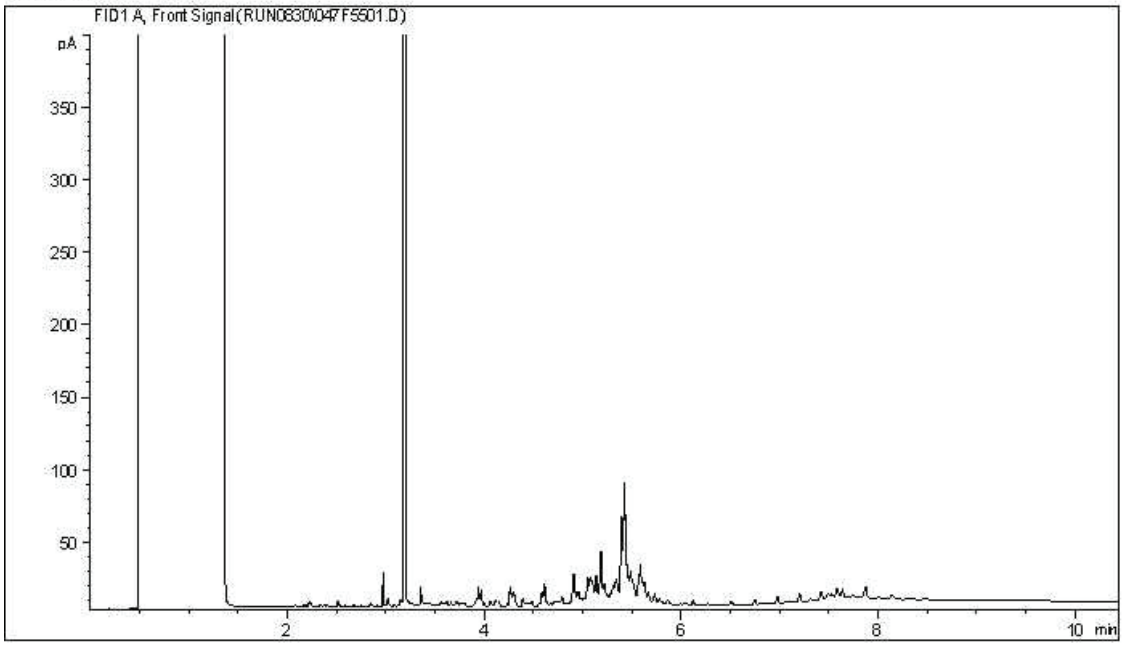
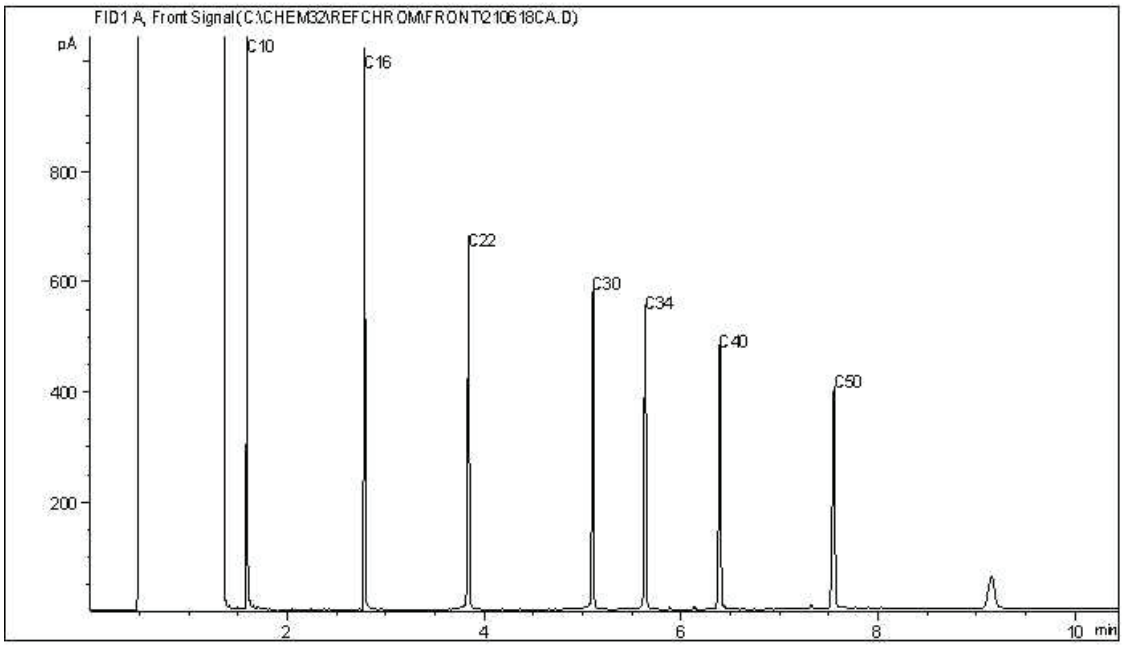
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

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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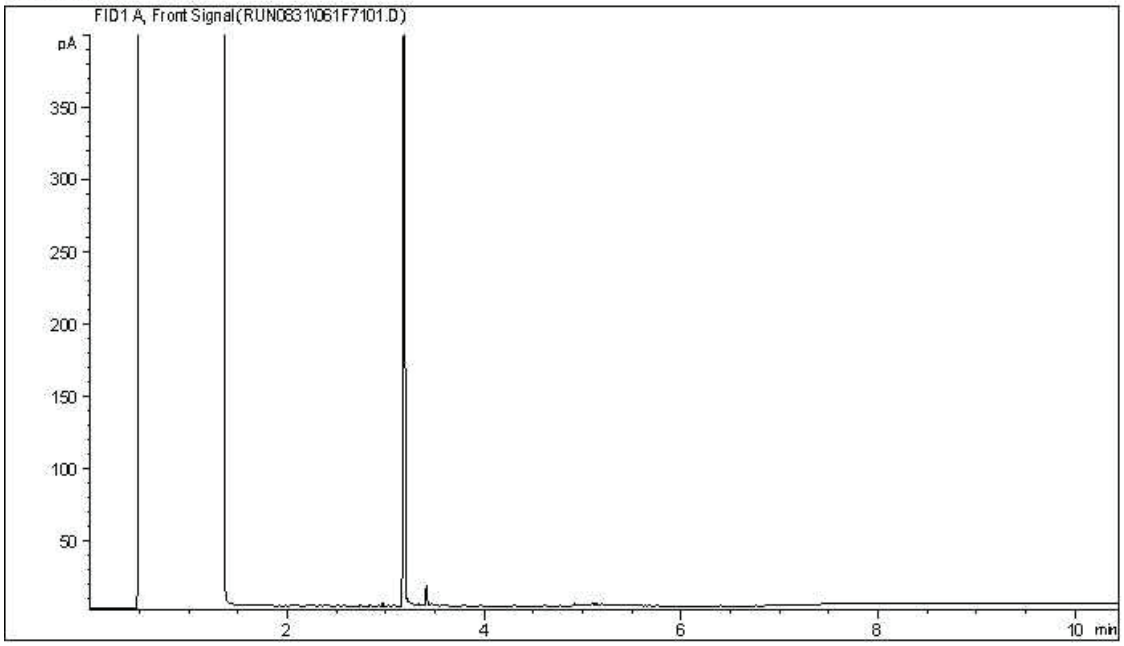
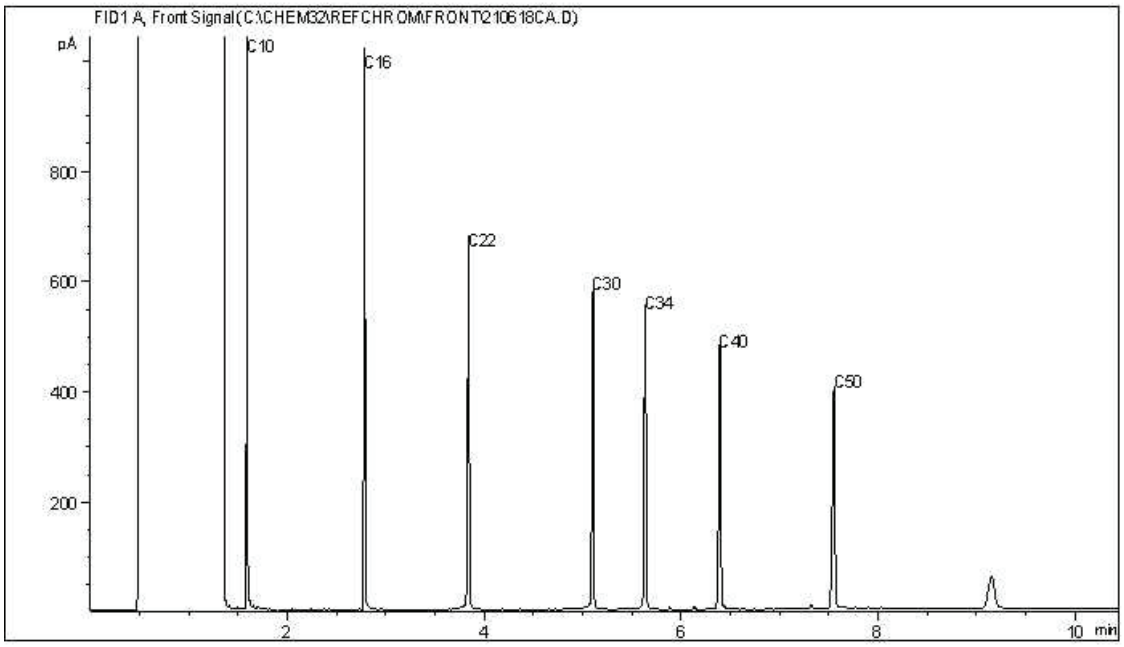
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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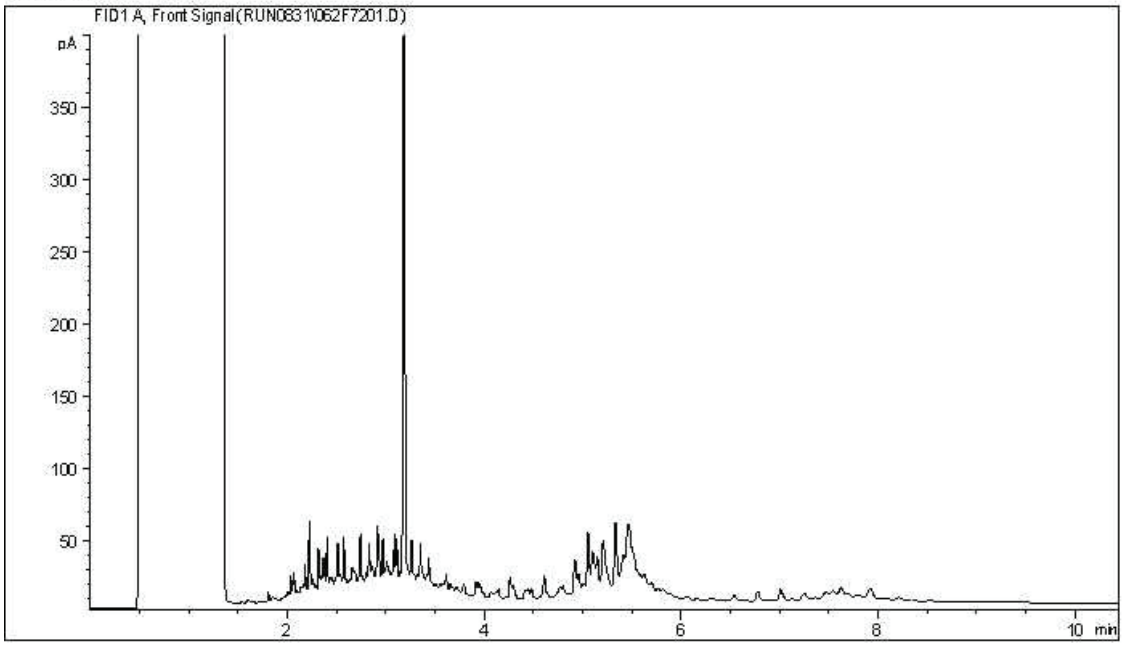
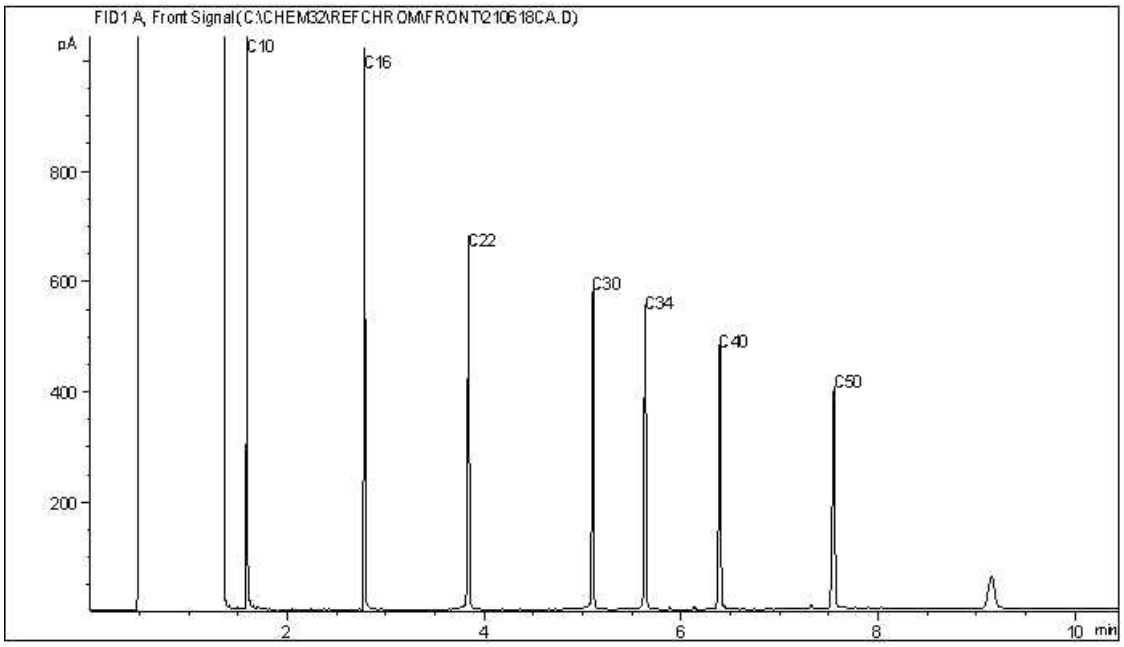
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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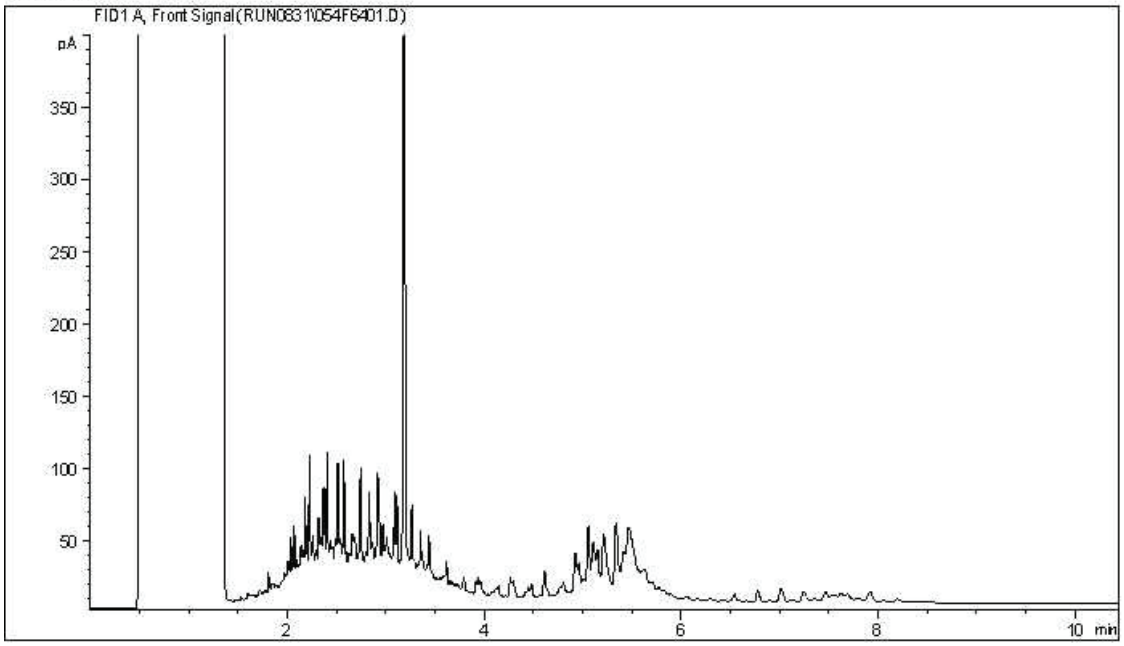
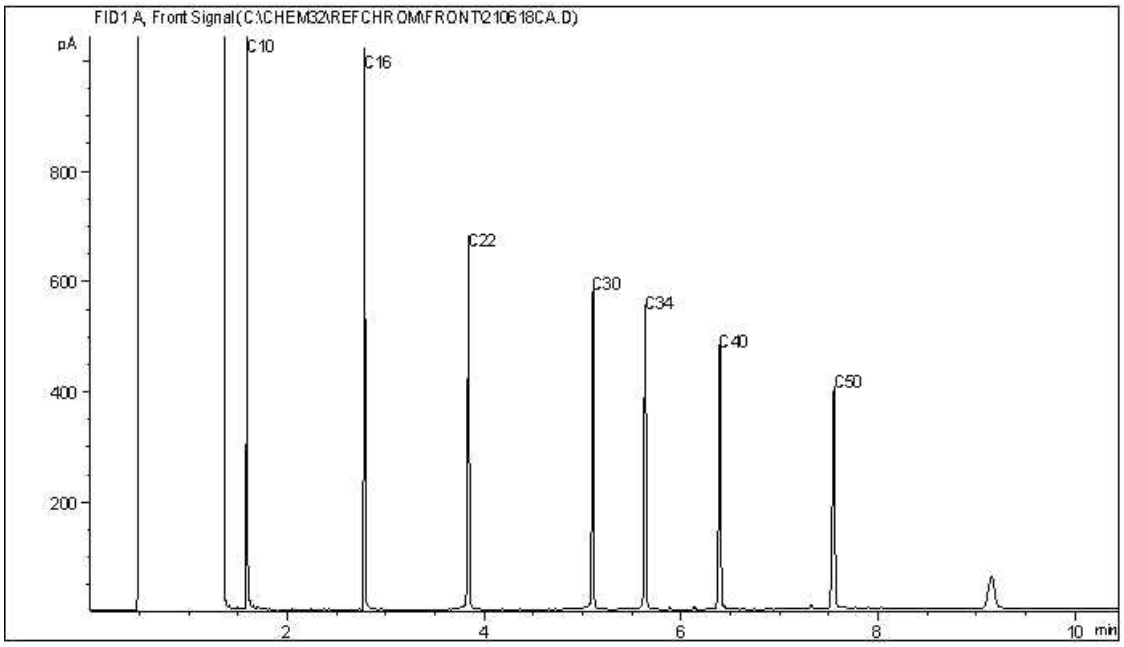
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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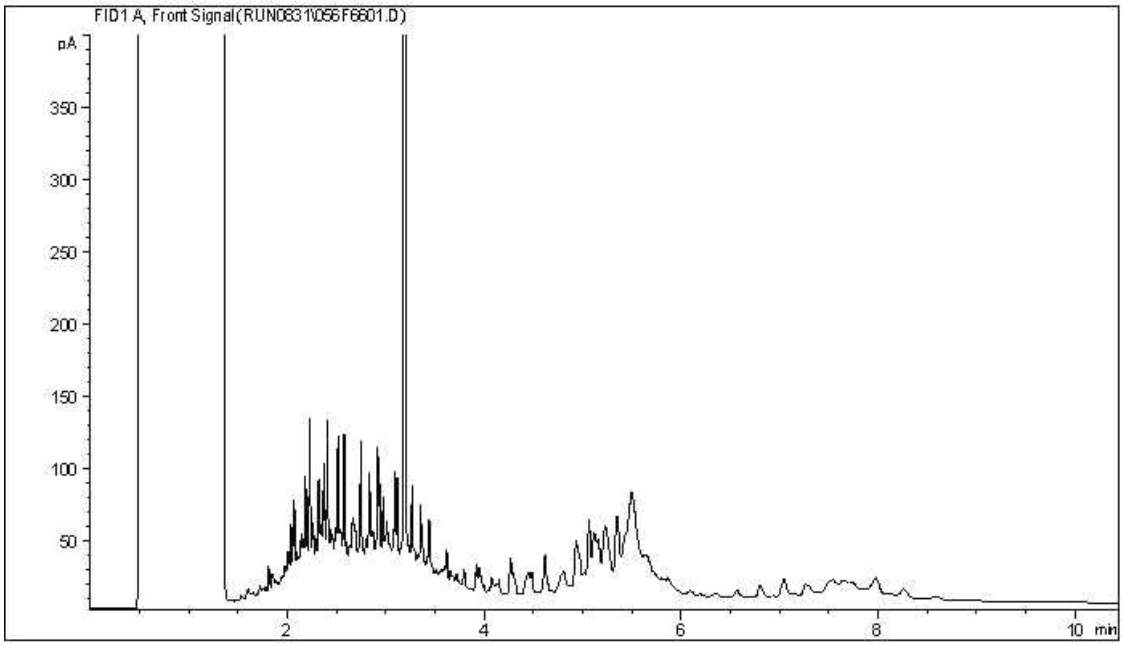
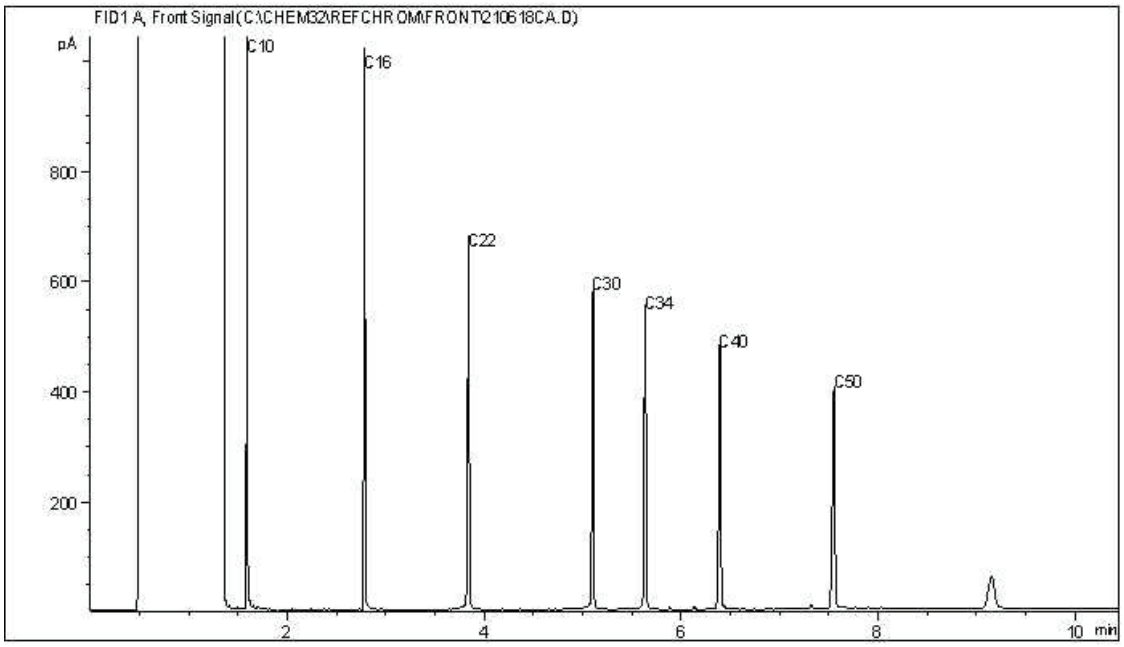
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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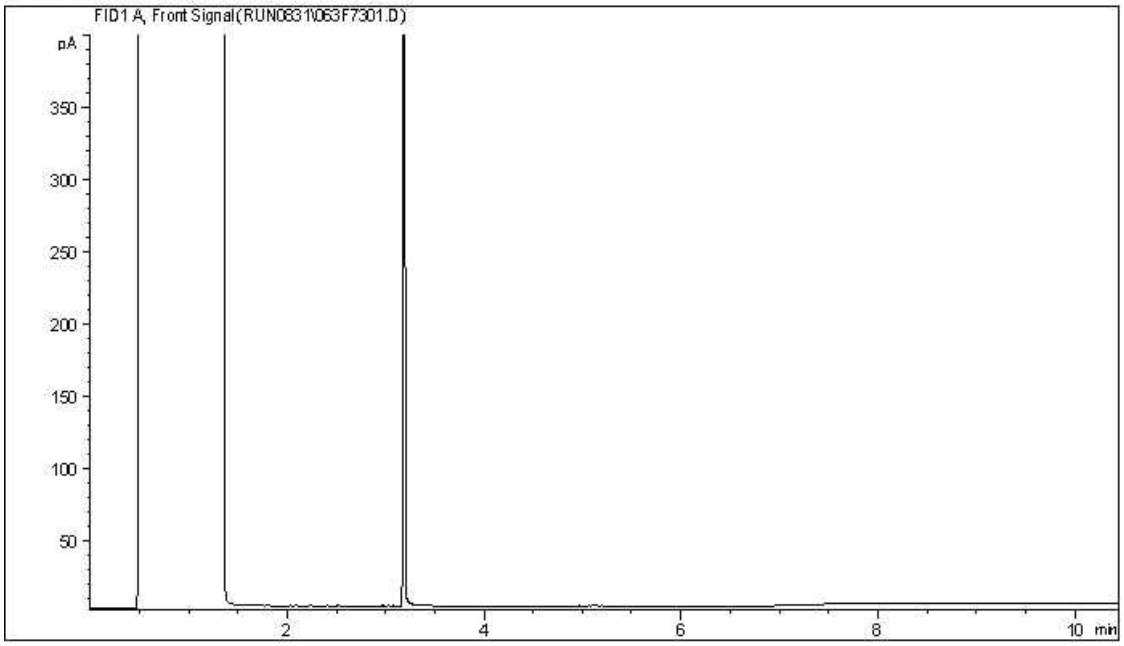
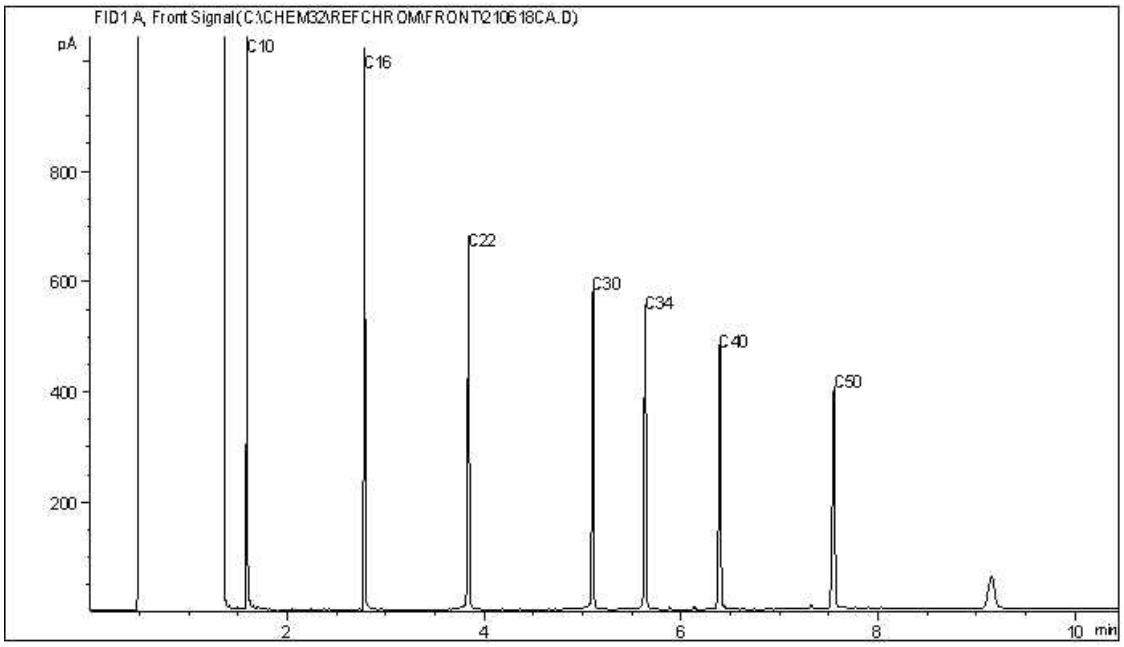


Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

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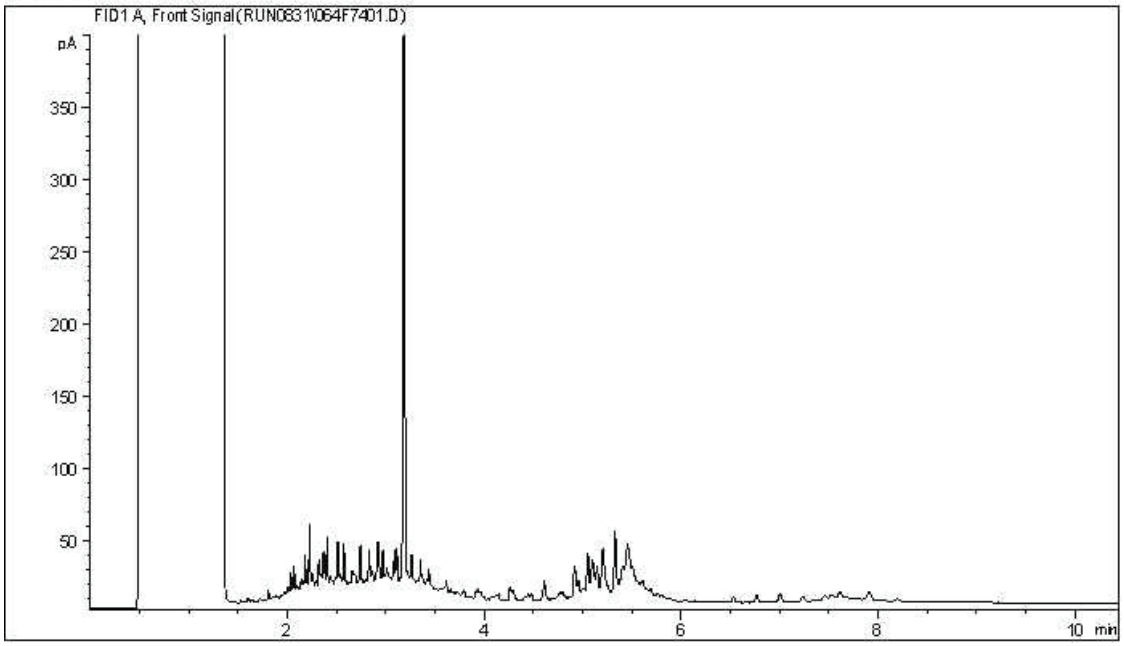
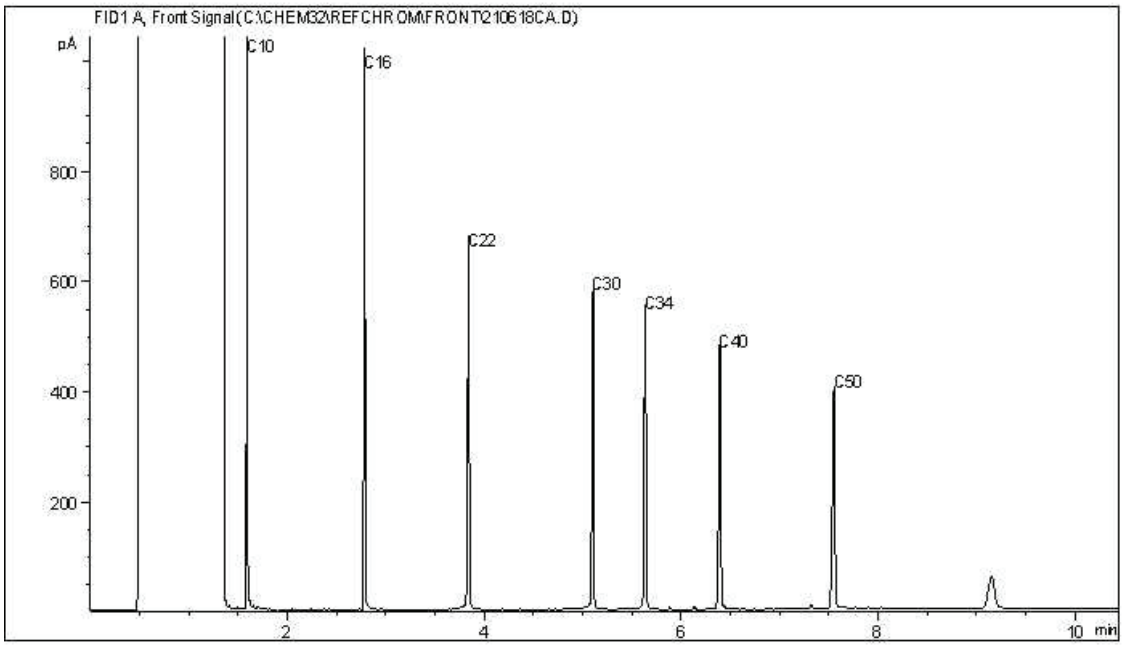
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

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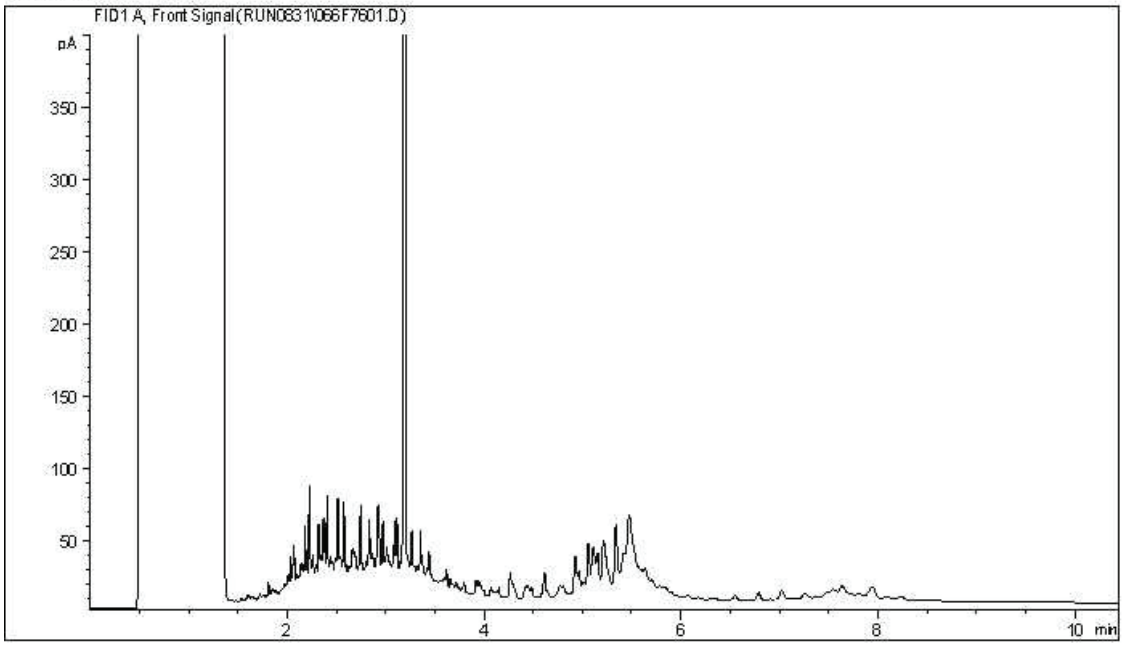
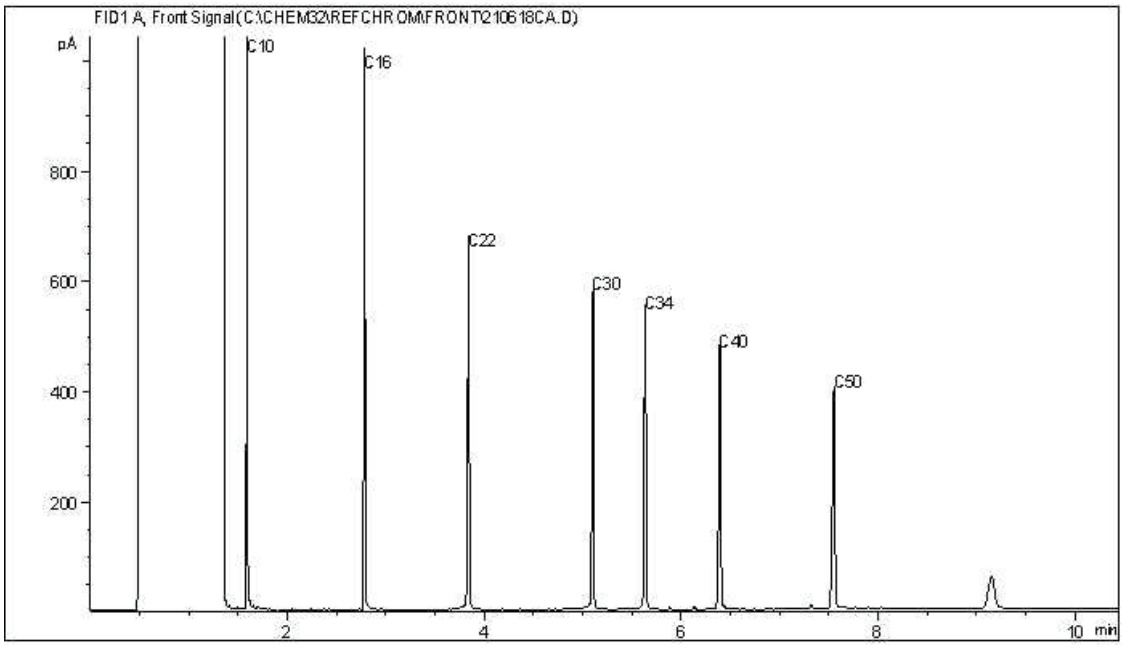
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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

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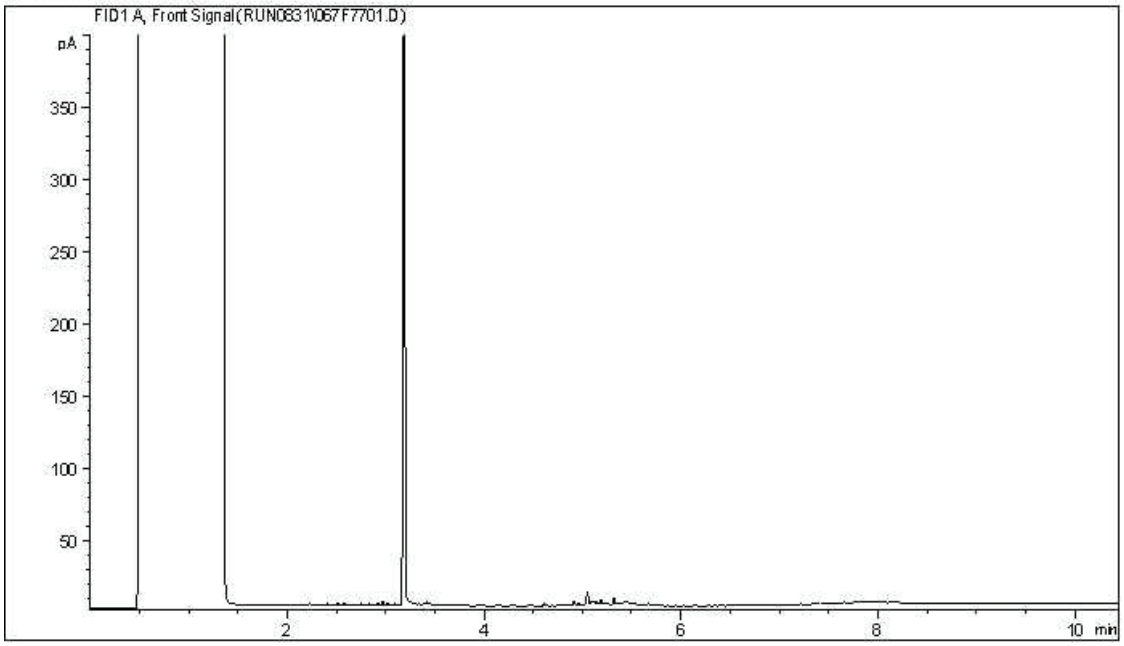
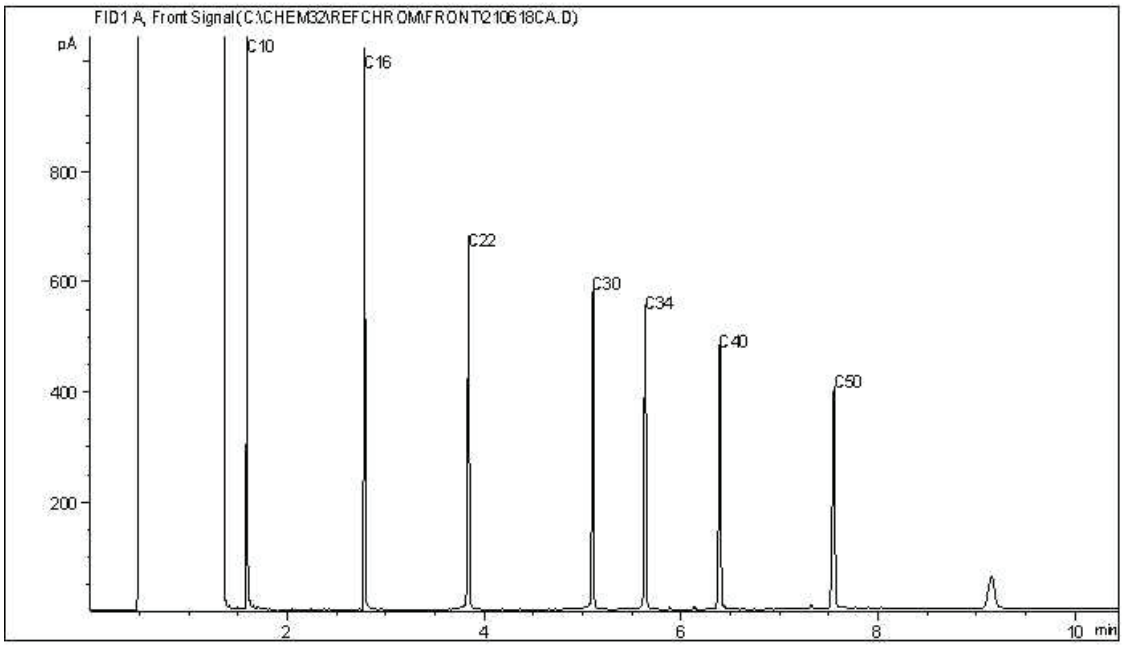


Carbon Range Distribution - Reference Chromatogram



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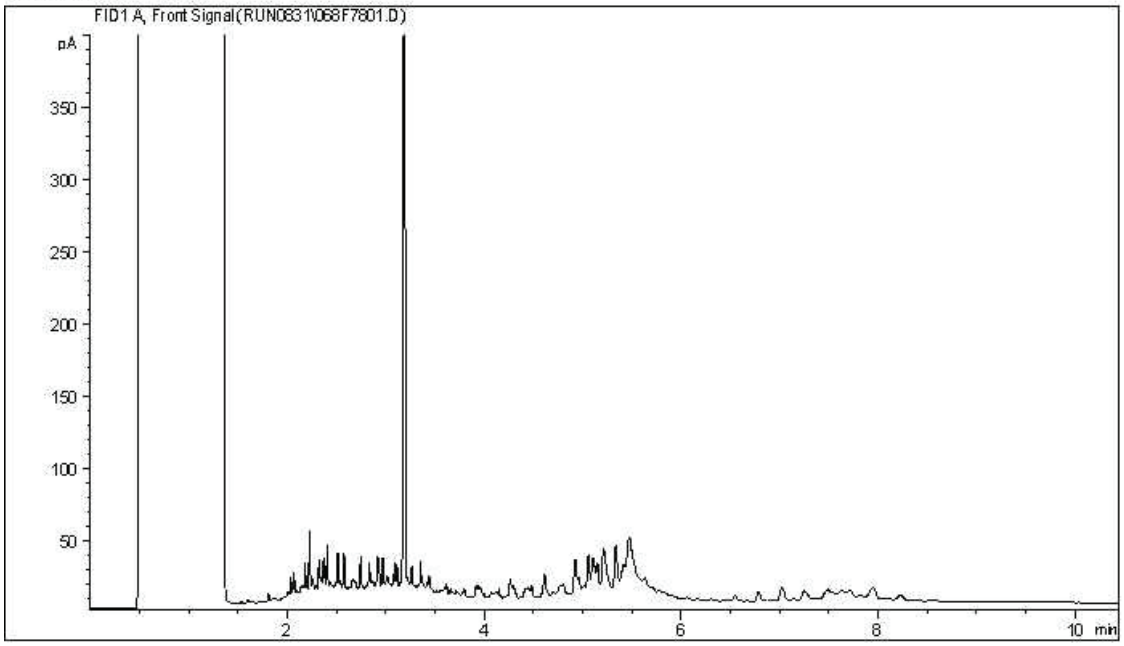
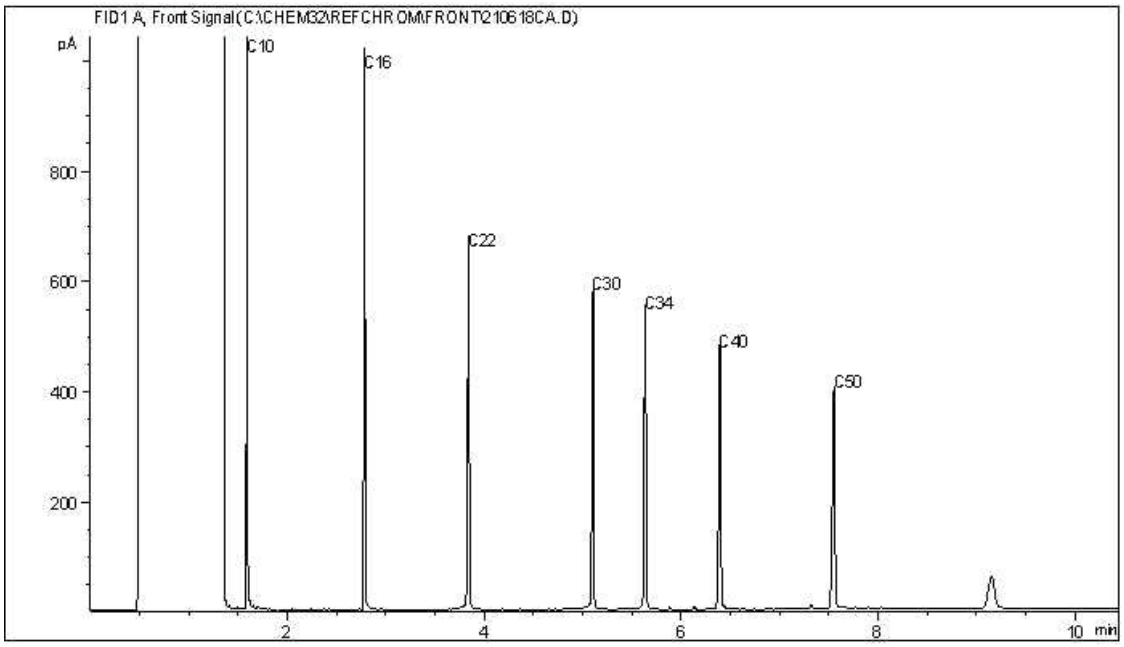
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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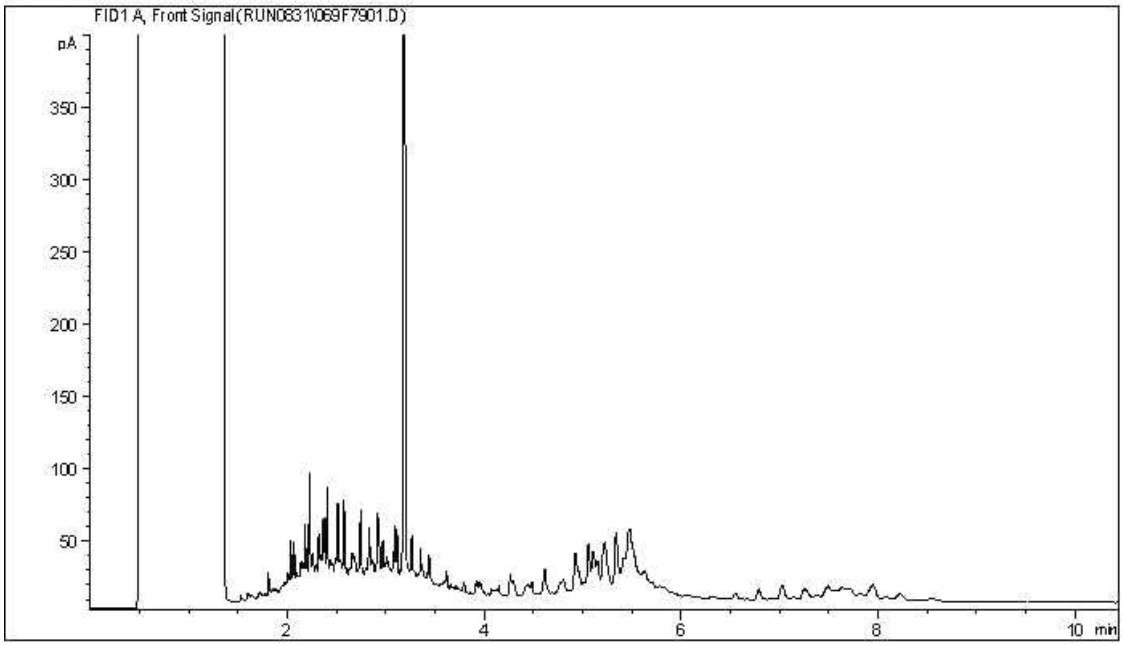
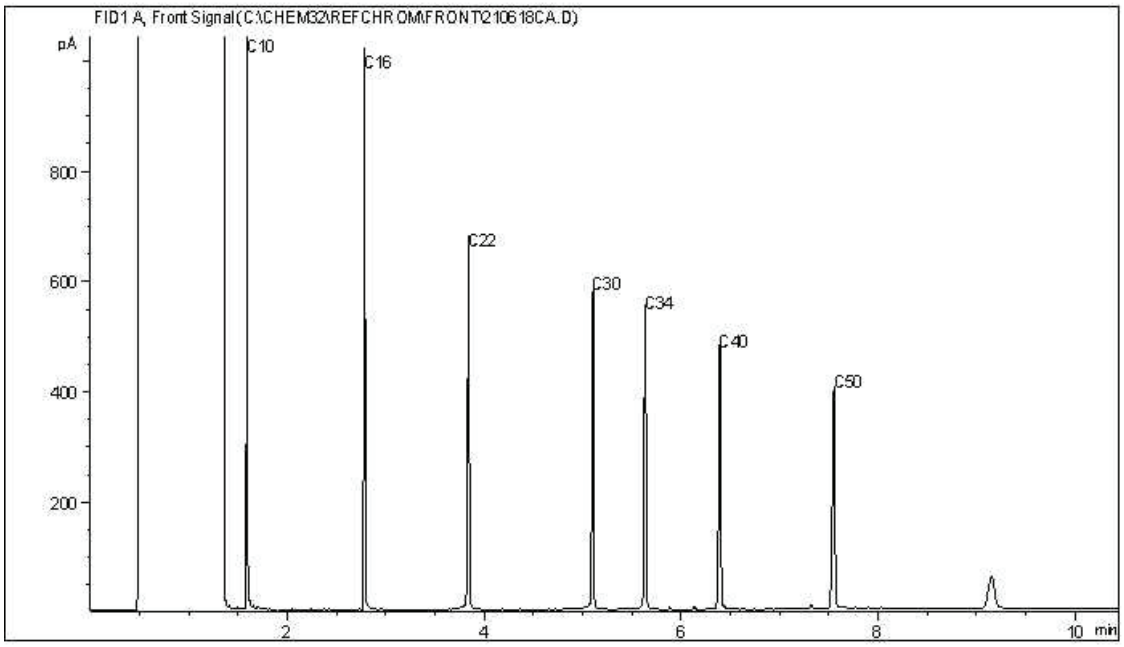
Instrument: GC13



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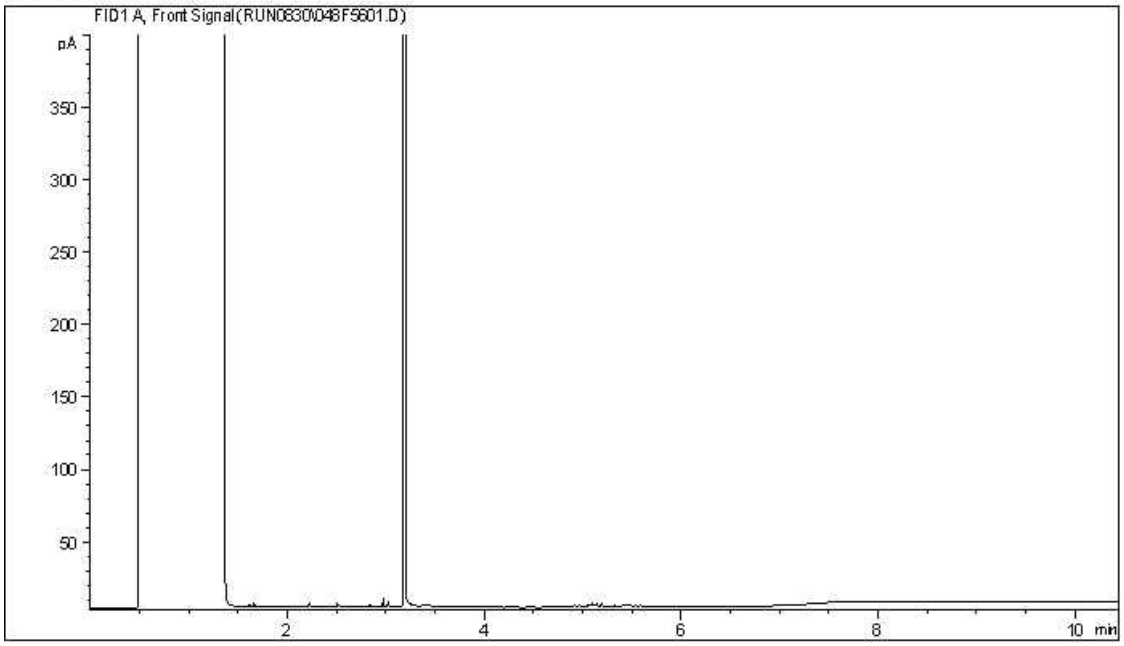
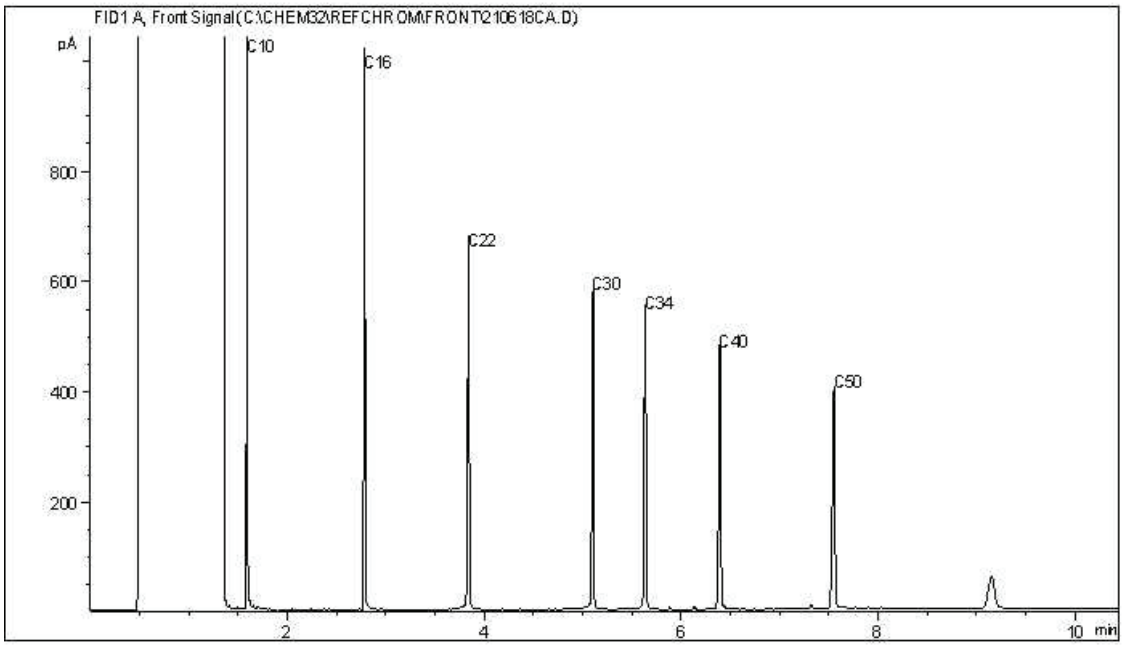
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

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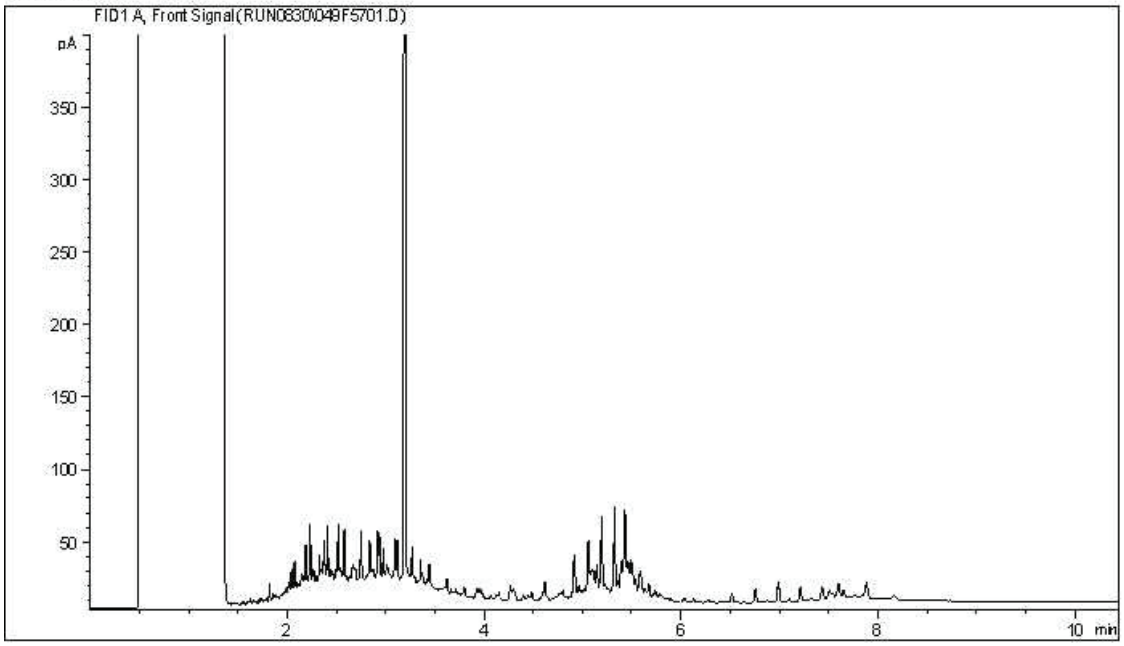
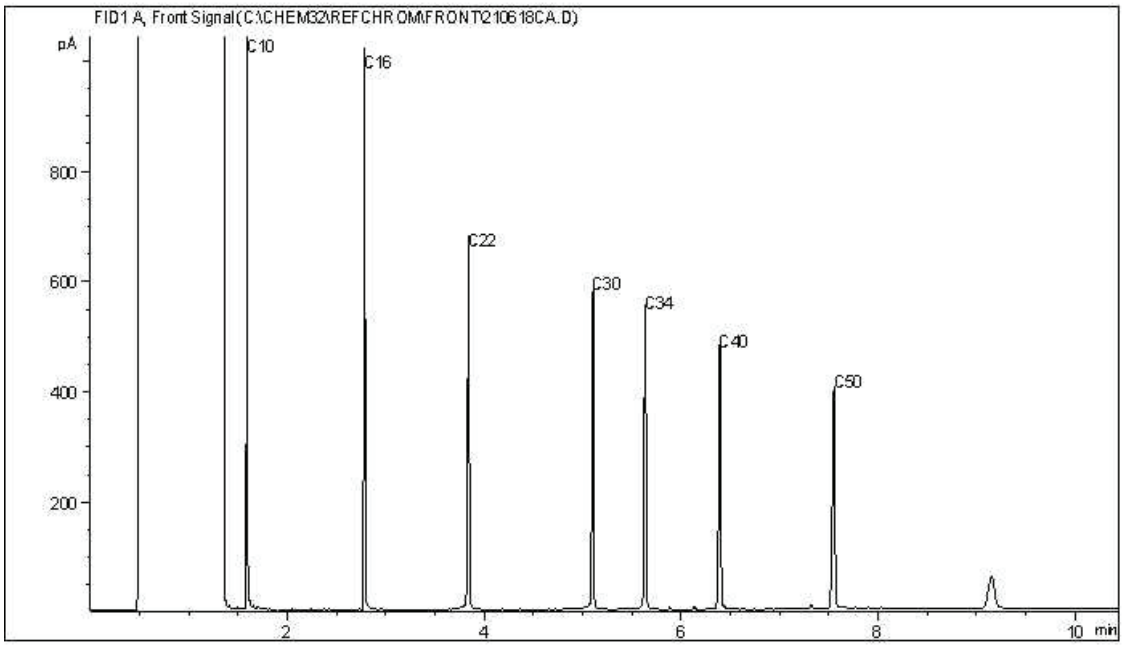
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



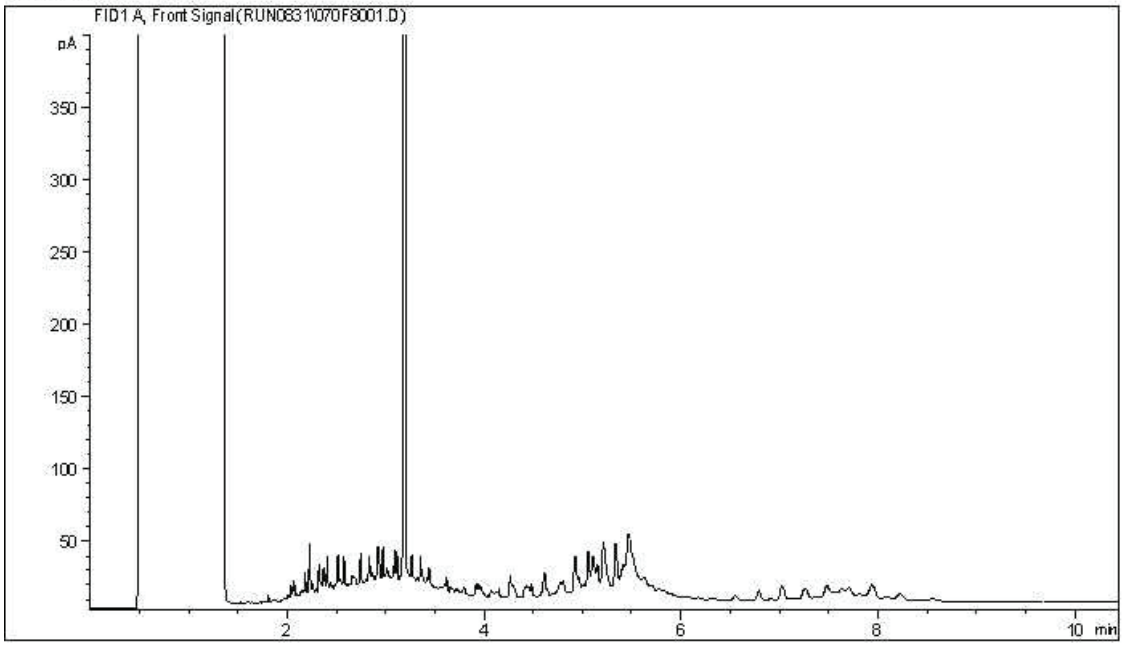
TYPICAL PRODUCT CARBON NUMBER RANGES

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

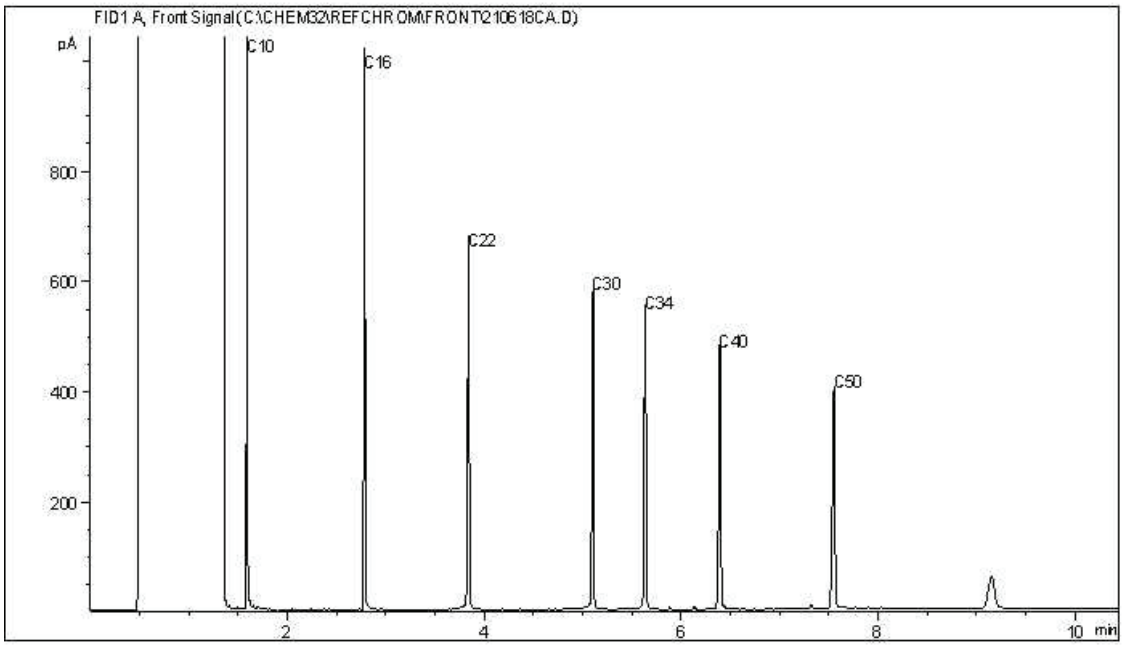
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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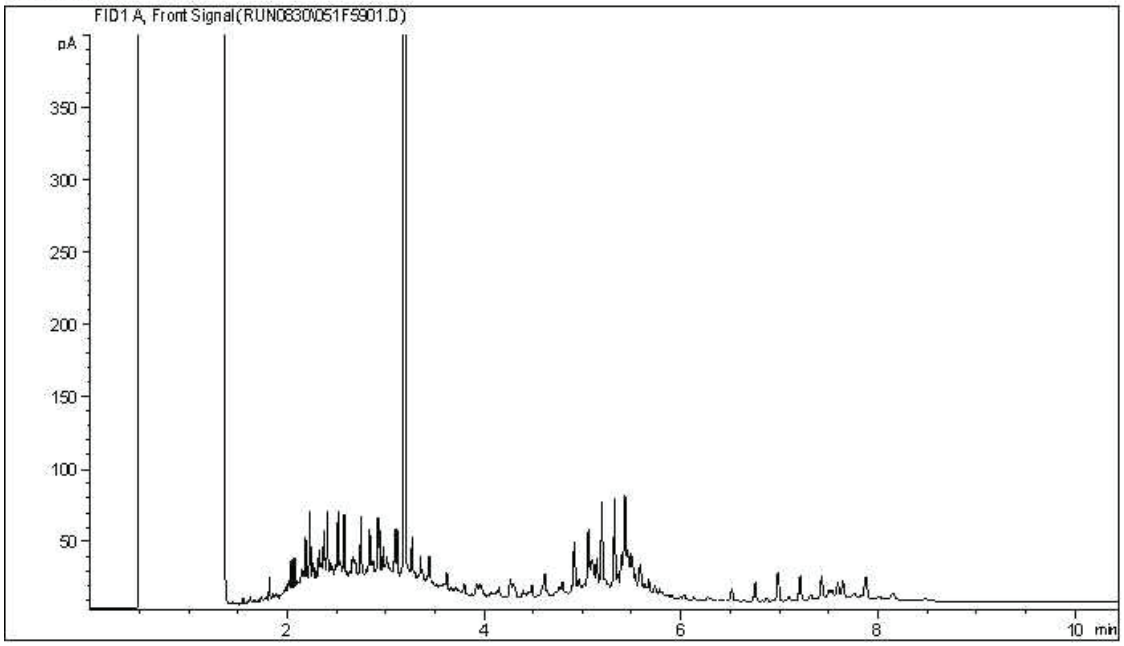
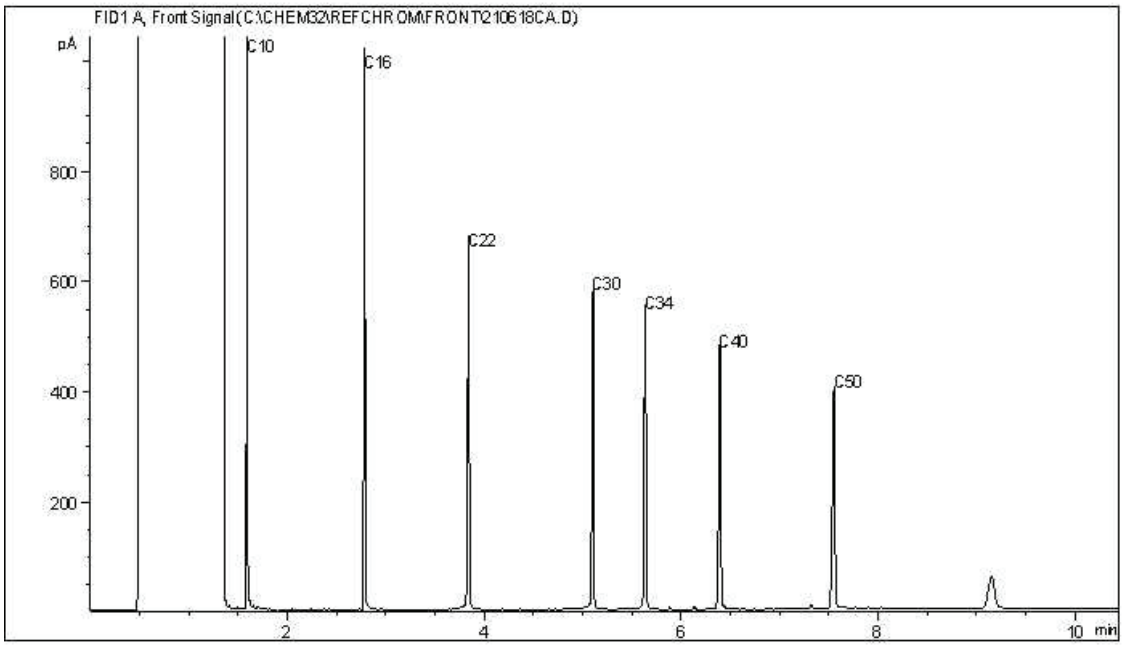
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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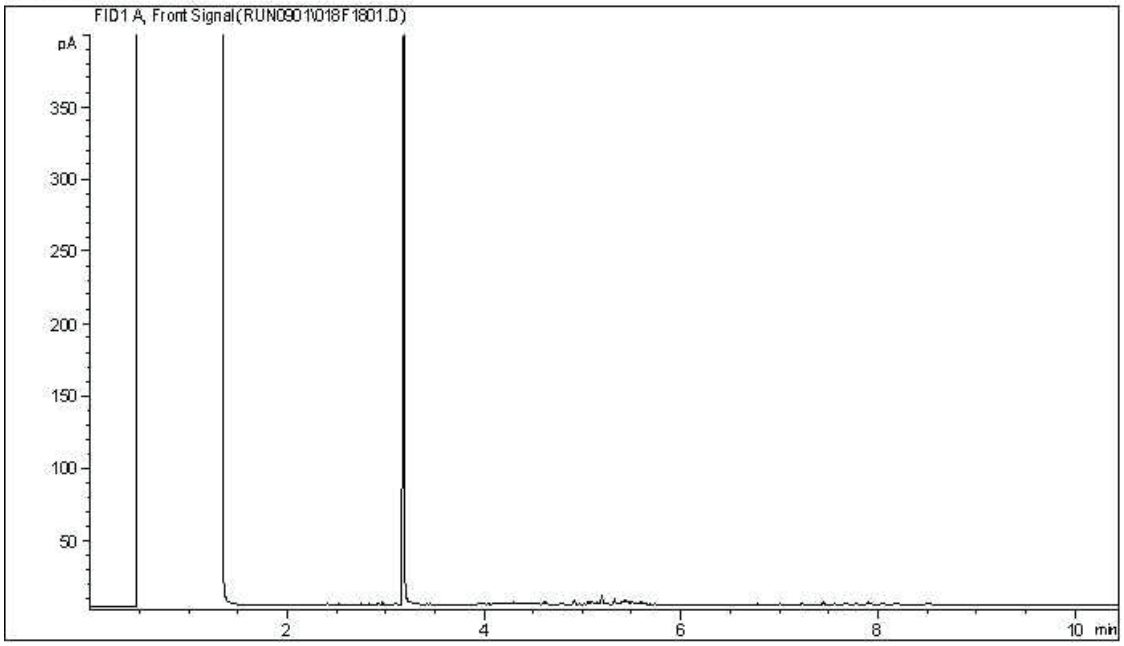
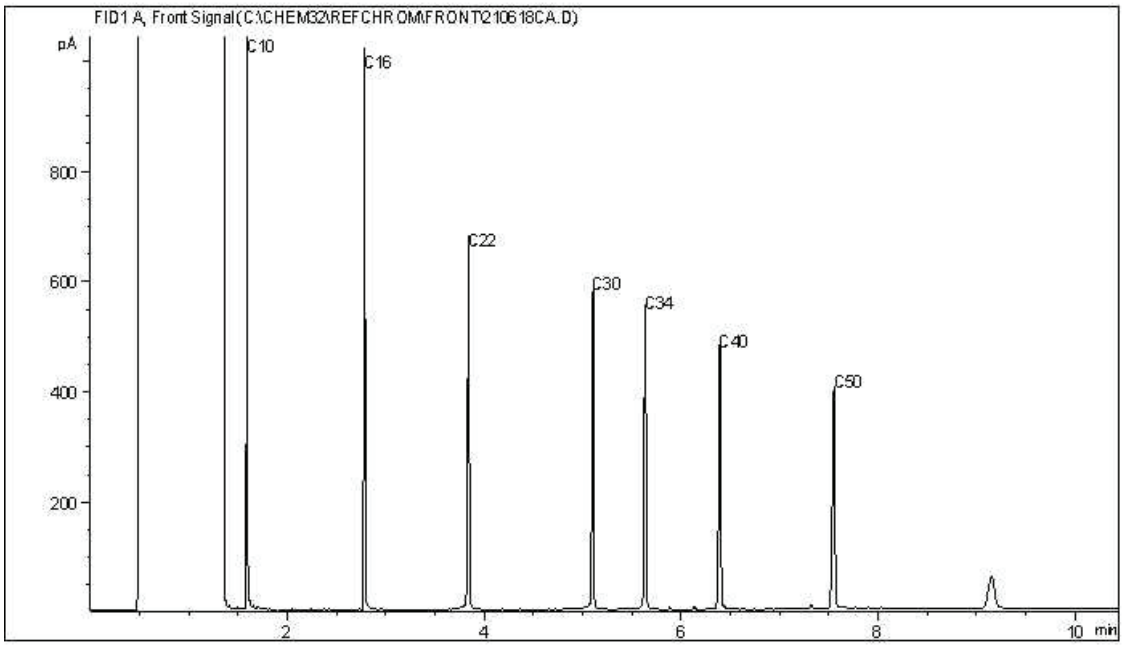
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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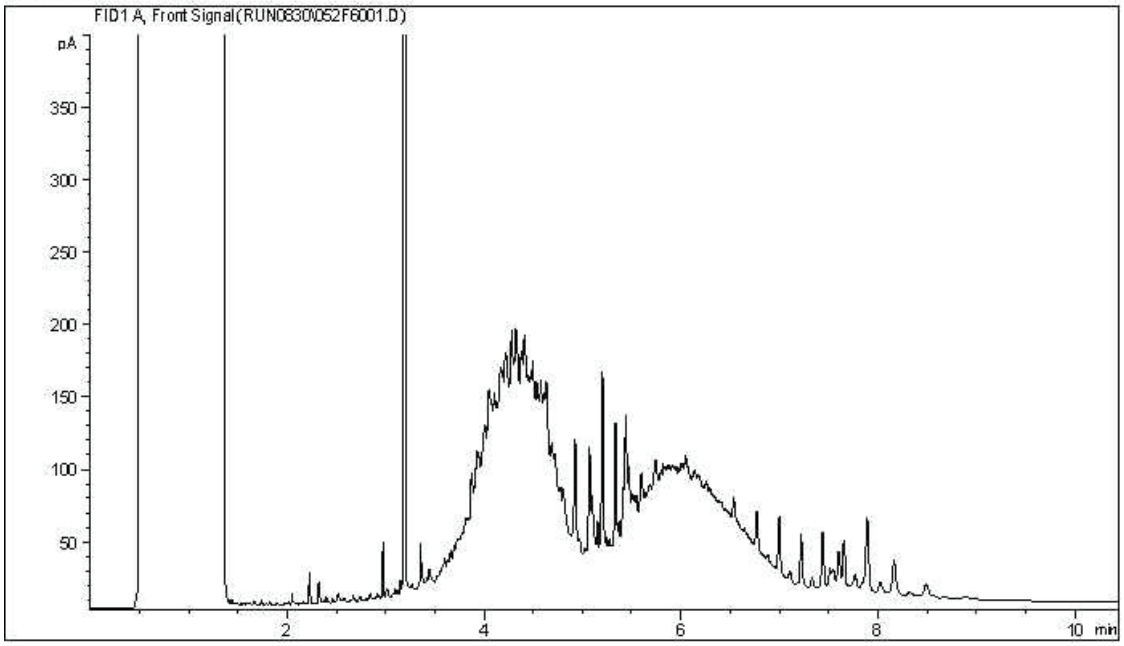
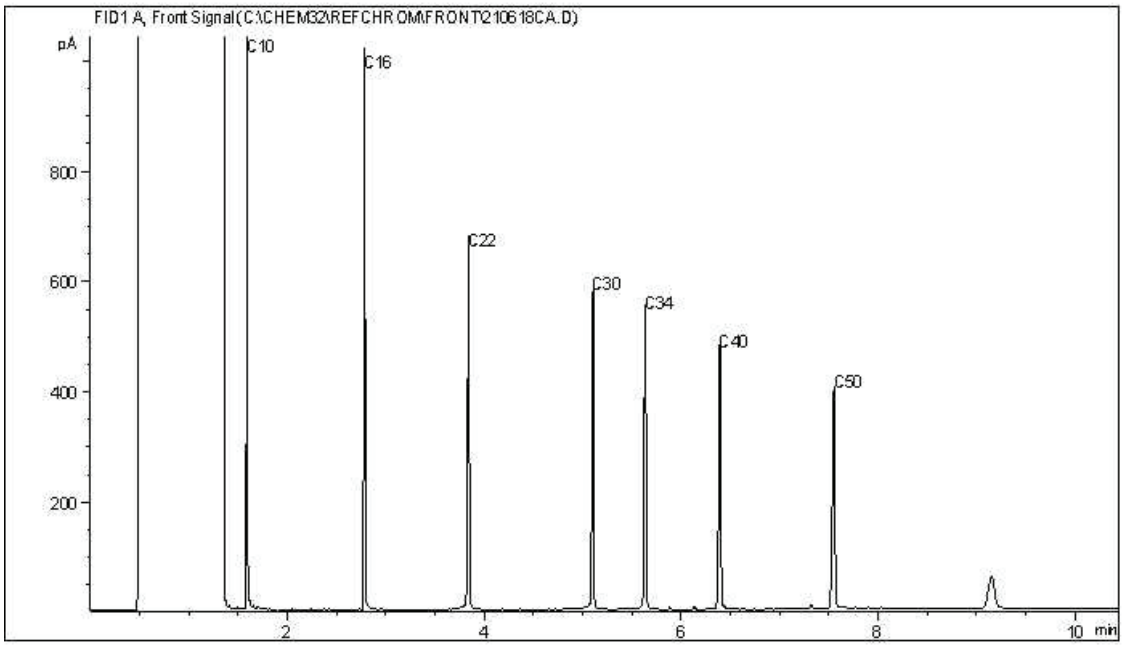
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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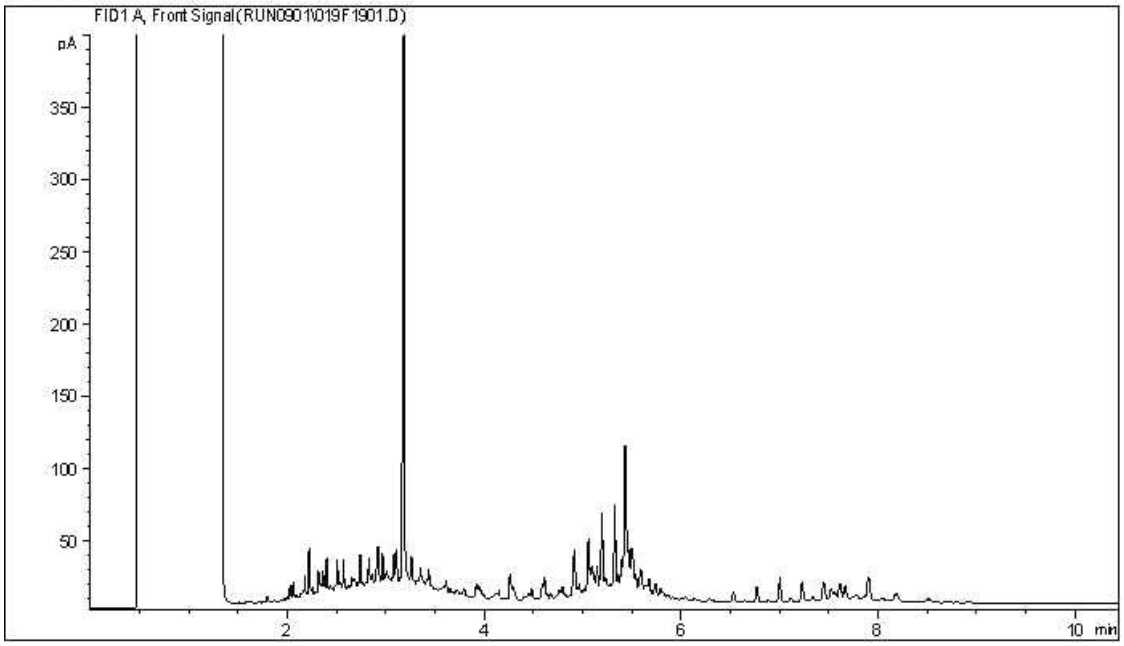
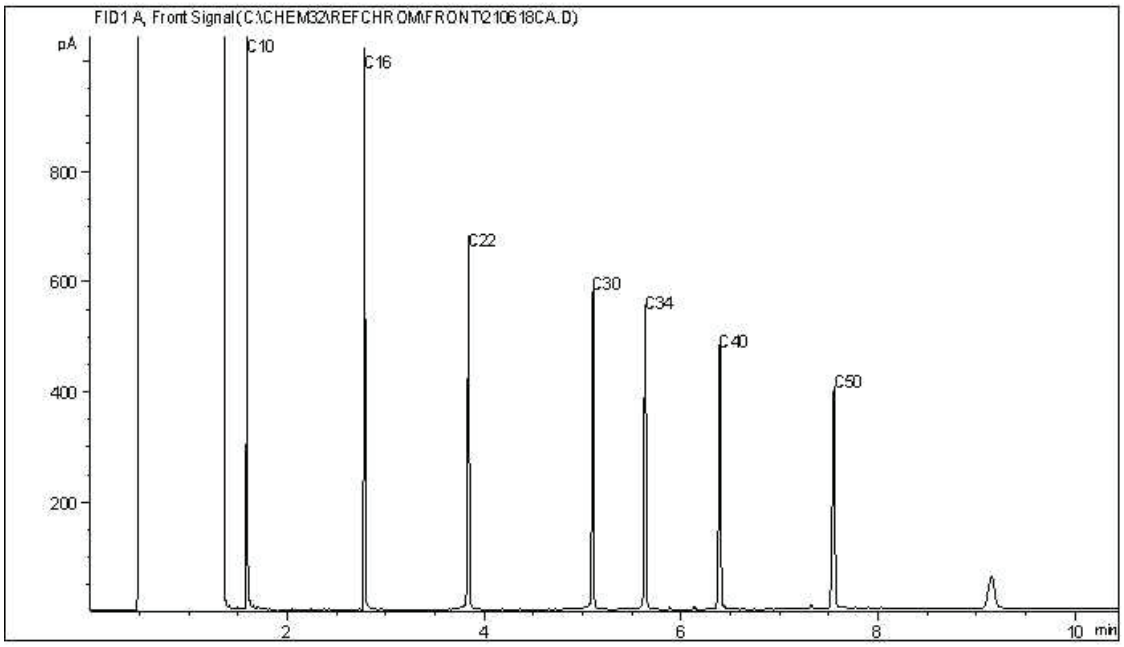
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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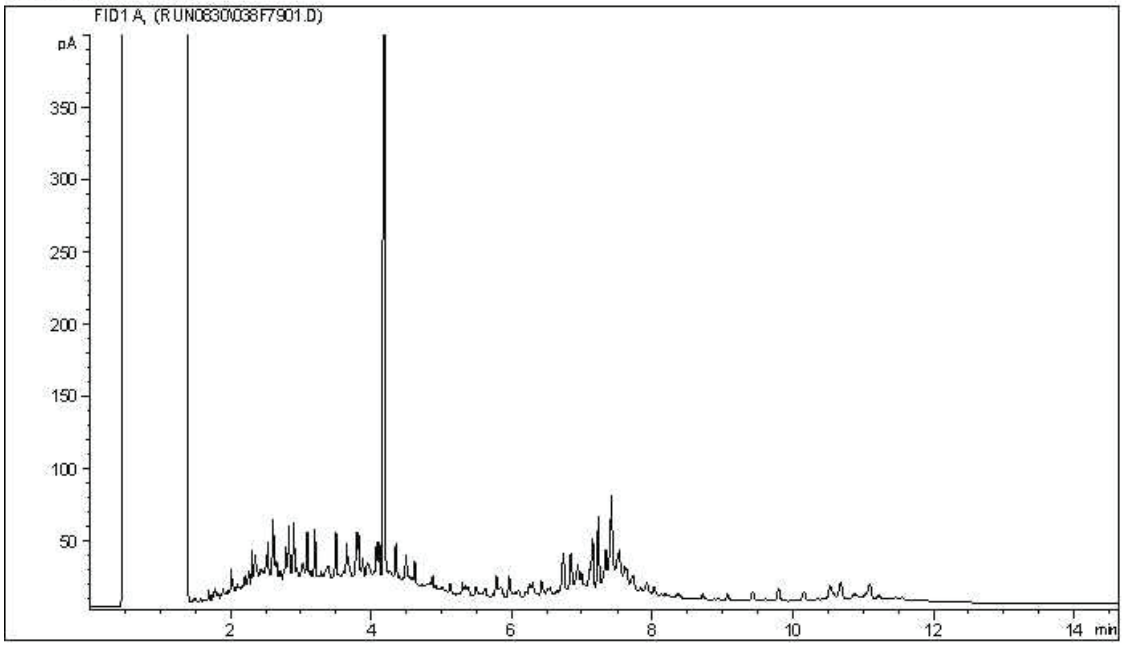
Kerosene:	C7 - C16	Crude Oils:	C3 - C60+

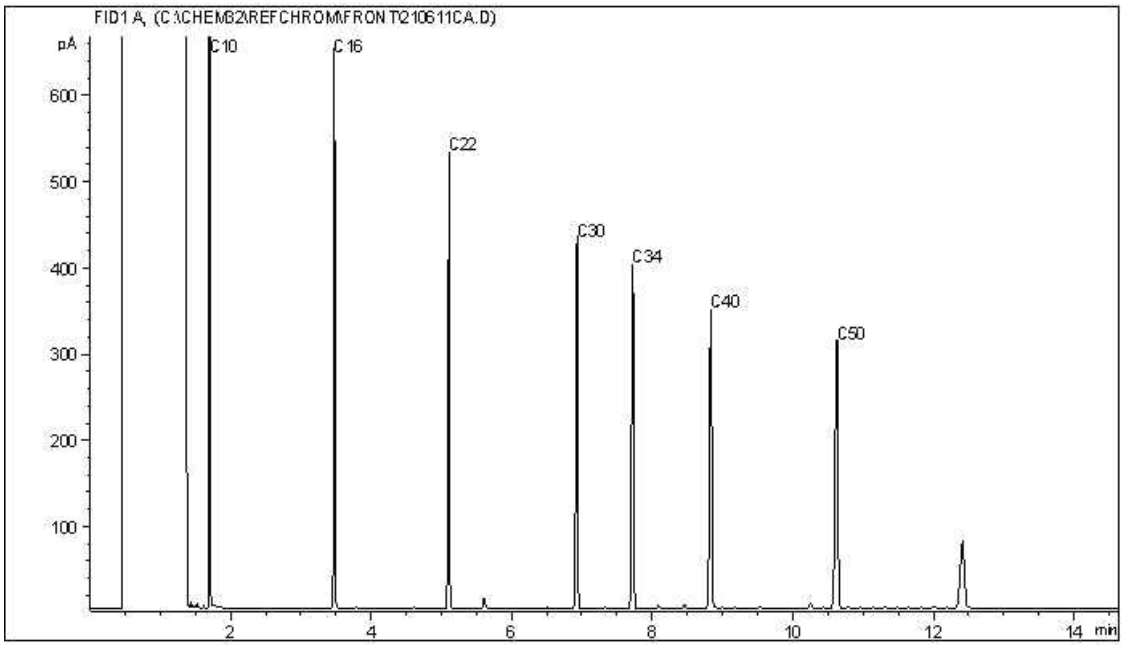
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC6



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

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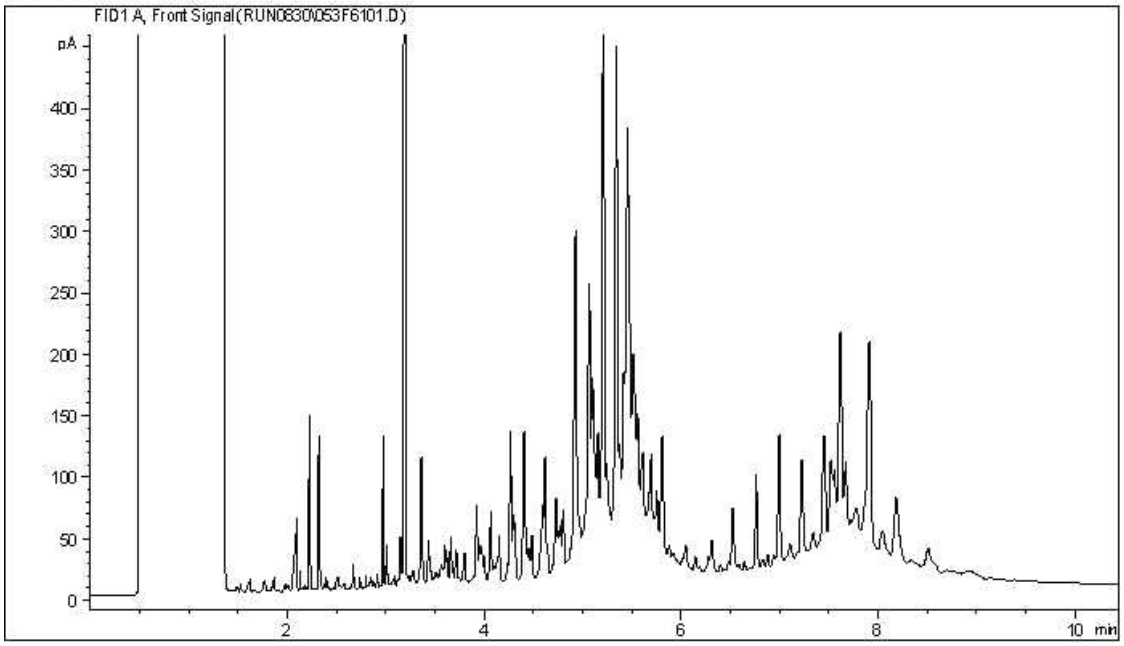
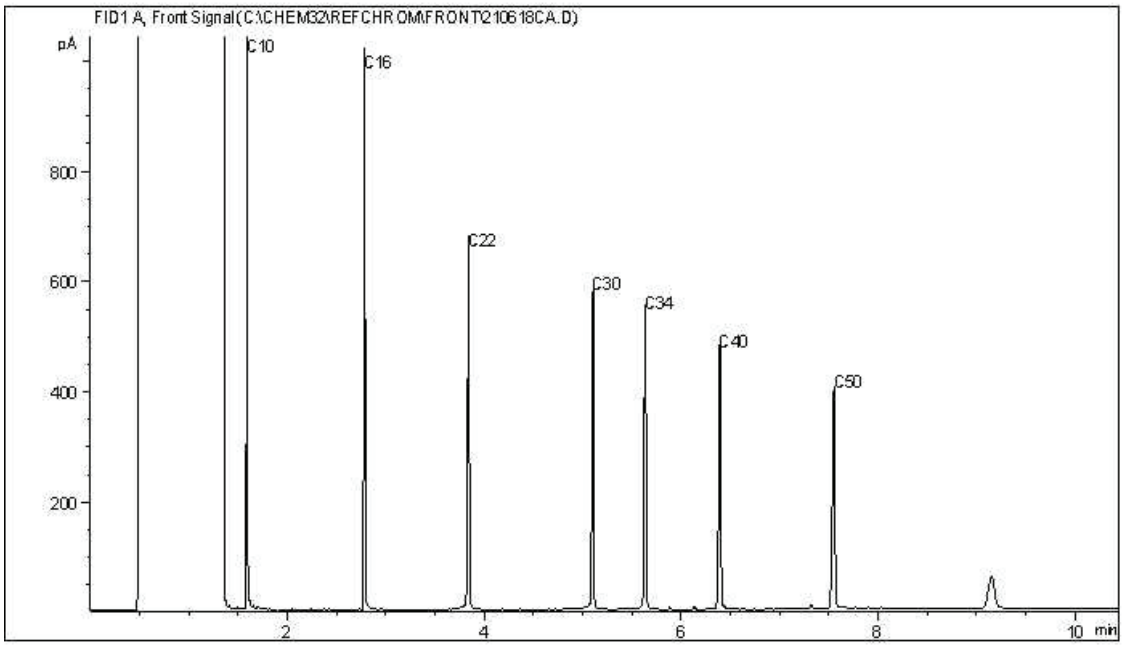
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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

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

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell

Sampling Date: August 17, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C162523

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

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

	Yes	No	NA	Comments
Surrogate Recovery	X			All laboratory QC results are within
Method Blank Concentration	X			acceptance criteria.
Laboratory Duplicate RPD	X			
Matrix Spike Recovery	X			
Blank Spike Recovery	X			

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

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

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

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

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: September 20, 2021

Your P.O. #: 20368099-7000-1001
Your Project #: 20368099-6000-1001

Attention: Aurelie Belavance

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

Your C.O.C. #: 644511-20-01, 644511-21-01, 644511-22-01

Report Date: 2021/09/01
Report #: R3066326
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C162535
Received: 2021/08/23, 08:30

Sample Matrix: Soil
Samples Received: 23

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1)	3	2021/08/30	2021/08/30	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	19	N/A	2021/08/31	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	1	N/A	2021/09/01	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	3	N/A	2021/08/31		Auto Calc
F1-BTEX (1)	20	N/A	2021/09/01		Auto Calc
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 3)	2	2021/08/30	2021/08/31	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	17	2021/08/30	2021/08/30	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	4	2021/08/30	2021/08/31	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	2	2021/08/30	2021/09/01	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 5)	2	N/A	2021/08/31		Auto Calc
Moisture (1)	23	N/A	2021/08/31	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

Attention: Aurelie Belavance

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

Your C.O.C. #: 644511-20-01, 644511-21-01, 644511-22-01

Report Date: 2021/09/01
Report #: R3066326
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C162535
Received: 2021/08/23, 08:30

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.

(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
01 Sep 2021 16:45:59

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

==========

This report has been generated and distributed using a secure automated process.
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.

BV Labs Job #: C162535
Report Date: 2021/09/01

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

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO359	AEO359	AEO360		AEO361		AEO362		
Sampling Date		2021/08/18 09:40	2021/08/18 09:40	2021/08/18 09:41		2021/08/18 09:42		2021/08/18 10:05		
COC Number		644511-20-01	644511-20-01	644511-20-01		644511-20-01		644511-20-01		
	UNITS	TP21-12-02	TP21-12-02 Lab-Dup	TP21-12-04	RDL	TP21-12-05	RDL	TP21-19-01	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	190	N/A	<10	10	<10	10	57	10	A336176
F3 (C16-C34 Hydrocarbons)	mg/kg	220	N/A	<50	50	<50	50	310	50	A336176
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	N/A	<50	50	<50	50	70	50	A336176
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	N/A	Yes	N/A	Yes	N/A	A336176
Physical Properties										
Moisture	%	8.5	N/A	16	0.30	15	0.30	15	0.30	A336201
Volatiles										
Xylenes (Total)	mg/kg	<0.045	N/A	<0.045	0.045	<0.045	0.045	0.14	0.045	A333210
F1 (C6-C10) - BTEX	mg/kg	17	N/A	31	10	<11	11	<10	10	A333210
Field Preserved Volatiles										
Benzene	mg/kg	<0.0050	<0.0050	0.039	0.0050	0.025	0.0050	<0.0050	0.0050	A335200
Toluene	mg/kg	<0.050	<0.050	<0.050	0.050	<0.050	0.050	0.11	0.050	A335200
Ethylbenzene	mg/kg	<0.010	<0.010	0.041	0.010	0.020	0.010	0.034	0.010	A335200
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	0.040	<0.040	0.040	0.14	0.040	A335200
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	<0.020	0.020	<0.020	0.020	A335200
F1 (C6-C10)	mg/kg	17	22	32	10	<11 (1)	11	<10	10	A335200
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	87	89	90	N/A	87	N/A	88	N/A	A335200
4-Bromofluorobenzene (sur.)	%	98	101	100	N/A	100	N/A	102	N/A	A335200
D10-o-Xylene (sur.)	%	111	115	123	N/A	133	N/A	127	N/A	A335200
D4-1,2-Dichloroethane (sur.)	%	110	115	113	N/A	112	N/A	112	N/A	A335200
O-TERPHENYL (sur.)	%	97	N/A	91	N/A	92	N/A	102	N/A	A336176

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Detection limit raised due to interferent.

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

BV Labs Job #: C162535
Report Date: 2021/09/01

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

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO363	AEO364	AEO365	AEO366	AEO367	AEO368		
Sampling Date		2021/08/18 10:06	2021/08/18 10:06	2021/08/18 11:04	2021/08/18 11:05	2021/08/18 11:05	2021/08/18 11:22		
COC Number		644511-20-01	644511-20-01	644511-20-01	644511-20-01	644511-20-01	644511-20-01		
	UNITS	**TP21-19-04**	**TP21-19-06**	**TP21-73-02**	**TP21-73-04**	**TP21-73-05**	**DUP H**	**RDL**	**QC Batch**
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	200	25	16	66	<10	<10	10	A336176
F3 (C16-C34 Hydrocarbons)	mg/kg	500	69	110	220	100	<50	50	A336176
F4 (C34-C50 Hydrocarbons)	mg/kg	120	<50	<50	51	<50	<50	50	A336176
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A336176
Physical Properties									
Moisture	%	24	20	9.7	29	12	16	0.30	A336201
Volatiles									
Xylenes (Total)	mg/kg	0.12	<0.045	<0.045	0.16	<0.045	<0.045	0.045	A333210
F1 (C6-C10) - BTEX	mg/kg	62	<10	<10	15	<10	<10	10	A333210
Field Preserved Volatiles									
Benzene	mg/kg	0.033	0.0086	<0.0050	0.015	<0.0050	N/A	0.0050	A335200
Toluene	mg/kg	0.28	<0.050	<0.050	0.46	<0.050	N/A	0.050	A335200
Ethylbenzene	mg/kg	0.027	<0.010	<0.010	0.041	<0.010	N/A	0.010	A335200
m & p-Xylene	mg/kg	0.063	<0.040	<0.040	0.12	<0.040	N/A	0.040	A335200
o-Xylene	mg/kg	0.054 (1)	<0.020	<0.020	0.048	<0.020	N/A	0.020	A335200
F1 (C6-C10)	mg/kg	63	<10	<10	15	<10	N/A	10	A335200
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	89	87	89	88	87	N/A	N/A	A335200
4-Bromofluorobenzene (sur.)	%	99	100	103	104	102	N/A	N/A	A335200
D10-o-Xylene (sur.)	%	125	121	124	114	111	N/A	N/A	A335200
D4-1,2-Dichloroethane (sur.)	%	113	111	116	113	114	N/A	N/A	A335200
O-TERPHENYL (sur.)	%	103	102	92	94	99	94	N/A	A336176

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

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

BV Labs Job #: C162535
Report Date: 2021/09/01

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

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO368	AEO380		AEO381		AEO382		
Sampling Date		2021/08/18 11:22	2021/08/18 14:12		2021/08/18 14:13		2021/08/18 14:14		
COC Number		644511-20-01	644511-21-01		644511-21-01		644511-21-01		
	UNITS	DUP H Lab-Dup	TP21-105-03	QC Batch	TP21-105-04	QC Batch	TP21-105-06	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	32	A336176	140	A336003	<10	10	A336176
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	140	A336176	180	A336003	<50	50	A336176
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	<50	A336176	<50	A336003	<50	50	A336176
Reached Baseline at C50	mg/kg	N/A	Yes	A336176	Yes	A336003	Yes	N/A	A336176
Physical Properties									
Moisture	%	16	12	A336201	12	A336201	15	0.30	A336201
Volatiles									
Xylenes (Total)	mg/kg	N/A	<0.045	A333210	<0.045	A333210	<0.045	0.045	A333210
F1 (C6-C10) - BTEX	mg/kg	N/A	<10	A333210	11	A333210	<10	10	A333210
Field Preserved Volatiles									
Benzene	mg/kg	N/A	<0.0050	A335200	<0.0050	A335200	<0.0050	0.0050	A335200
Toluene	mg/kg	N/A	<0.050	A335200	<0.050	A335200	<0.050	0.050	A335200
Ethylbenzene	mg/kg	N/A	<0.010	A335200	<0.010	A335200	<0.010	0.010	A335200
m & p-Xylene	mg/kg	N/A	<0.040	A335200	<0.040	A335200	<0.040	0.040	A335200
o-Xylene	mg/kg	N/A	<0.020	A335200	<0.020	A335200	<0.020	0.020	A335200
F1 (C6-C10)	mg/kg	N/A	<10	A335200	11	A335200	<10	10	A335200
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	N/A	88	A335200	106	A335200	89	N/A	A335200
4-Bromofluorobenzene (sur.)	%	N/A	102	A335200	86	A335200	103	N/A	A335200
D10-o-Xylene (sur.)	%	N/A	116	A335200	117	A335200	113	N/A	A335200
D4-1,2-Dichloroethane (sur.)	%	N/A	115	A335200	75	A335200	115	N/A	A335200
O-TERPHENYL (sur.)	%	N/A	100	A336176	96	A336003	95	N/A	A336176

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

BV Labs Job #: C162535
Report Date: 2021/09/01

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

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO383		AEO384	AEO385	AEO386	AEO387		
Sampling Date		2021/08/18 11:15		2021/08/18 11:15	2021/08/18 11:22	2021/08/18 10:27	2021/08/18 10:28		
COC Number		644511-21-01		644511-21-01	644511-21-01	644511-21-01	644511-21-01		
	UNITS	TP21-82-03	QC Batch	TP21-82-04	TP21-82-06	TP21-50-02	TP21-50-04	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	150	A336003	47	<10	190	150	10	A336176
F3 (C16-C34 Hydrocarbons)	mg/kg	420	A336003	550	<50	370	310	50	A336176
F4 (C34-C50 Hydrocarbons)	mg/kg	130	A336003	200	<50	81	67	50	A336176
Reached Baseline at C50	mg/kg	Yes	A336003	Yes	Yes	Yes	Yes	N/A	A336176
Physical Properties									
Moisture	%	17	A336201	37	19	11	13	0.30	A336201
Volatiles									
Xylenes (Total)	mg/kg	0.053	A333210	<0.045	<0.045	<0.045	<0.045	0.045	A333210
F1 (C6-C10) - BTEX	mg/kg	12	A333210	<10	<10	<10	<10	10	A333210
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	A335200	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A335200
Toluene	mg/kg	0.10	A335200	<0.050	<0.050	0.34	0.20	0.050	A335200
Ethylbenzene	mg/kg	0.015	A335200	<0.010	<0.010	<0.010	<0.010	0.010	A335200
m & p-Xylene	mg/kg	0.053	A335200	<0.040	<0.040	<0.040	<0.040	0.040	A335200
o-Xylene	mg/kg	<0.020	A335200	<0.020	<0.020	<0.020	<0.020	0.020	A335200
F1 (C6-C10)	mg/kg	12	A335200	<10	<10	<10	<10	10	A335200
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	88	A335200	89	89	89	86	N/A	A335200
4-Bromofluorobenzene (sur.)	%	100	A335200	103	106	100	102	N/A	A335200
D10-o-Xylene (sur.)	%	107	A335200	111	116	123	115	N/A	A335200
D4-1,2-Dichloroethane (sur.)	%	114	A335200	118	116	111	114	N/A	A335200
O-TERPHENYL (sur.)	%	107	A336003	98	101	103	101	N/A	A336176

RDL = Reportable Detection Limit
N/A = Not Applicable

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BV Labs Job #: C162535
Report Date: 2021/09/01

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

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO388	AEO389	AEO389		AEO397	AEO397		
Sampling Date		2021/08/18 10:29	2021/08/18 10:28	2021/08/18 10:28		2021/08/18 10:11	2021/08/18 10:11		
COC Number		644511-21-01	644511-21-01	644511-21-01		644511-22-01	644511-22-01		
	UNITS	TP21-50-06	DUP G	DUP G Lab-Dup	QC Batch	TP21-42-03	TP21-42-03 Lab-Dup	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	190	210	A336176	250	N/A	10	A336179
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	380	370	A336176	450	N/A	50	A336179
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	71	82	A336176	93	N/A	50	A336179
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	A336176	Yes	N/A	N/A	A336179
Physical Properties									
Moisture	%	16	15	N/A	A336201	13	13	0.30	A336205
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	N/A	A333210	0.055	N/A	0.045	A333210
F1 (C6-C10) - BTEX	mg/kg	<10	12	N/A	A333210	16	N/A	10	A333210
Field Preserved Volatiles									
Benzene	mg/kg	N/A	<0.0050	N/A	A335200	<0.0050	N/A	0.0050	A335200
Toluene	mg/kg	N/A	0.35	N/A	A335200	0.11	N/A	0.050	A335200
Ethylbenzene	mg/kg	N/A	<0.010	N/A	A335200	0.016	N/A	0.010	A335200
m & p-Xylene	mg/kg	N/A	<0.040	N/A	A335200	0.055	N/A	0.040	A335200
o-Xylene	mg/kg	N/A	<0.020	N/A	A335200	<0.020	N/A	0.020	A335200
F1 (C6-C10)	mg/kg	N/A	12	N/A	A335200	16	N/A	10	A335200
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	N/A	89	N/A	A335200	87	N/A	N/A	A335200
4-Bromofluorobenzene (sur.)	%	N/A	104	N/A	A335200	100	N/A	N/A	A335200
D10-o-Xylene (sur.)	%	N/A	115	N/A	A335200	115	N/A	N/A	A335200
D4-1,2-Dichloroethane (sur.)	%	N/A	117	N/A	A335200	115	N/A	N/A	A335200
O-TERPHENYL (sur.)	%	97	106	105	A336176	107	N/A	N/A	A336179

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

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

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AEO398	AEO399		
Sampling Date		2021/08/18 10:12	2021/08/18 10:14		
COC Number		644511-22-01	644511-22-01		
	UNITS	TP21-42-04	TP21-42-05	RDL	QC Batch
Ext. Pet. Hydrocarbon					
F2 (C10-C16 Hydrocarbons)	mg/kg	140	11	10	A336176
F3 (C16-C34 Hydrocarbons)	mg/kg	280	270	50	A336176
F4 (C34-C50 Hydrocarbons)	mg/kg	56	71	50	A336176
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	A336176
Physical Properties					
Moisture	%	16	33	0.30	A336205
Volatiles					
Xylenes (Total)	mg/kg	0.087	<0.045	0.045	A333210
F1 (C6-C10) - BTEX	mg/kg	22	<10	10	A333210
Field Preserved Volatiles					
Benzene	mg/kg	<0.0050	N/A	0.0050	A335200
Toluene	mg/kg	0.23	N/A	0.050	A335200
Ethylbenzene	mg/kg	0.015	N/A	0.010	A335200
m & p-Xylene	mg/kg	0.056	N/A	0.040	A335200
o-Xylene	mg/kg	0.030	N/A	0.020	A335200
F1 (C6-C10)	mg/kg	22	N/A	10	A335200
Surrogate Recovery (%)					
1,4-Difluorobenzene (sur.)	%	88	N/A	N/A	A335200
4-Bromofluorobenzene (sur.)	%	103	N/A	N/A	A335200
D10-o-Xylene (sur.)	%	121	N/A	N/A	A335200
D4-1,2-Dichloroethane (sur.)	%	114	N/A	N/A	A335200
O-TERPHENYL (sur.)	%	98	98	N/A	A336176

RDL = Reportable Detection Limit
N/A = Not Applicable

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

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		AEO364	AEO367		
Sampling Date		2021/08/18 10:06	2021/08/18 11:05		
COC Number		644511-20-01	644511-20-01		
	UNITS	TP21-19-06	TP21-73-05	RDL	QC Batch
Ext. Pet. Hydrocarbon					
F3A (C16-C22)	mg/kg	<50	<50	50	A335211
F3B (C22-C34)	mg/kg	<50	79	50	A335211
F2% (BIC)	mg/kg	NC	NC	N/A	A333320
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	A335211

RDL = Reportable Detection Limit
N/A = Not Applicable

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

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		AEO368	AEO388	AEO399		
Sampling Date		2021/08/18 11:22	2021/08/18 10:29	2021/08/18 10:14		
COC Number		644511-20-01	644511-21-01	644511-22-01		
	UNITS	**DUP H**	**TP21-50-06**	**TP21-42-05**	**RDL**	**QC Batch**
Volatiles						
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	A335767
Toluene	mg/kg	<0.050	<0.050	<0.050	0.050	A335767
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	0.010	A335767
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	0.040	A335767
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	A335767
F1 (C6-C10)	mg/kg	<10	<10	<10	10	A335767
Surrogate Recovery (%)						
1,4-Difluorobenzene (sur.)	%	100	100	99	N/A	A335767
4-Bromofluorobenzene (sur.)	%	98	97	97	N/A	A335767
D10-o-Xylene (sur.)	%	103	107	109	N/A	A335767
D4-1,2-Dichloroethane (sur.)	%	119	117	118	N/A	A335767

RDL = Reportable Detection Limit
N/A = Not Applicable

GOLDER ASSOCIATES LTD.
Client Project #: 20368099-6000-1001
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	5.7°C
Package 2	4.0°C
Package 3	7.3°C
Package 4	5.0°C
Package 5	7.0°C

Sample AEO368 [DUP H] : Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.

Sample AEO388 [TP21-50-06] : Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.

Sample AEO399 [TP21-42-05] : 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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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A335200	DO1	Matrix Spike [AEO359-02]	1,4-Difluorobenzene (sur.)	2021/08/31		87	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		103	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		124	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		114	%	50 - 140
			Benzene	2021/08/31		93	%	50 - 140
			Toluene	2021/08/31		100	%	50 - 140
			Ethylbenzene	2021/08/31		103	%	50 - 140
			m & p-Xylene	2021/08/31		99	%	50 - 140
			o-Xylene	2021/08/31		94	%	50 - 140
			F1 (C6-C10)	2021/08/31		89	%	60 - 140
A335200	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/31		79	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		94	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		99	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		107	%	50 - 140
			Benzene	2021/08/31		80	%	60 - 130
			Toluene	2021/08/31		91	%	60 - 130
			Ethylbenzene	2021/08/31		90	%	60 - 130
			m & p-Xylene	2021/08/31		87	%	60 - 130
			o-Xylene	2021/08/31		75	%	60 - 130
			F1 (C6-C10)	2021/08/31		121	%	60 - 140
A335200	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/31		92	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		103	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		103	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		109	%	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	
			o-Xylene	2021/08/31	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/31	<10		mg/kg	
A335200	DO1	RPD [AEO359-02]	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
			o-Xylene	2021/08/31	NC		%	50
			F1 (C6-C10)	2021/08/31	22		%	30
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
A335767	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/08/30		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		104	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		115	%	50 - 140
			Benzene	2021/08/30		109	%	50 - 140
			Toluene	2021/08/30		106	%	50 - 140
			Ethylbenzene	2021/08/30		109	%	50 - 140
			m & p-Xylene	2021/08/30		108	%	50 - 140
			o-Xylene	2021/08/30		107	%	50 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F1 (C6-C10)	2021/08/30		82	%	60 - 140
A335767	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/30		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		97	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		97	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		119	%	50 - 140
			Benzene	2021/08/30		98	%	60 - 130
			Toluene	2021/08/30		98	%	60 - 130
			Ethylbenzene	2021/08/30		99	%	60 - 130
			m & p-Xylene	2021/08/30		97	%	60 - 130
			o-Xylene	2021/08/30		89	%	60 - 130
			F1 (C6-C10)	2021/08/30		109	%	60 - 140
A335767	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/30		100	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		99	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		116	%	50 - 140
			Benzene	2021/08/30	<0.0050		mg/kg	
			Toluene	2021/08/30	<0.050		mg/kg	
			Ethylbenzene	2021/08/30	<0.010		mg/kg	
			m & p-Xylene	2021/08/30	<0.040		mg/kg	
			o-Xylene	2021/08/30	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/30	<10		mg/kg	
A335767	DO1	RPD	Benzene	2021/08/30	NC		%	50
			Toluene	2021/08/30	NC		%	50
			Ethylbenzene	2021/08/30	NC		%	50
			m & p-Xylene	2021/08/30	NC		%	50
			o-Xylene	2021/08/30	NC		%	50
			F1 (C6-C10)	2021/08/30	NC		%	40
A336003	EC0	Matrix Spike	O-TERPHENYL (sur.)	2021/09/01		102	%	60 - 140
			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
A336003	EC0	Spiked Blank	O-TERPHENYL (sur.)	2021/08/31		95	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		92	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		89	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		97	%	60 - 140
A336003	EC0	Method Blank	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	
			F4 (C34-C50 Hydrocarbons)	2021/08/31	<50		mg/kg	
A336003	EC0	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/01	18		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/01	26		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/01	NC		%	40
A336176	GG3	Matrix Spike [AEO389-01]	O-TERPHENYL (sur.)	2021/08/30		96	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		73	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		80	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		79	%	60 - 140
A336176	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/30		109	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		101	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		104	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		94	%	60 - 140
A336176	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/30		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/30	<50		mg/kg	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F4 (C34-C50 Hydrocarbons)	2021/08/30	<50		mg/kg	
A336176	GG3	RPD [AEO389-01]	F2 (C10-C16 Hydrocarbons)	2021/08/30	7.0		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/30	1.9		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/30	14		%	40
A336179	GG3	Matrix Spike	O-TERPHENYL (sur.)	2021/08/31		110	%	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		96	%	60 - 140
A336179	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/31		106	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		96	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		99	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		91	%	60 - 140
A336179	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/31		104	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/31	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/31	<50		mg/kg	
A336179	GG3	RPD	F2 (C10-C16 Hydrocarbons)	2021/08/31	33		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/31	8.3		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/31	NC		%	40
A336201	KLG	Method Blank	Moisture	2021/08/31	<0.30		%	
A336201	KLG	RPD [AEO368-01]	Moisture	2021/08/31	2.5		%	20
A336205	KLG	Method Blank	Moisture	2021/08/31	<0.30		%	
A336205	KLG	RPD [AEO397-01]	Moisture	2021/08/31	1.5		%	20

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

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

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

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

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

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

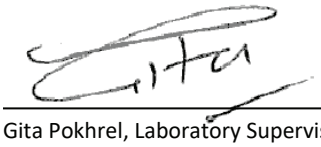
Bureau Veritas Laboratories Edmonton: 9331 - 48th Street T6B 2R4 Telephone (780)577-7100 Fax (780)450-4187

BV Labs Job #: C162535
Report Date: 2021/09/01

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

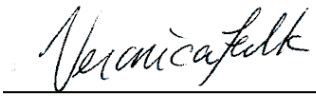
VALIDATION SIGNATURE PAGE

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

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

MaxXam
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MCAL

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #	
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COOLER OBSERVATIONS:

CUSTODY SEAL PRESENT (YES / NO)	CUSTODY SEAL INTACT (YES / NO)	ICE PRESENT (YES / NO)	COOLER ID	TEMP 1	TEMP 2	TEMP 3
✓	✓	✓		7	5	5
✓	✓	✓		4	4	4
✓	✓	✓		8	6	8
✓	✓	✓		5	5	5
✓	✓	✓		8	6	7

MAXXAM JOB#:

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

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
NATASHA MUKUCHA	[signature]	2021/08/24	15:50

Maxxam
A Bureau Veritas Group Company

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #	
Page 1 of 1	
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COOLER OBSERVATIONS:

Custody Seal Present (YES / NO)	Custody Seal Intact (YES / NO)	Ice Present (YES / NO)	Cooler ID	Temp 1	Temp 2	Temp 3
YES ✓	YES ✓	YES ✓		7	4	3
YES ✓	YES ✓	YES ✓		5	6	4
YES ✓	YES ✓	YES ✓		2	1	7
YES ✓	YES ✓	YES ✓		6	8	5
YES ✓	YES ✓	YES ✓		6	4	5

MAXXAM JOB#:

Custody Seal Present (YES / NO)	Custody Seal Intact (YES / NO)	Ice Present (YES / NO)	Cooler ID	Temp 1	Temp 2	Temp 3

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
J. Mercado	[signature]	2021/08/23	8:30 AM

Bureau Veritas Laboratories
4000 19st 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

Page 1 of 3

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 #: C162935	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-20-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	~~ATI~~ Regulated Metals - Soils	CCME 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	N/A	TP21-12-02	18Aug/21	09:40	Soil			✓									3	
2		TP21-12-04		09:41				✓									3	
3		TP21-12-05		09:42				✓									3	
4		TP21-19-01		10:05				✓									3	
5		TP21-19-04		10:06				✓									3	
6		TP21-19-06		10:06				✓	✓								3	
7		TP21-73-02		11:04				✓									3	
8		TP21-73-04		11:05				✓									3	
9		TP21-73-05		11:05				✓	✓								3	
10		Dup H		11:22				✓									3	

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: _____ *(call lab for #)*

Received in Yellowknife
By: J.McCann @ 8:30 AM
AUG 23 2021
see AGZZ
Temp: / /

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/23	0800	NATASHA MUKUCHA	2021/08/24	15:50		☐	ACTR	☑ 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.
* 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

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st 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

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 #: C162935	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-21-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	Regulated Metals - Soils	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	N/A	TP21-105-03	18AUG/21	14:12	SOIL			✓									3	
2		TP21-105-04		14:13				✓									3	
3		TP21-105-06		14:14				✓									3	Received in Yellowknife
4		TP21-82-03		11:15				✓									3	By: J MCFEARN
5		TP21-82-04		11:15				✓									3	@ 8:30 AM
6		TP21-82-06		11:22				✓									3	AUG 23 2021
7		TP21-50 02		10:27				✓									3	
8		TP21-50-04		10:28				✓									3	Temp:
9		TP21-50-06		10:29				✓									3	
10		DUP 6		10:28				✓									3	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
PETER TAN	21/08/19	0800	NATASHA MUKUCHA	15:50 2021/08/24	15:50	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[ ]	ACTR	[x] 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.
NMU - 21/08/24
* 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

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st 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

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 #:	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-22-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	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	N/A	TP21-42-03	18 Aug/21	10:11	SOIL			✓									3	
2		TP21-42-04	↓	10:12	↓			✓									3	
3		TP21-42-05	↓	10:14	↓			✓									3	
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

Received in Yellowknife
By: J. Mercado
@ 15:30 hr
AUG 23 2021
Temp: / /

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/18	18:00	NATASHA MUNUCHA	21/08/24	15:50		[ ]	ACTR	[x] 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.
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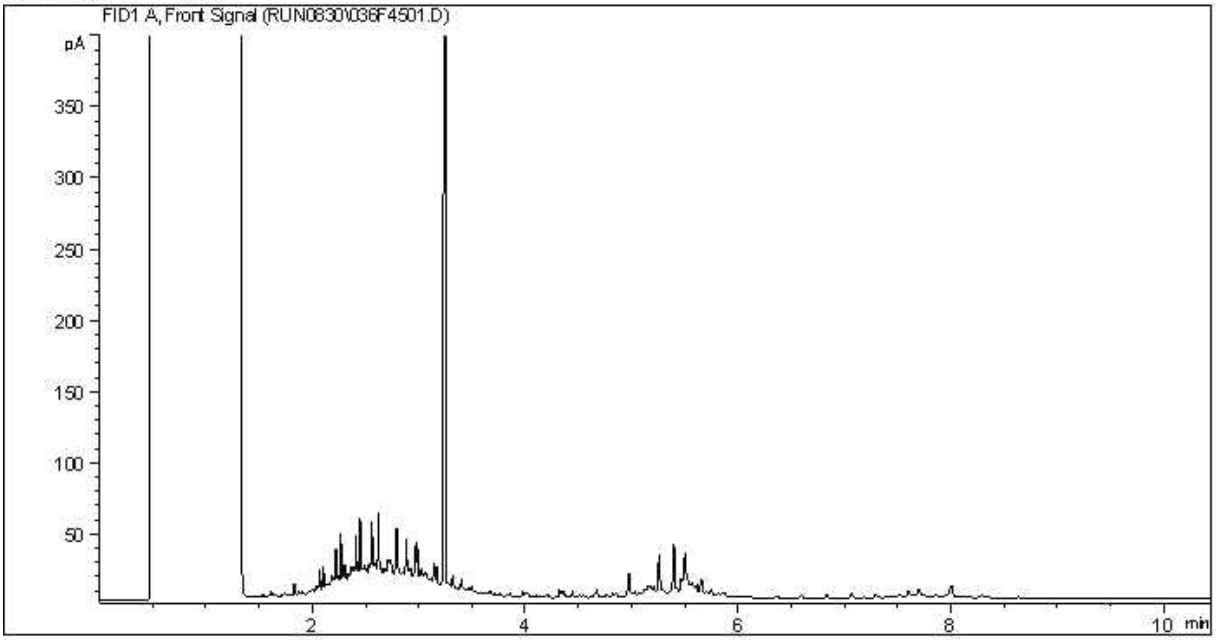
** ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER

White: BV Labs Yellow: Client

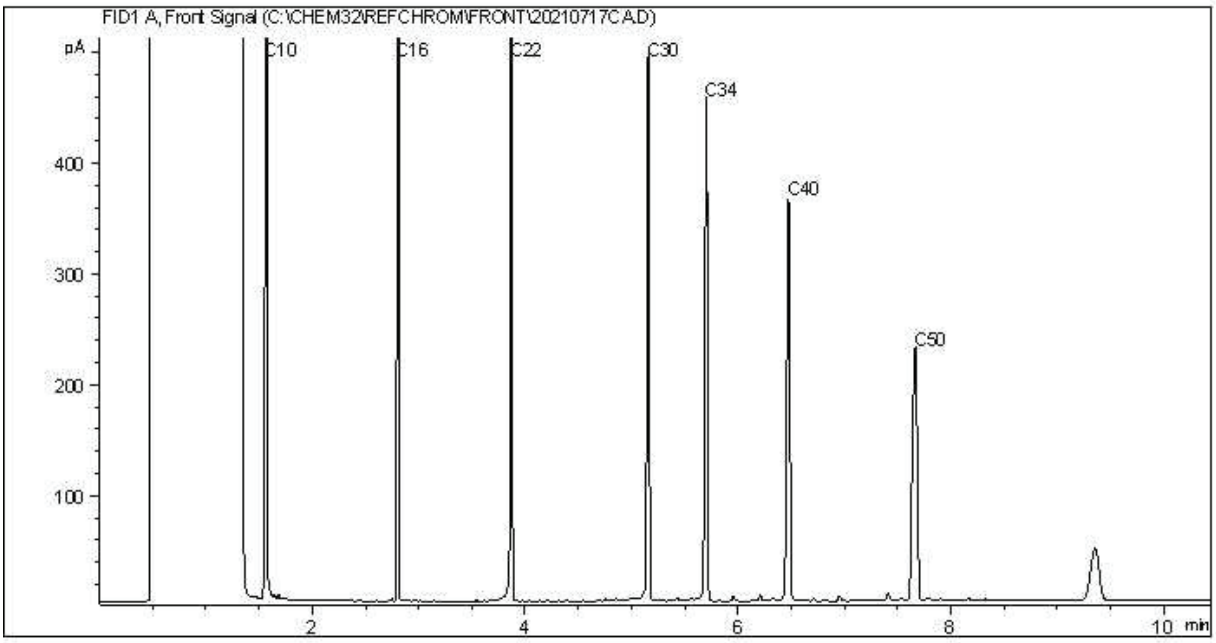
Bureau Veritas Canada (2019) Inc.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



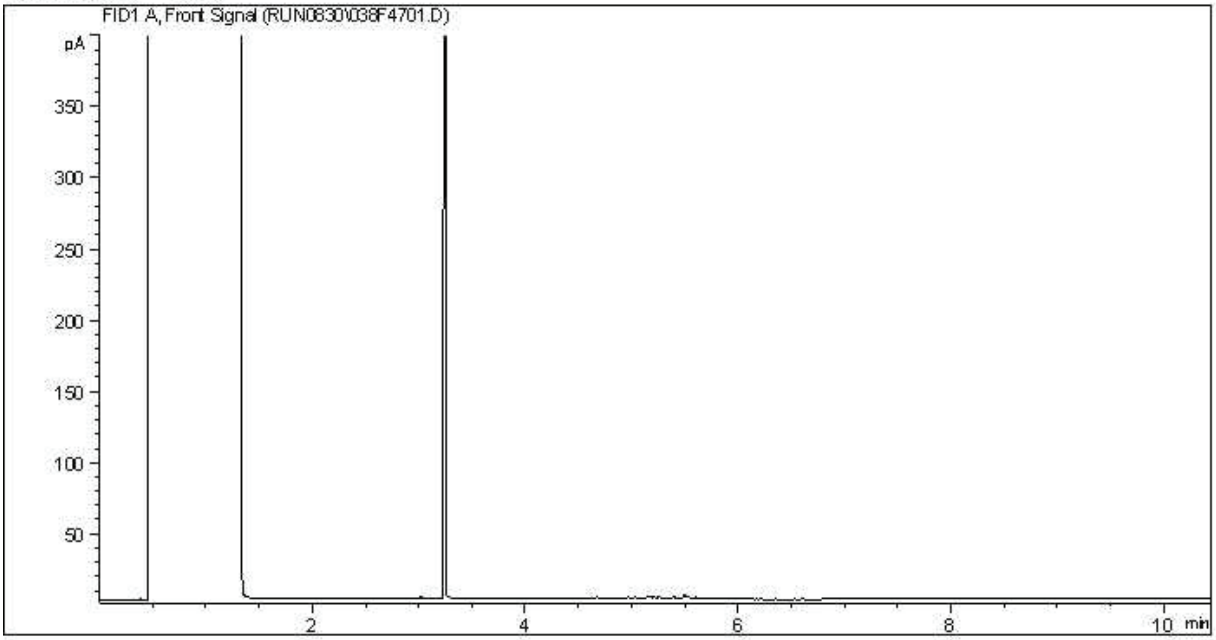
TYPICAL PRODUCT CARBON NUMBER RANGES

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

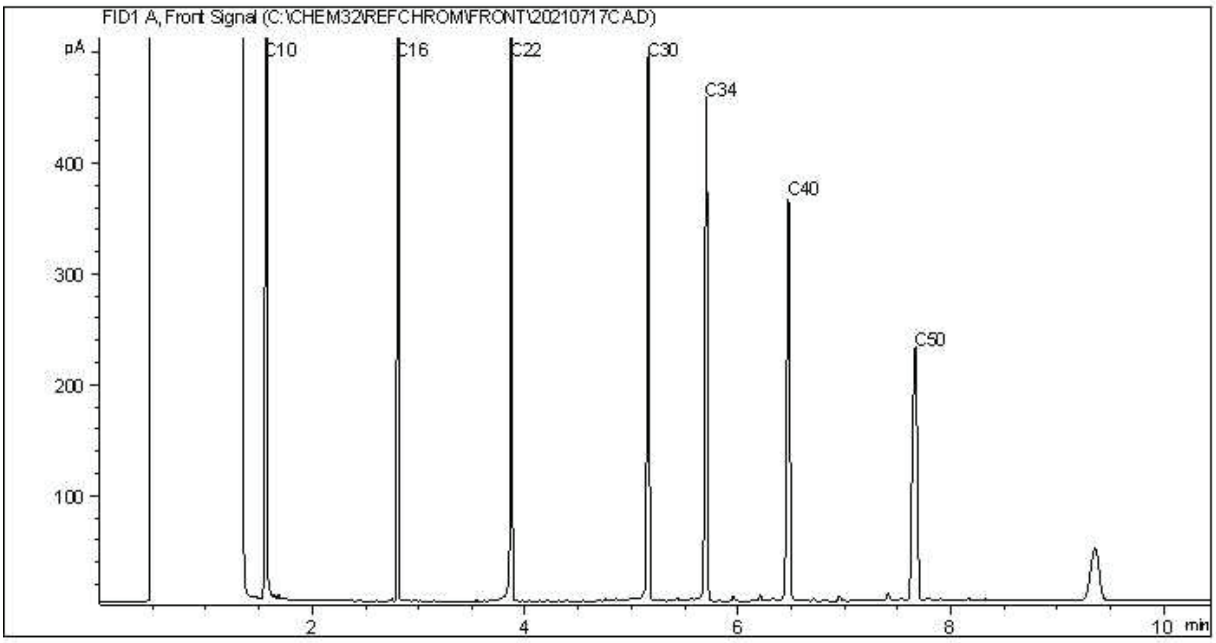
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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
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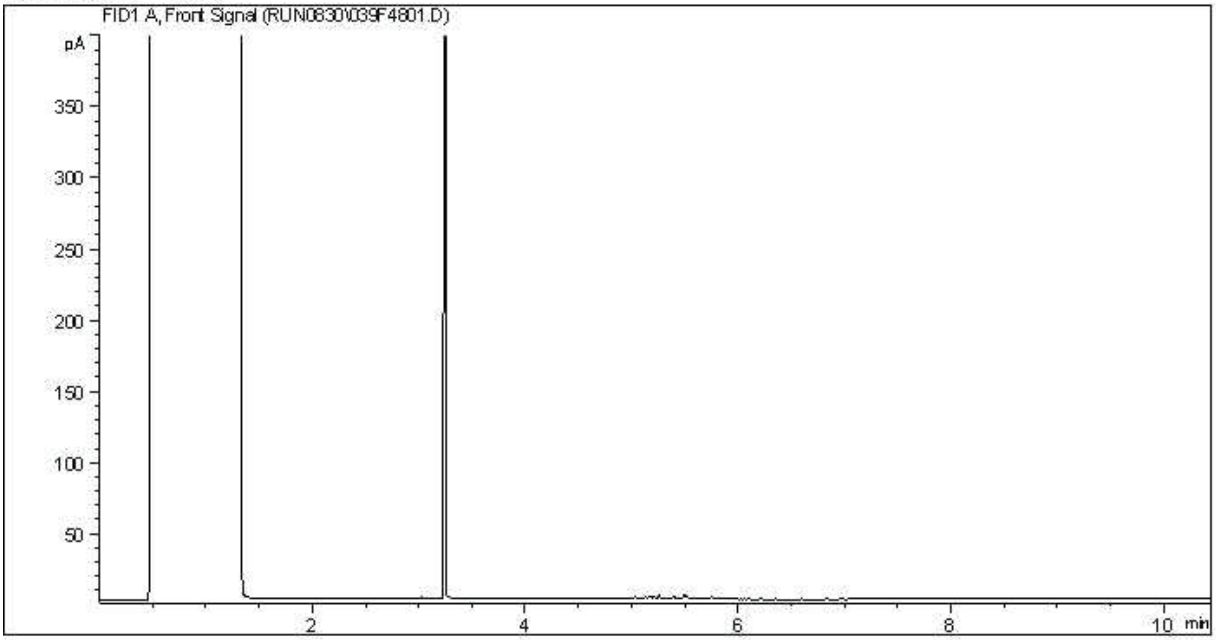
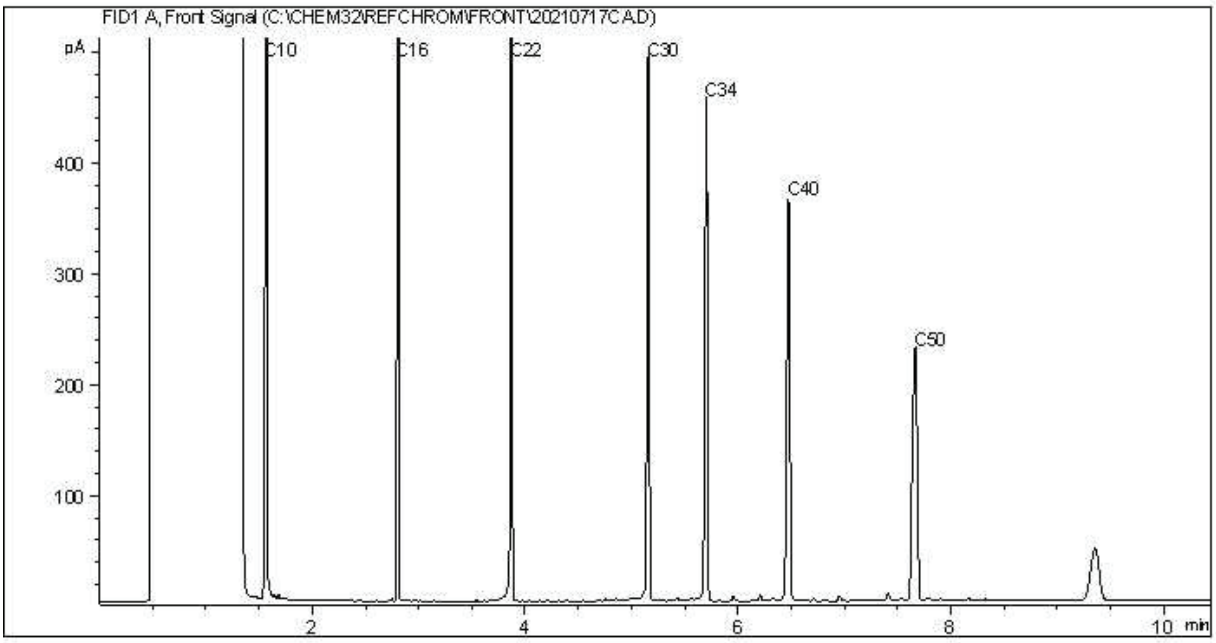
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



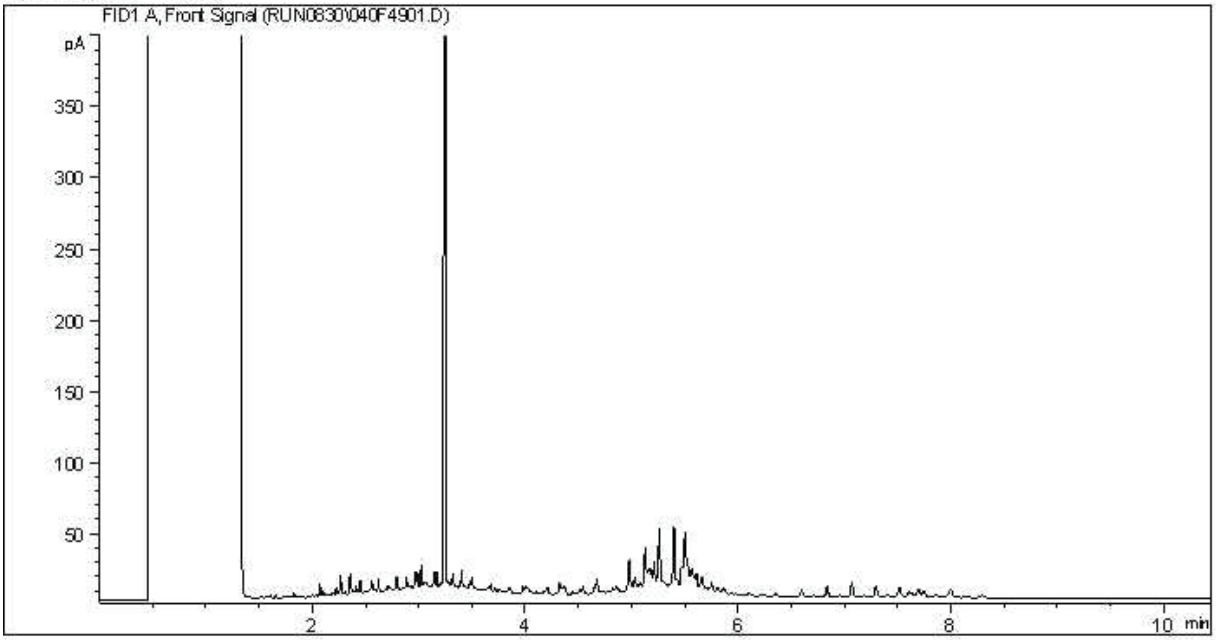
TYPICAL PRODUCT CARBON NUMBER RANGES

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

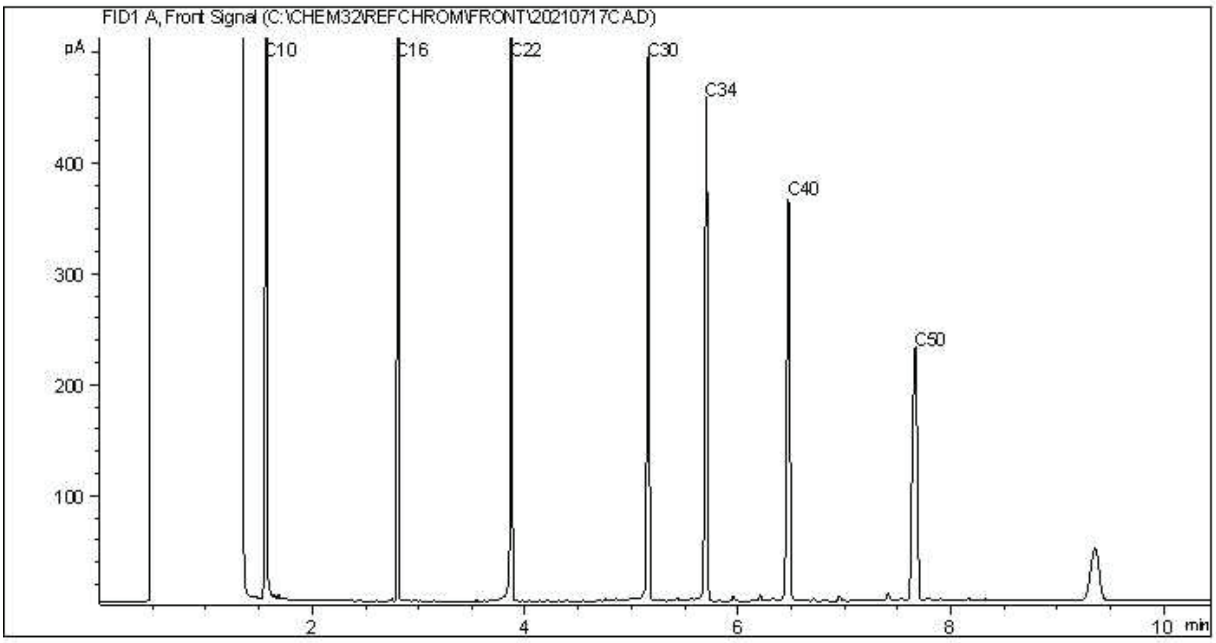
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

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

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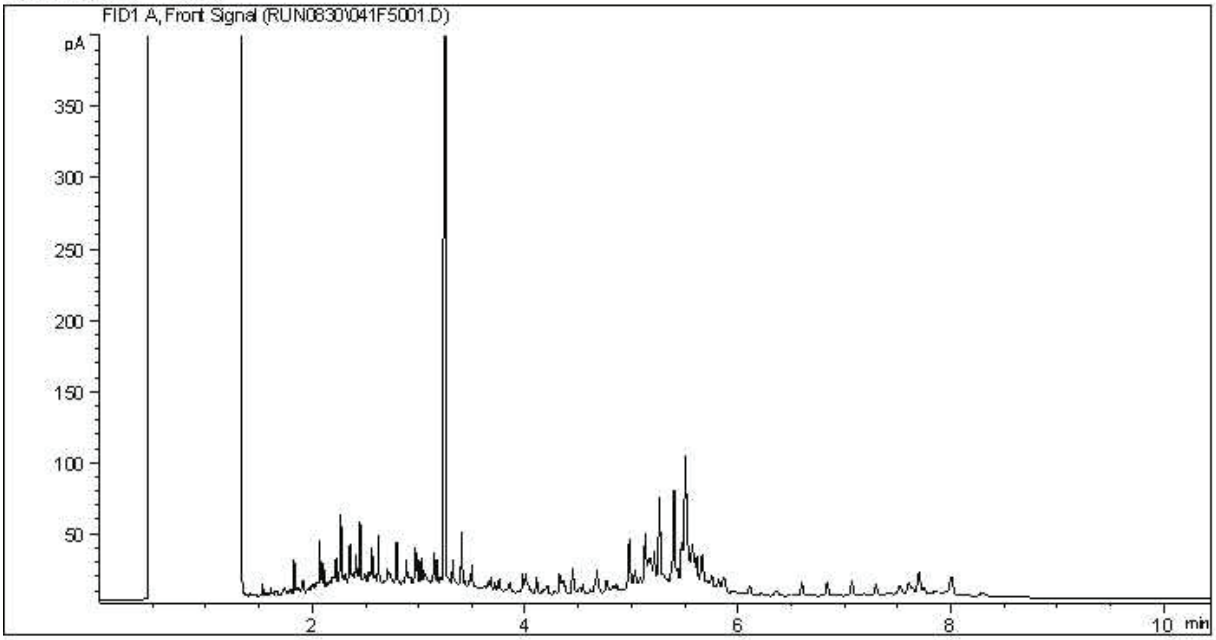
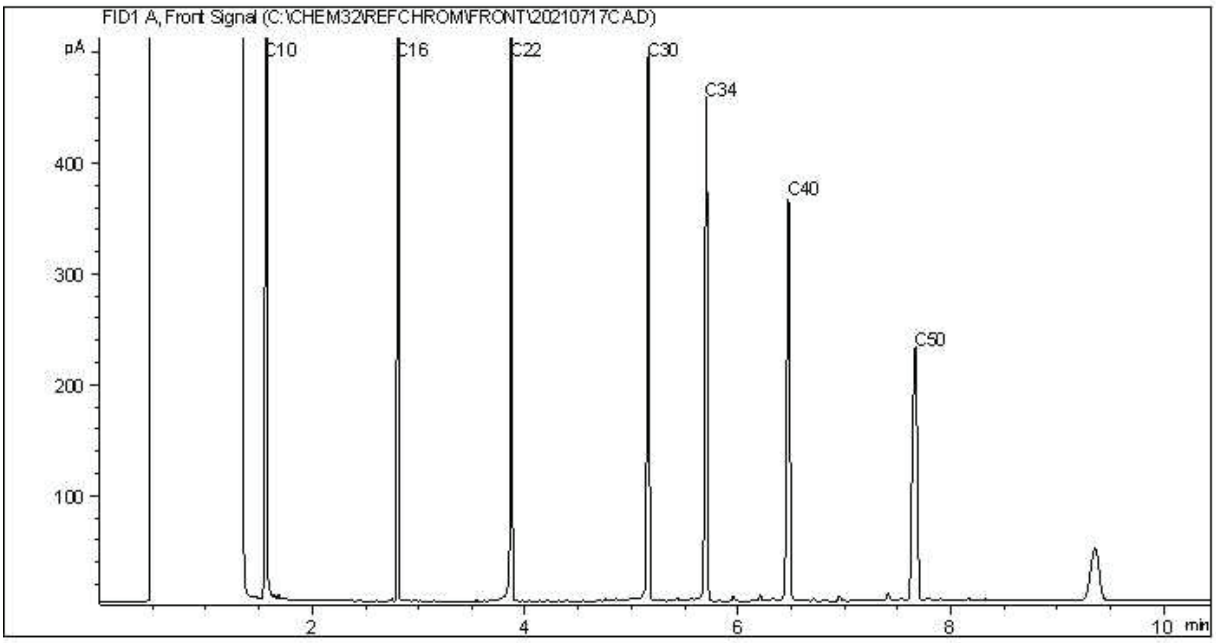
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



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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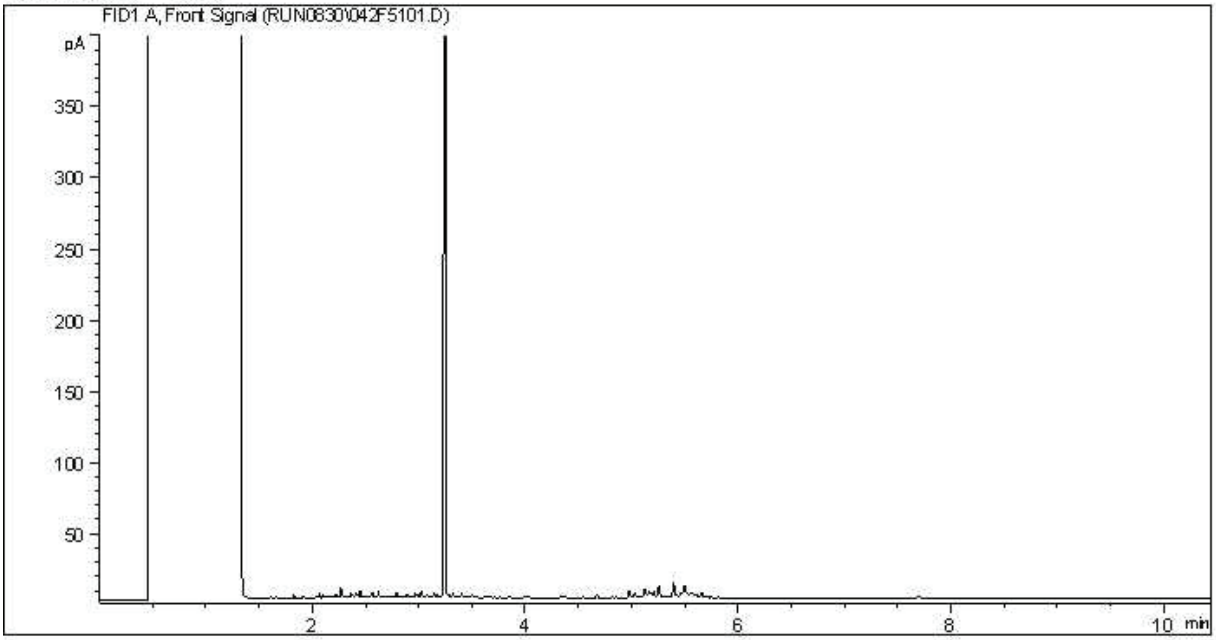
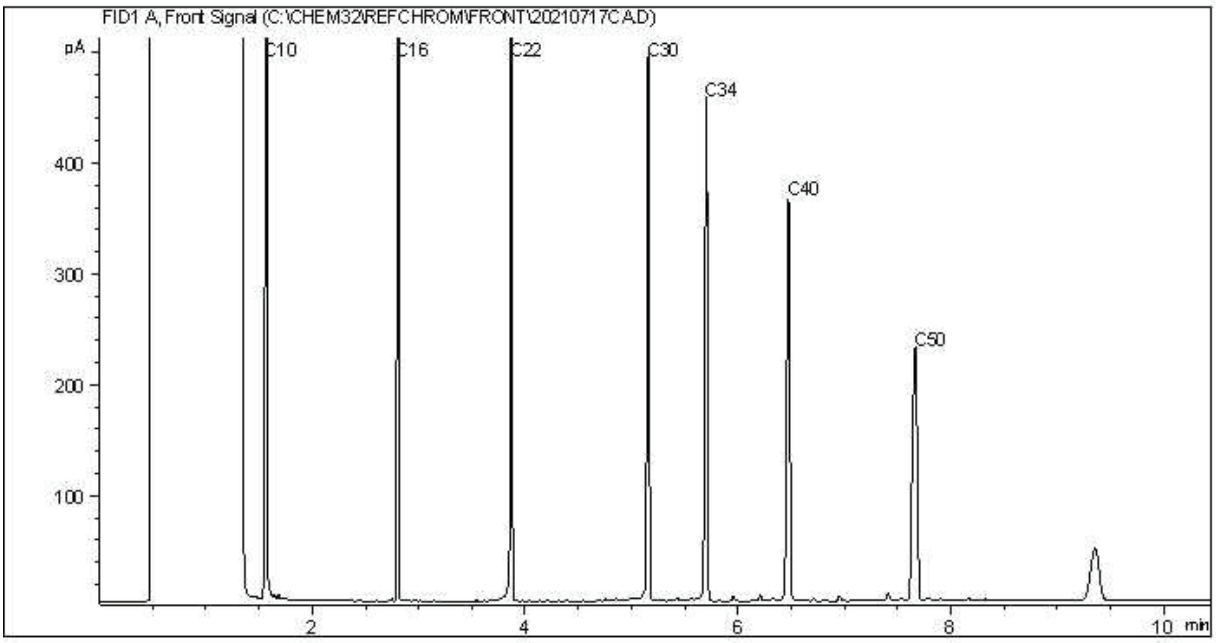
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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Varsol:	C8 - C12	Lubricating Oils:	C20 - C40
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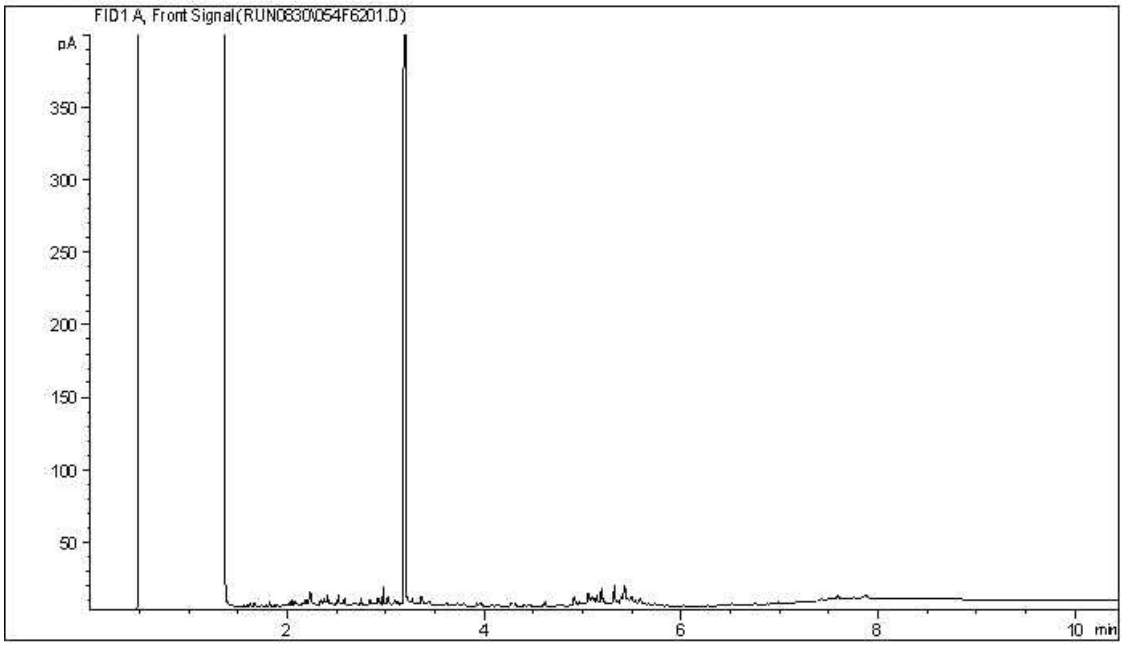
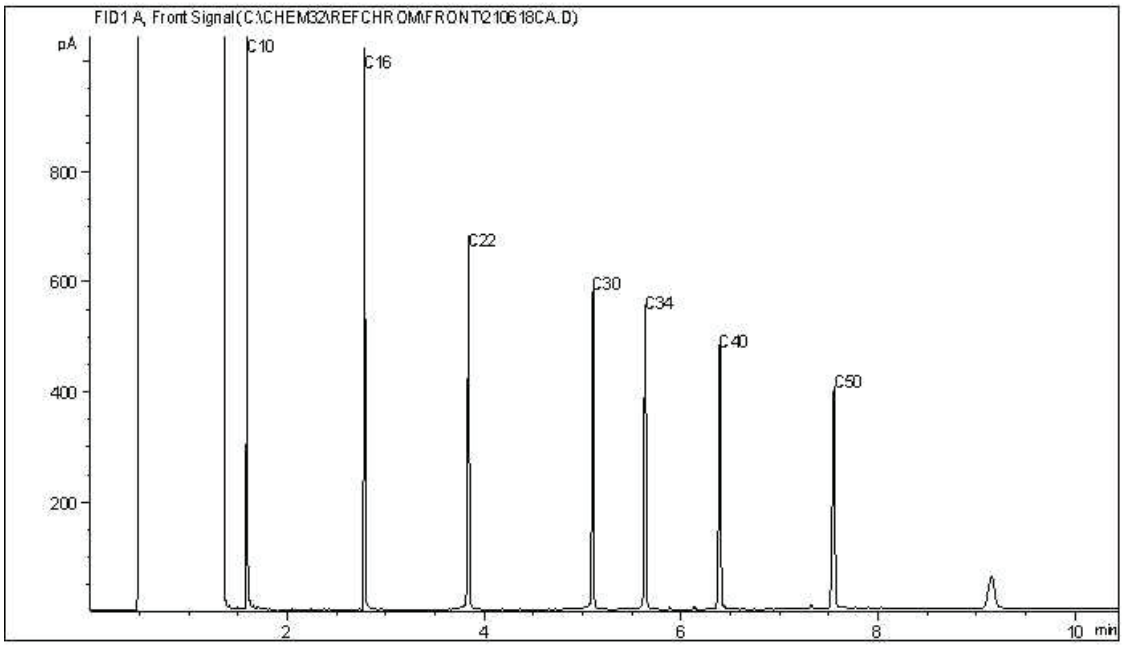
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

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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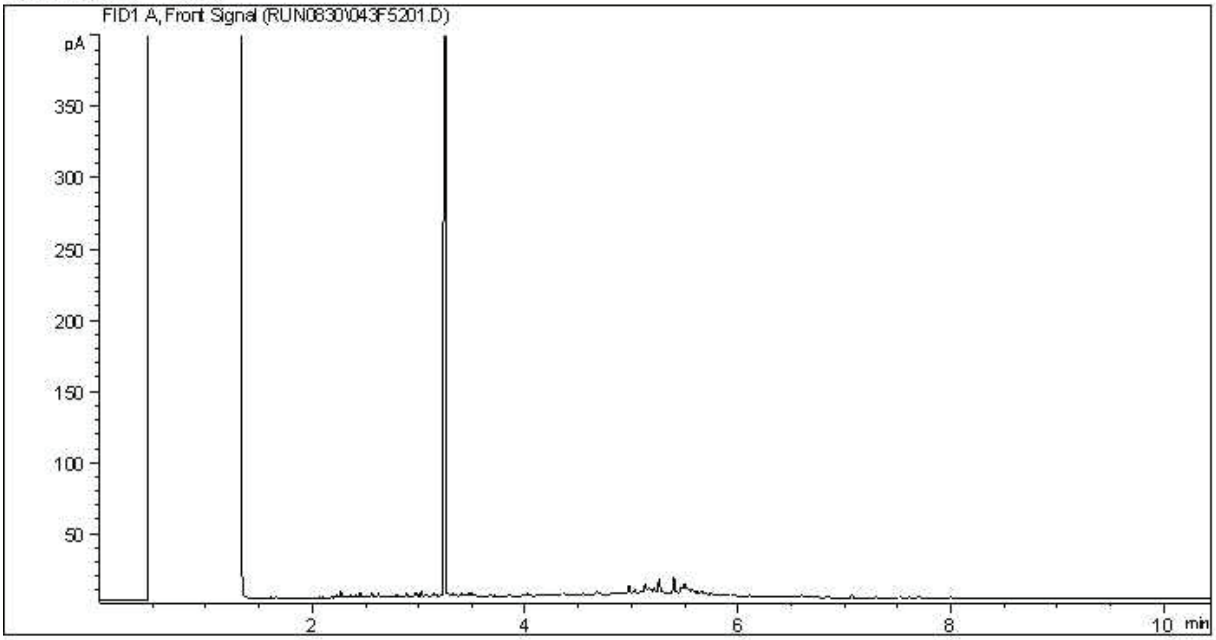
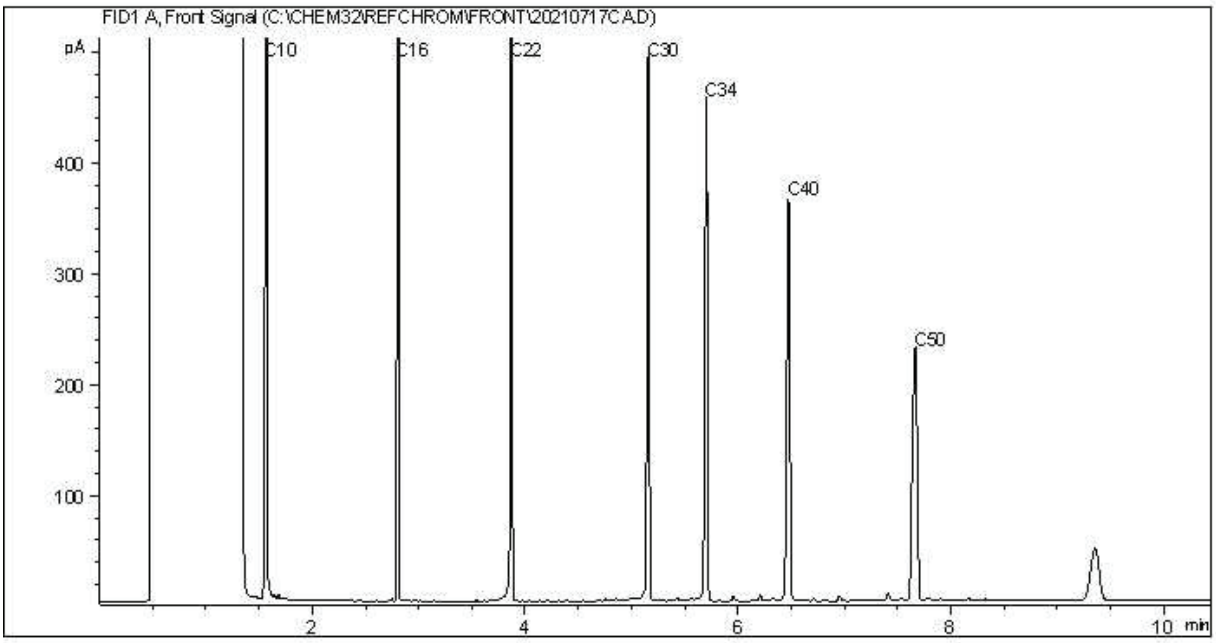
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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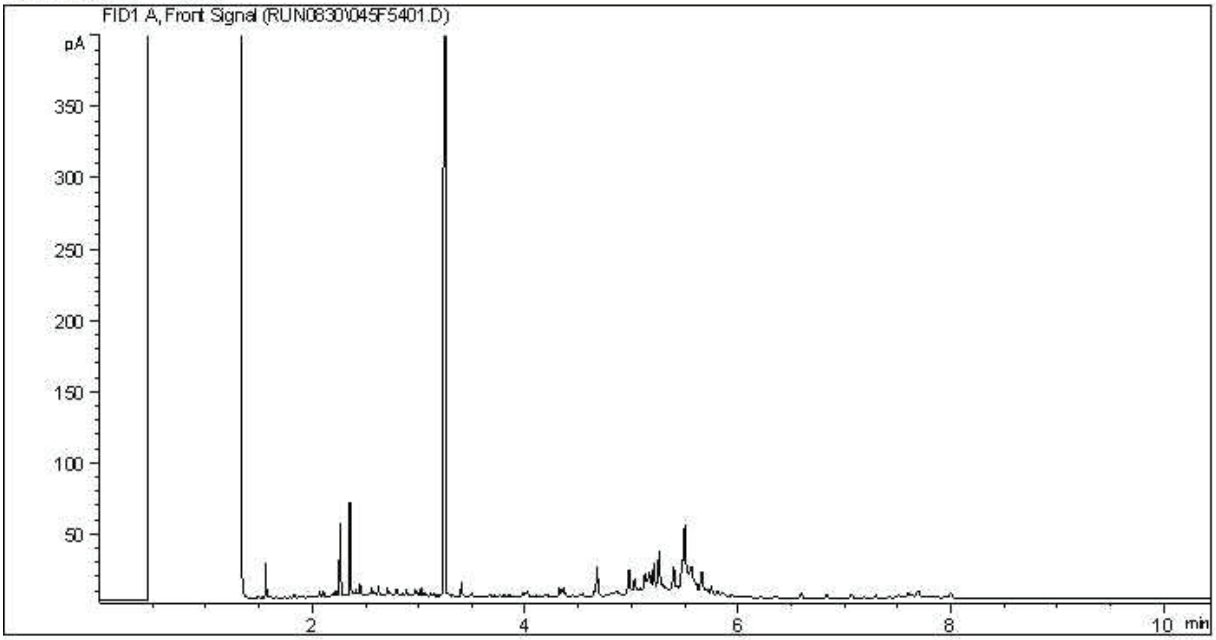
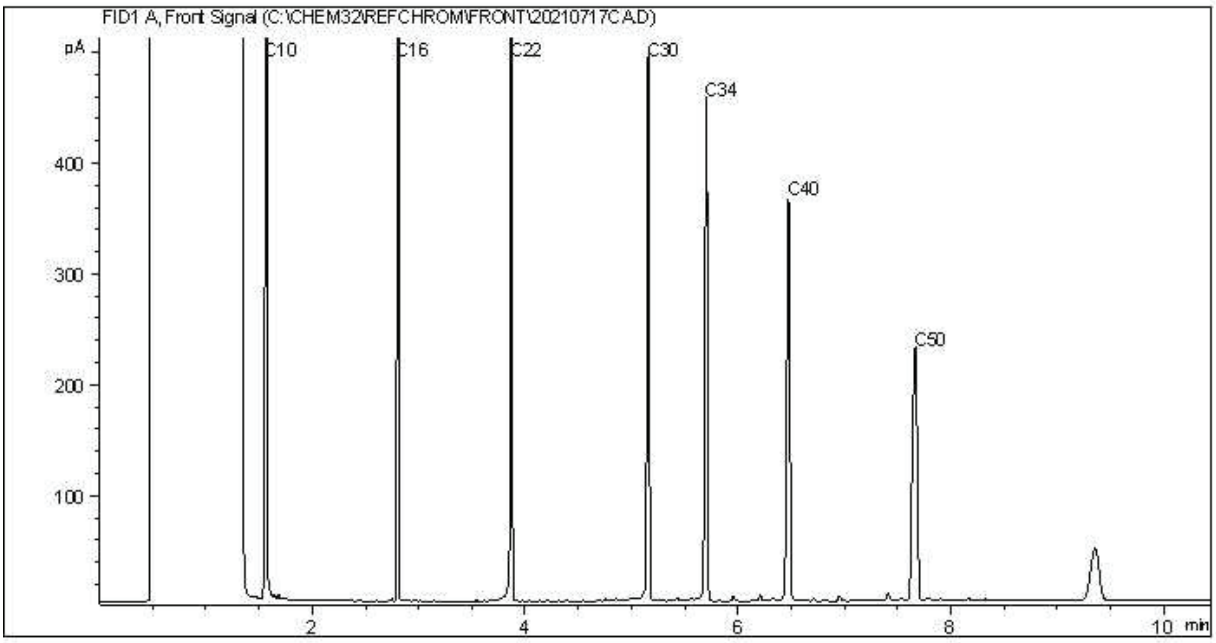
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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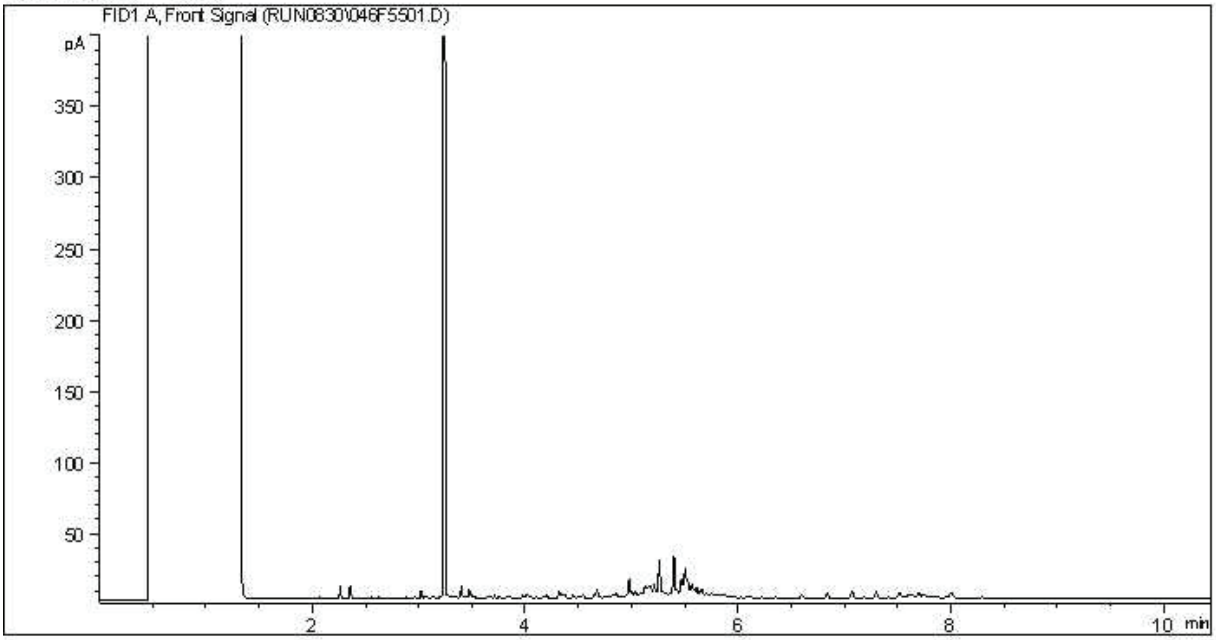
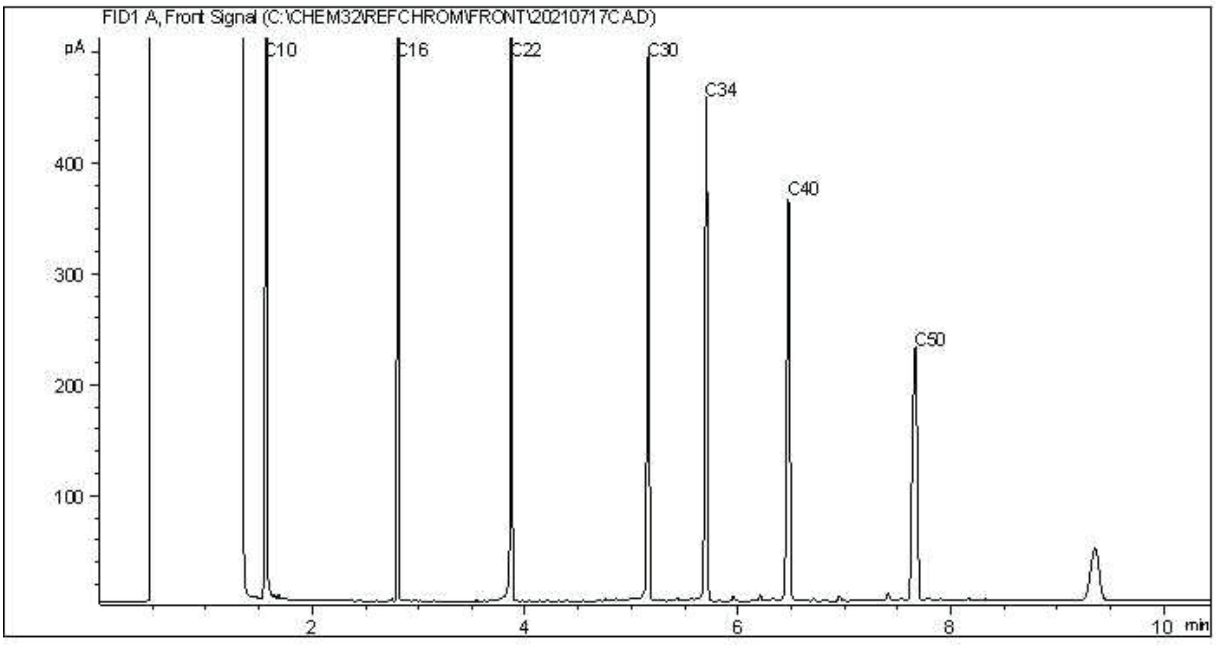
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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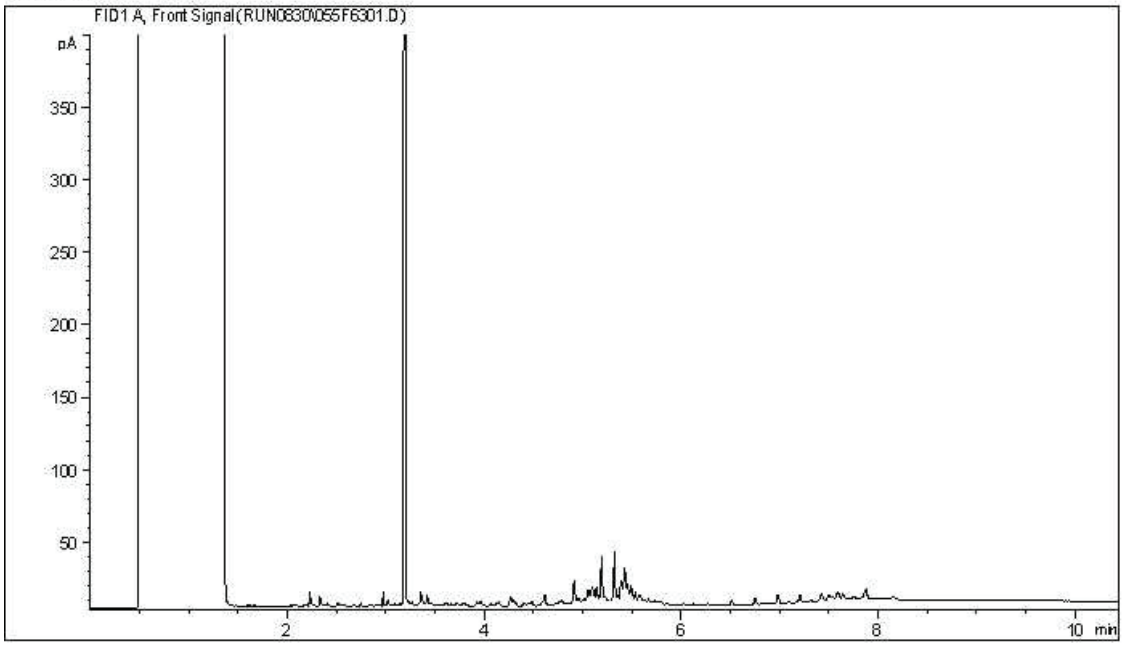
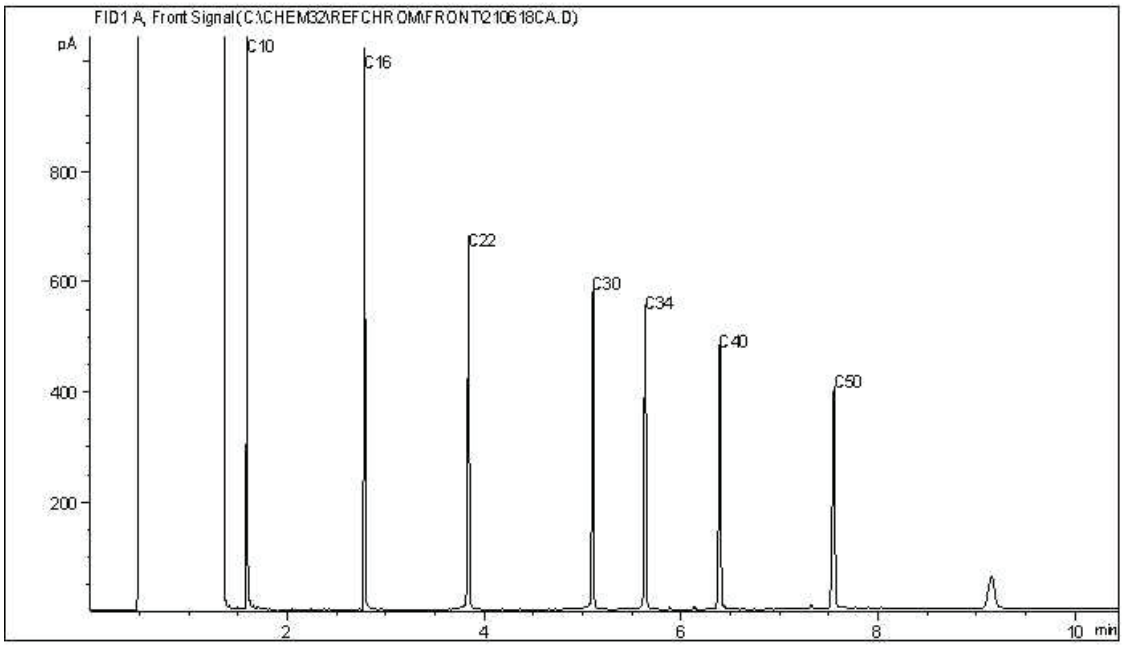
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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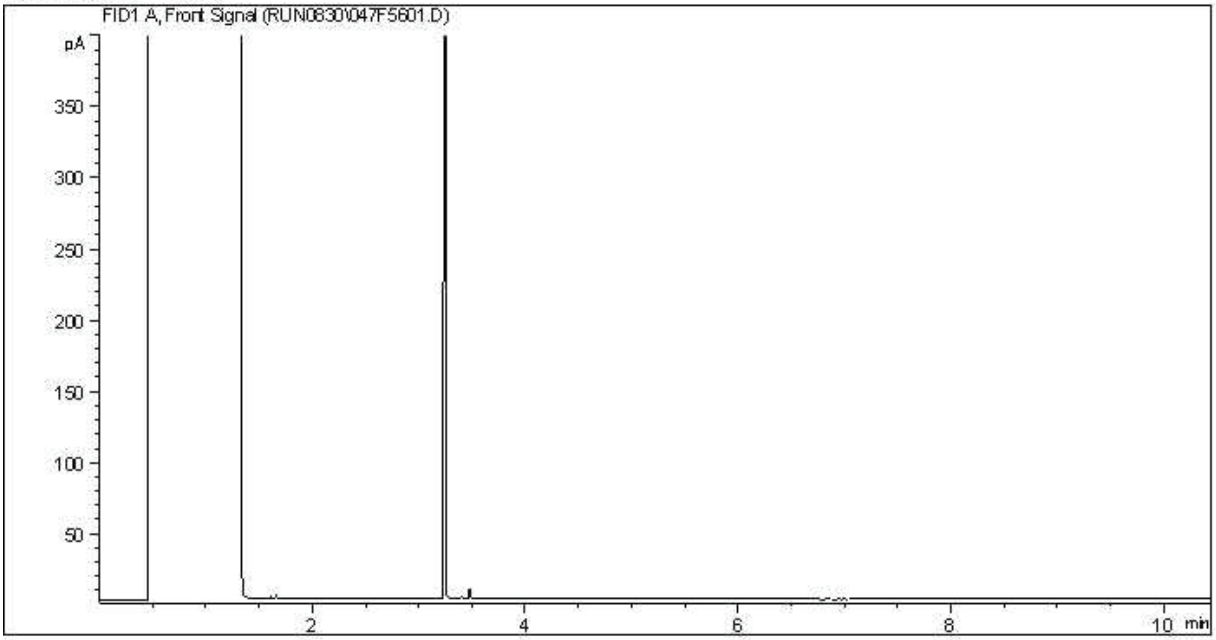
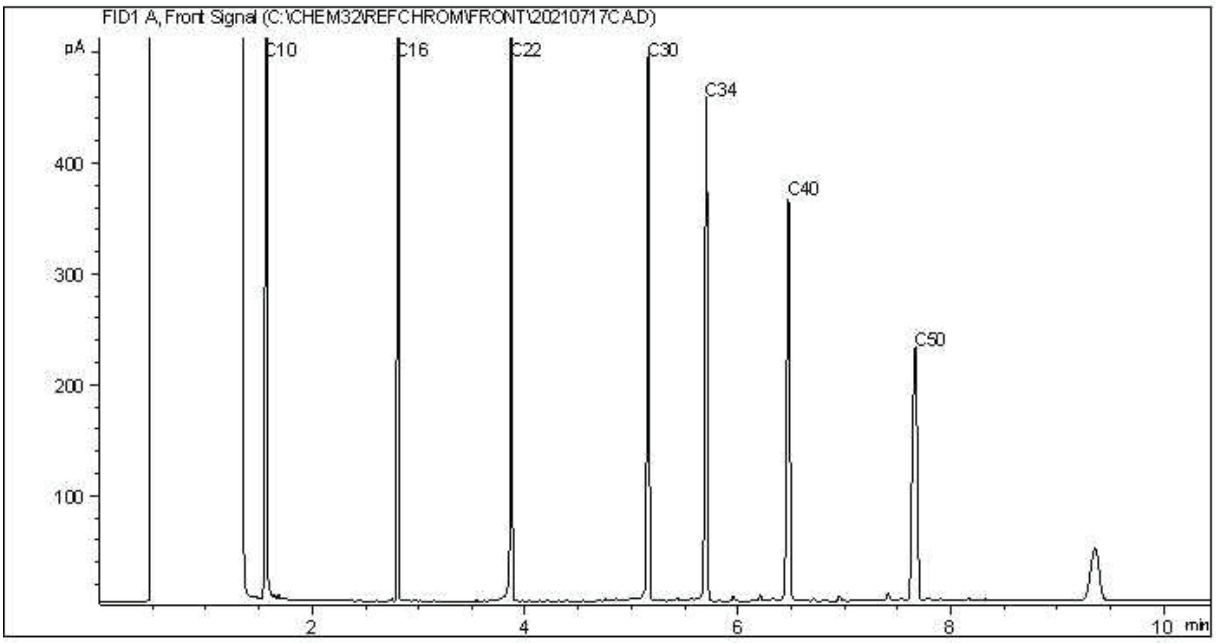
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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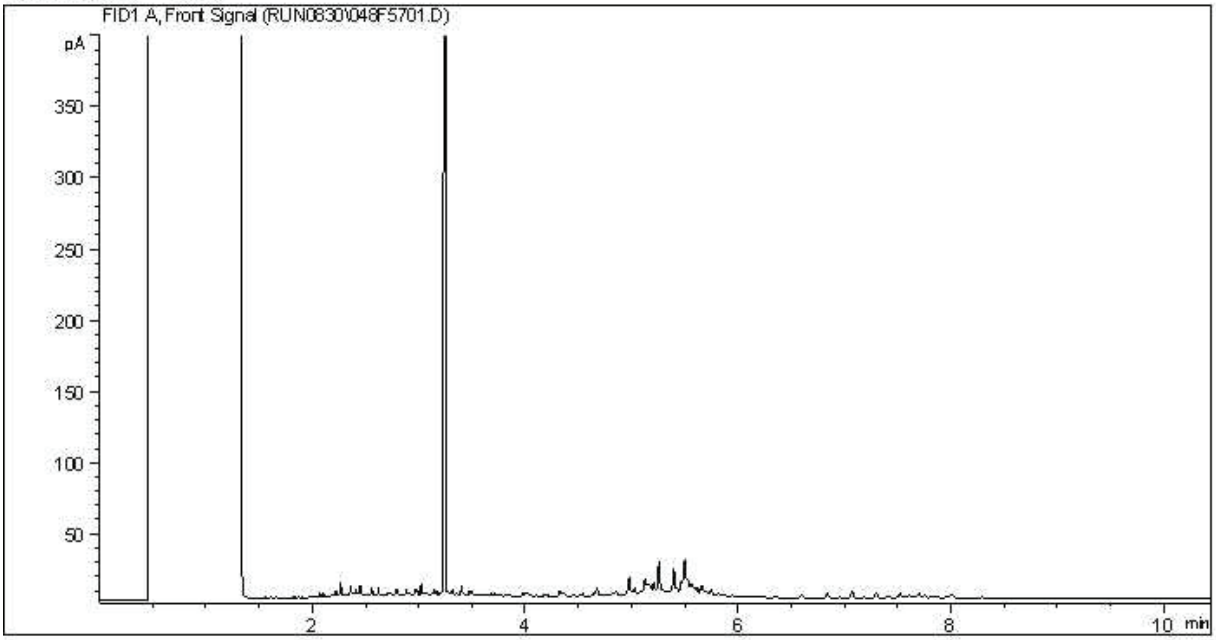
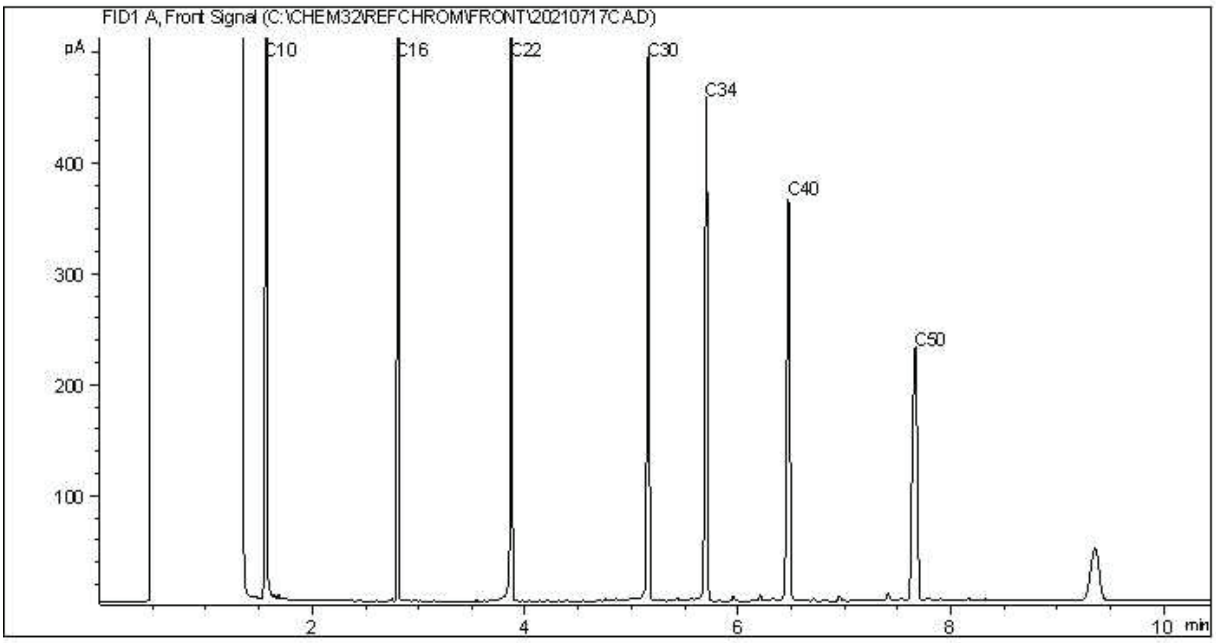
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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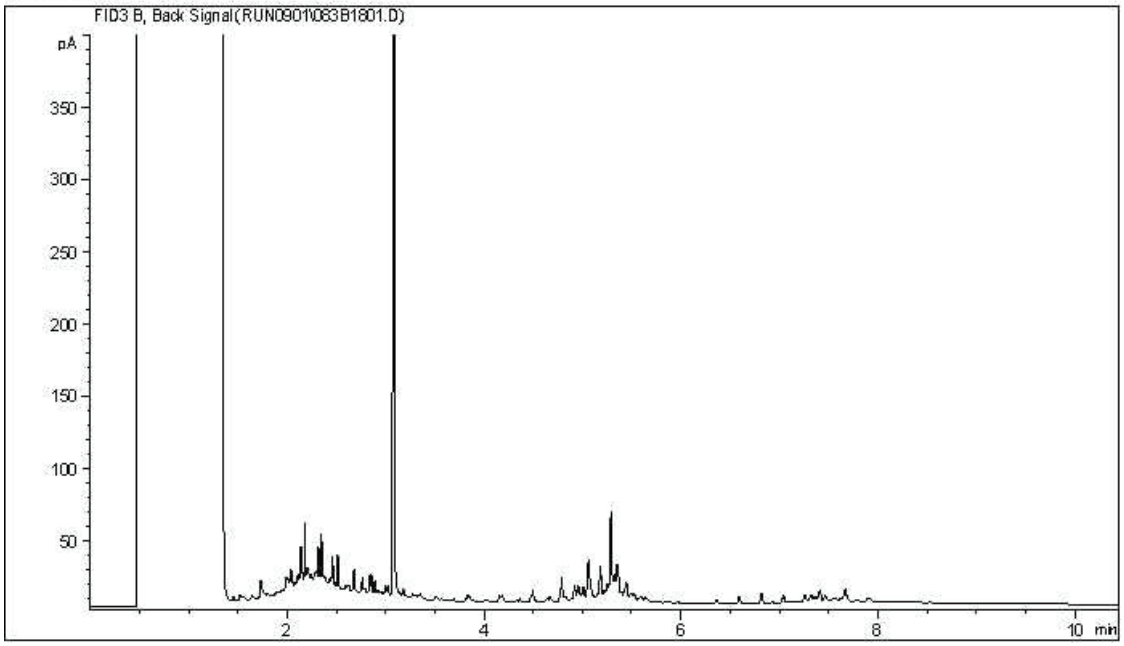
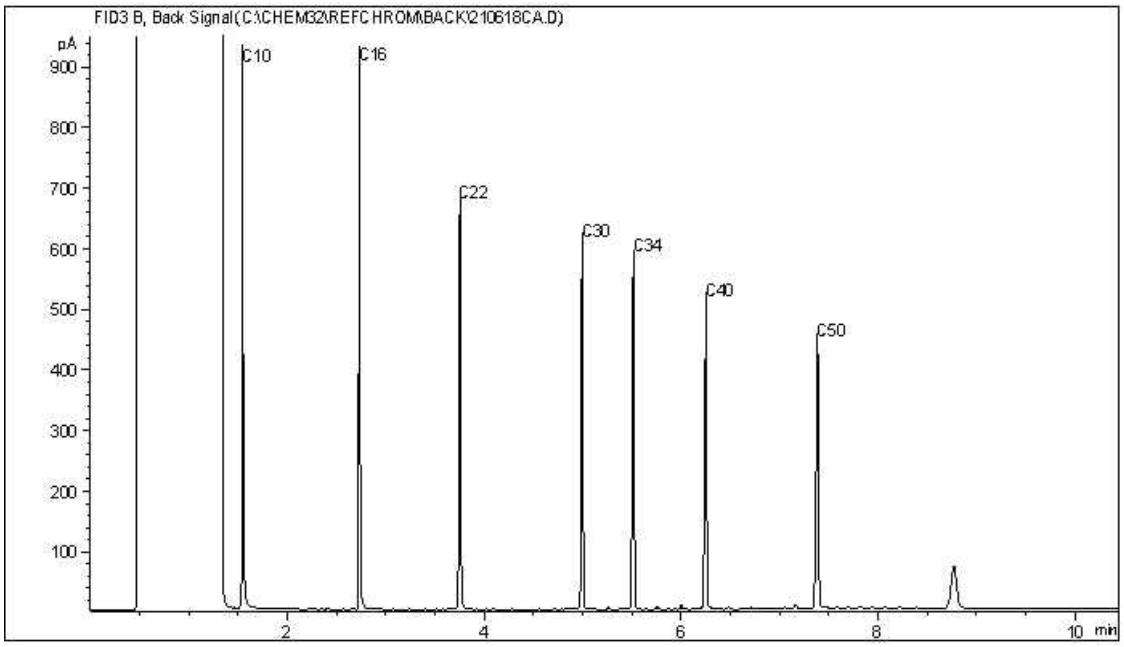


Carbon Range Distribution - Reference Chromatogram



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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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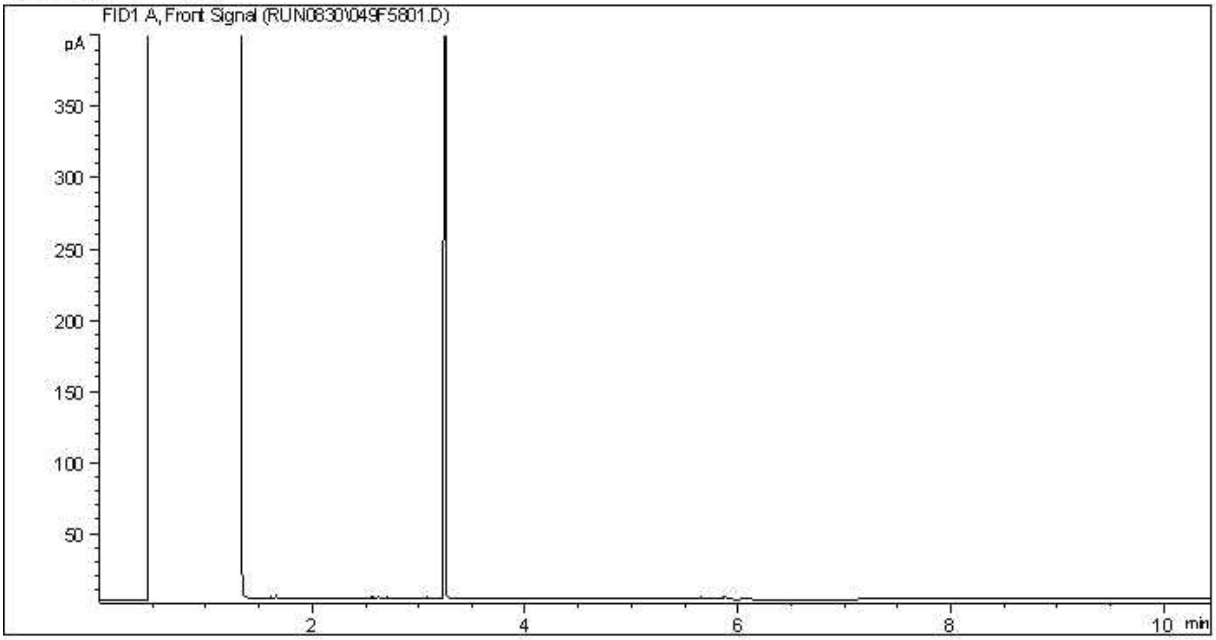
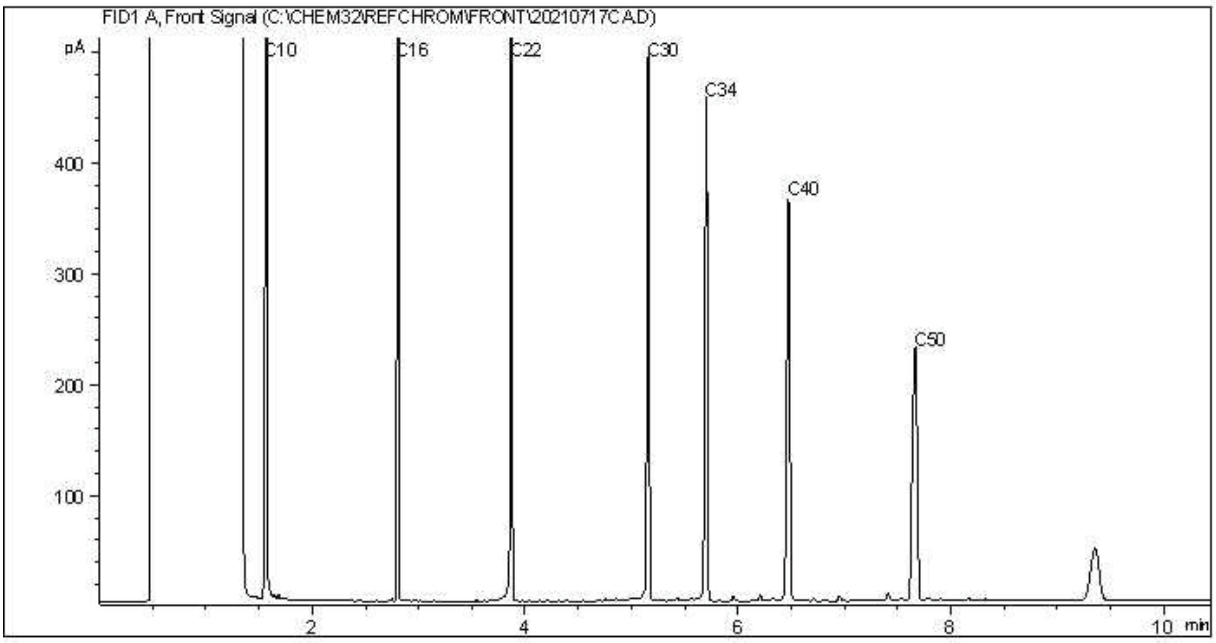


Carbon Range Distribution - Reference Chromatogram



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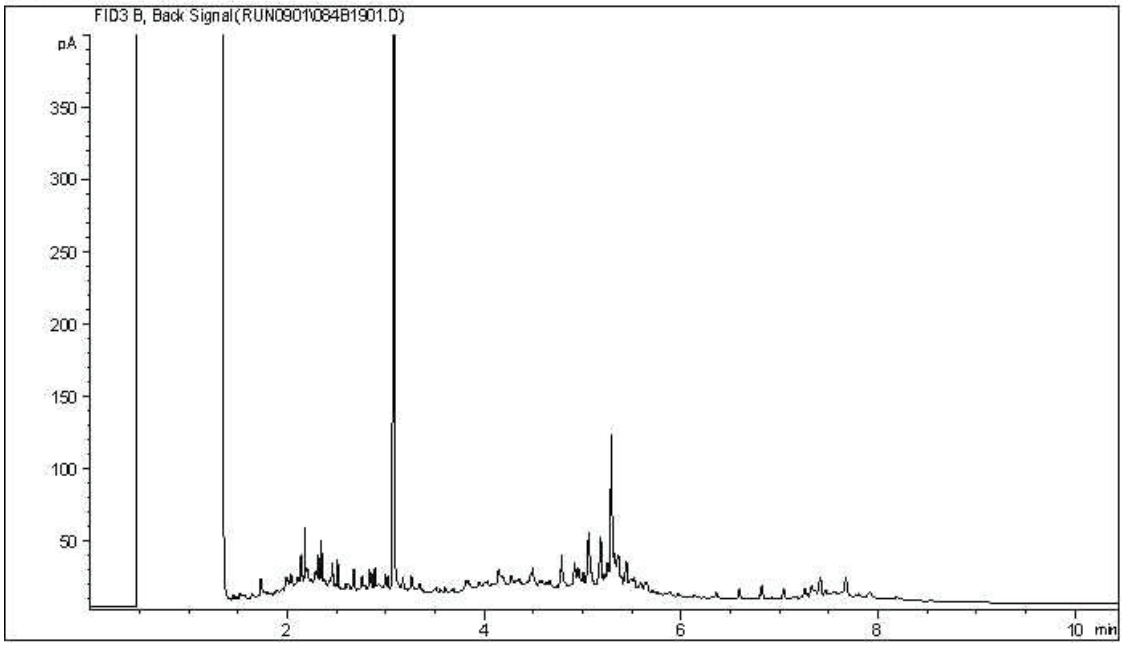
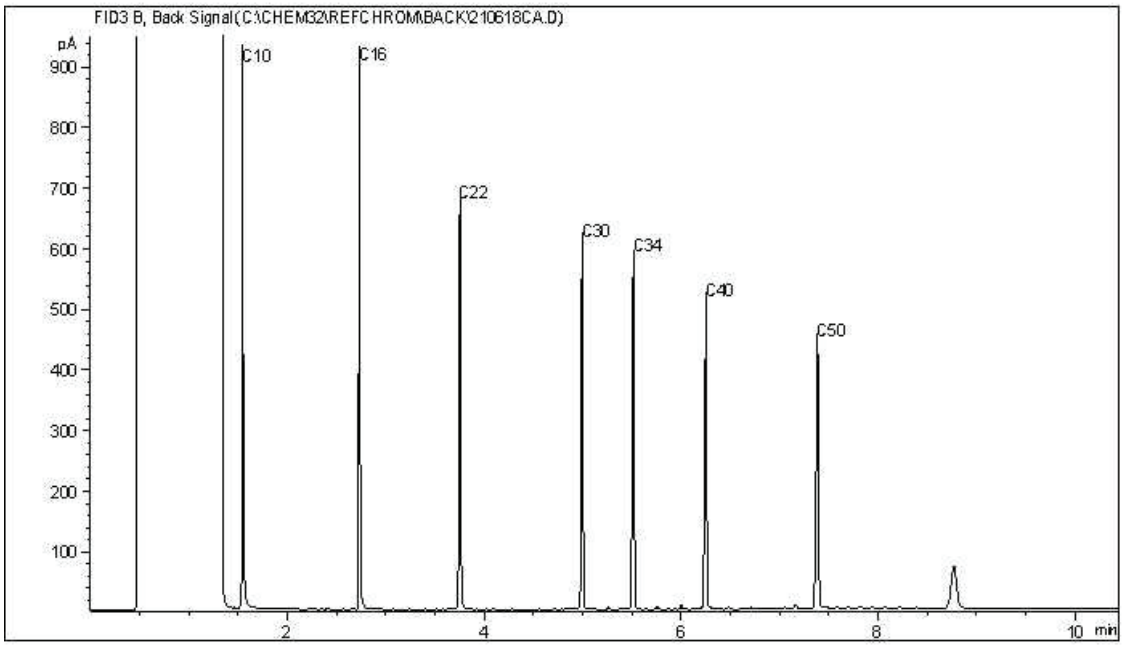


Carbon Range Distribution - Reference Chromatogram



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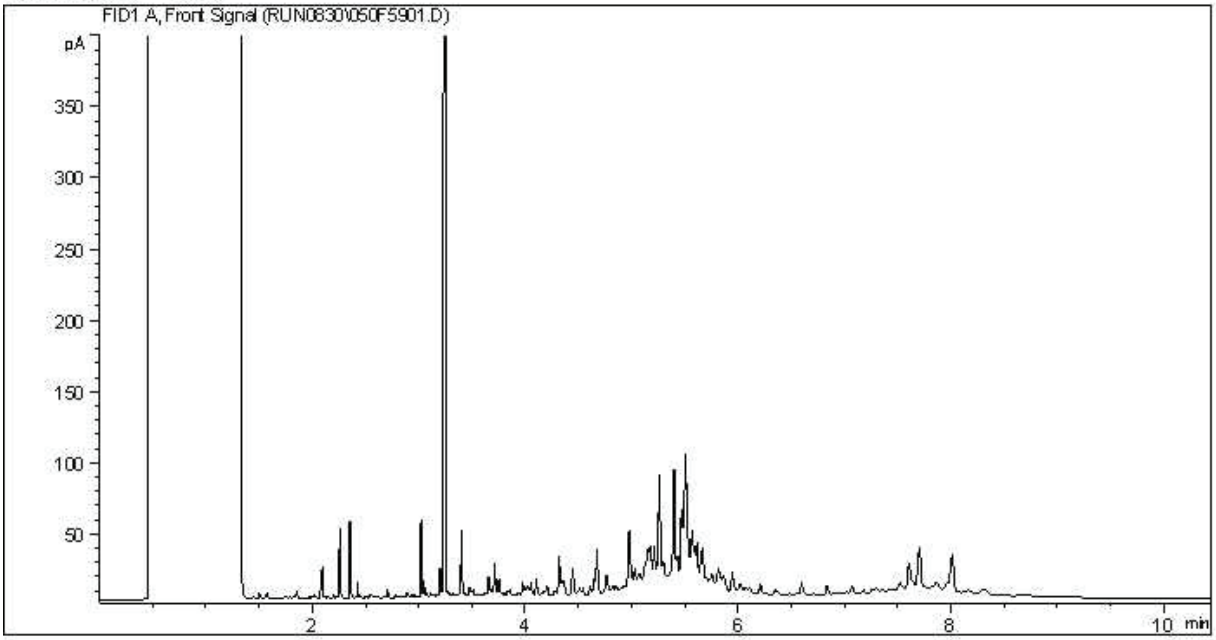
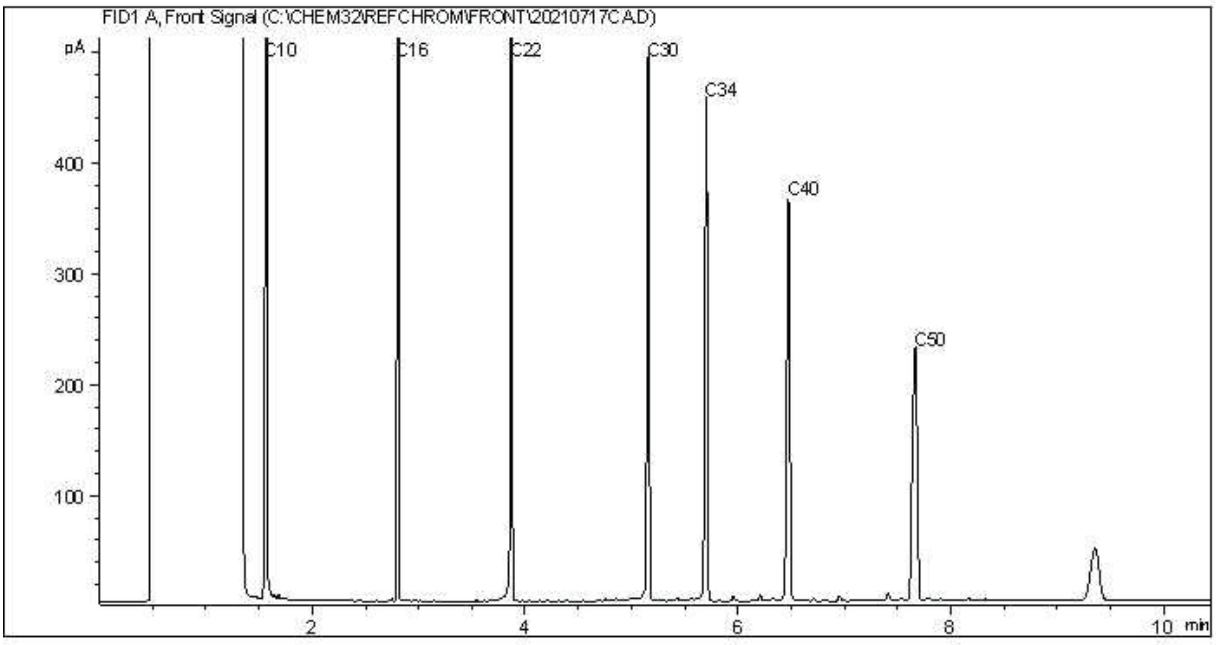


Carbon Range Distribution - Reference Chromatogram



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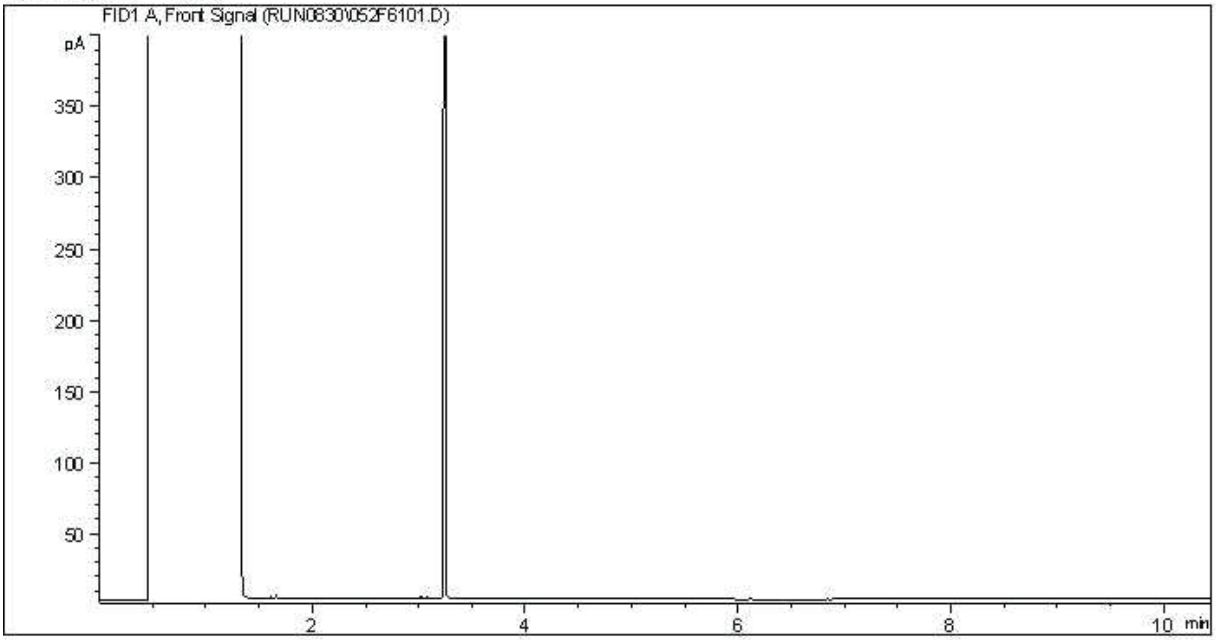
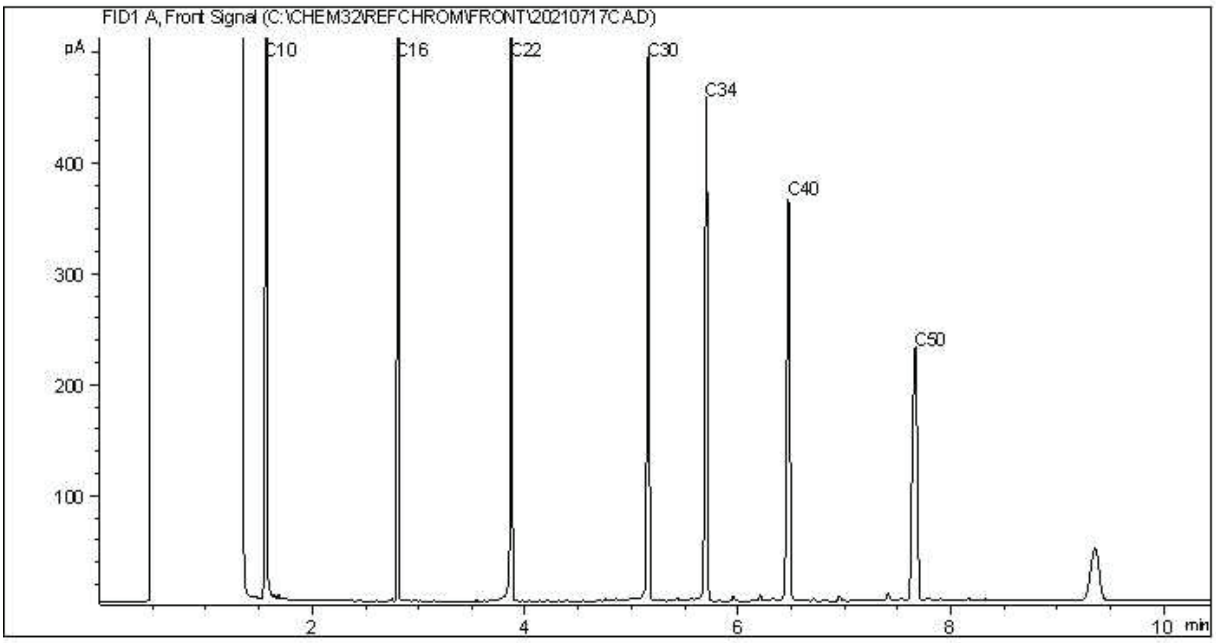


Carbon Range Distribution - Reference Chromatogram



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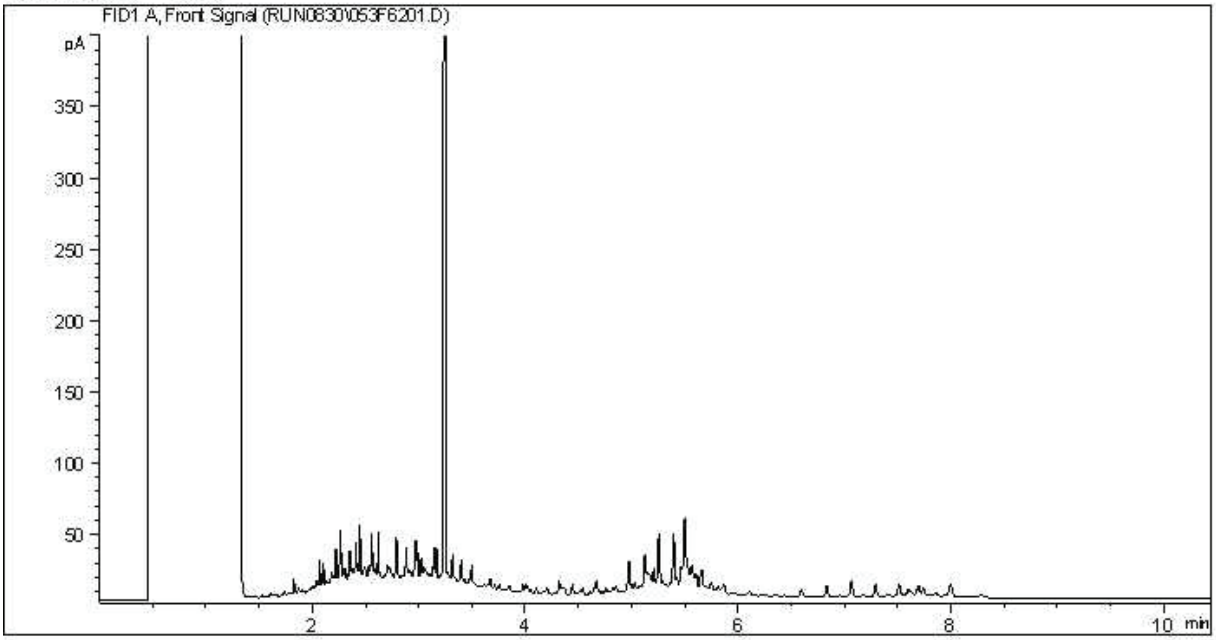
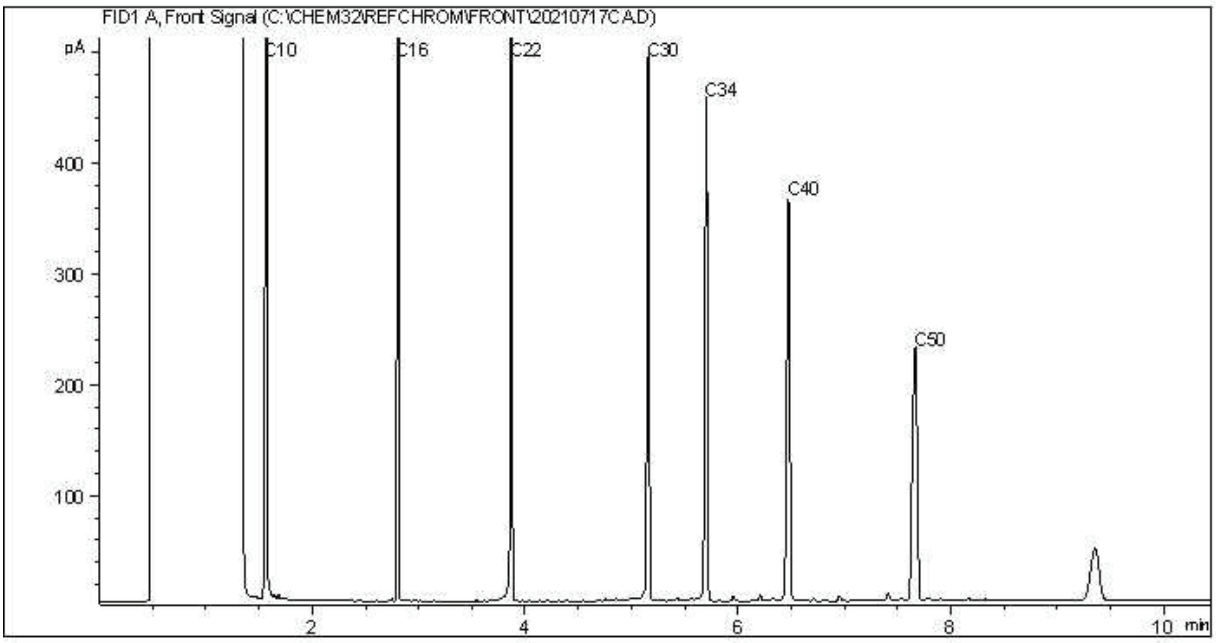


Carbon Range Distribution - Reference Chromatogram



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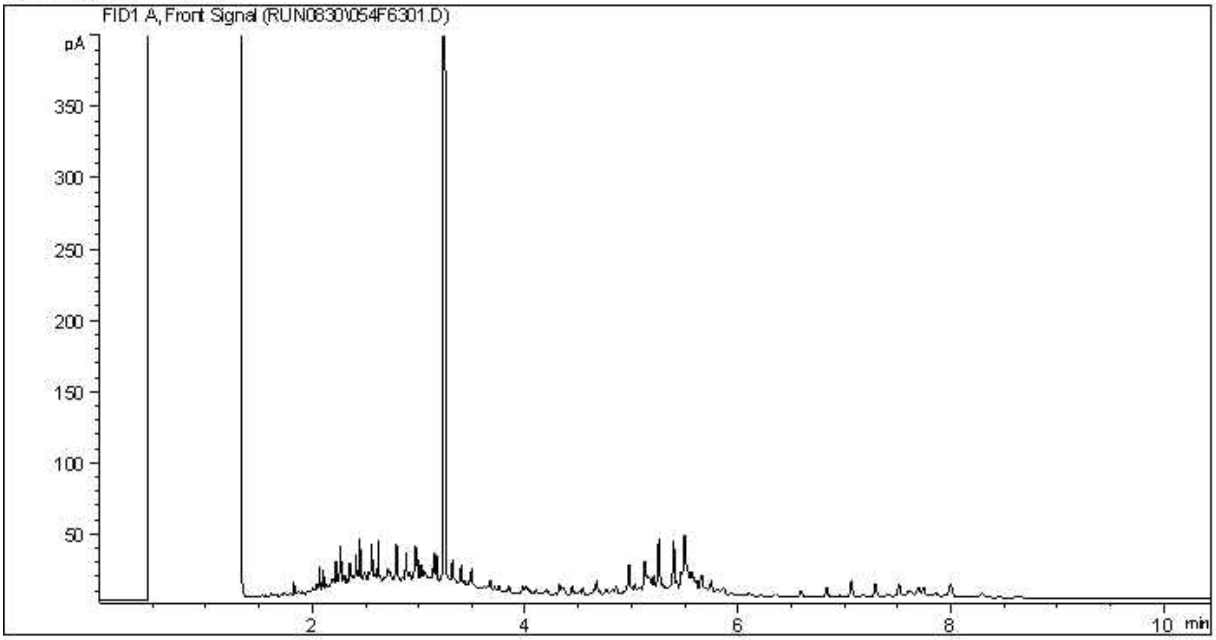
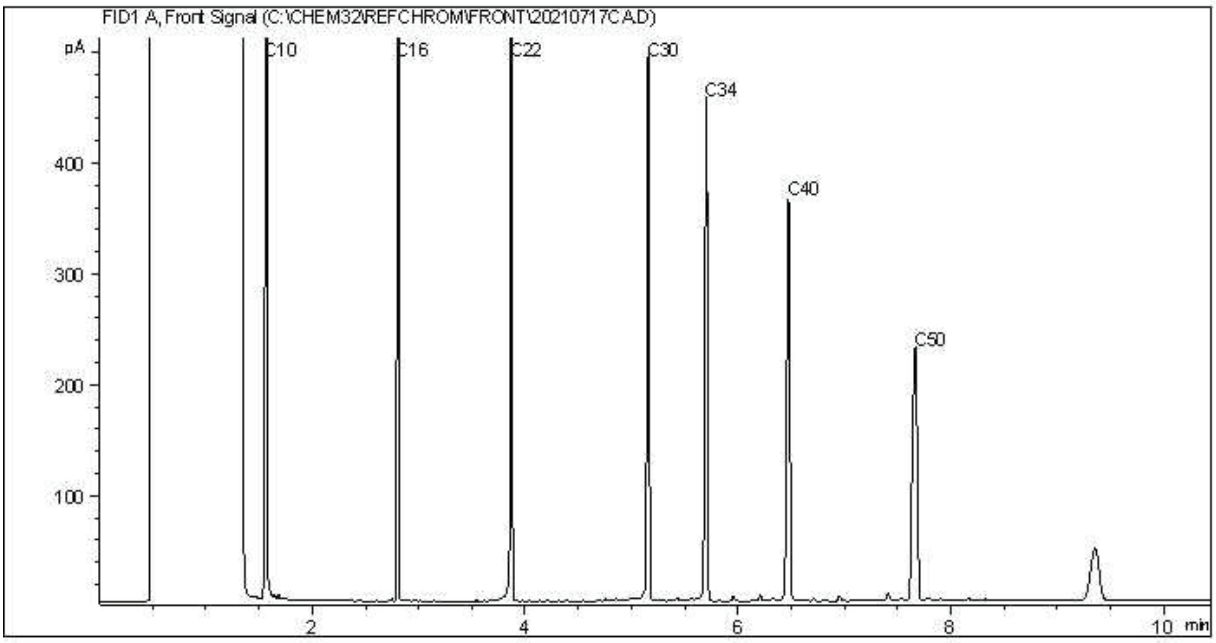


Carbon Range Distribution - Reference Chromatogram



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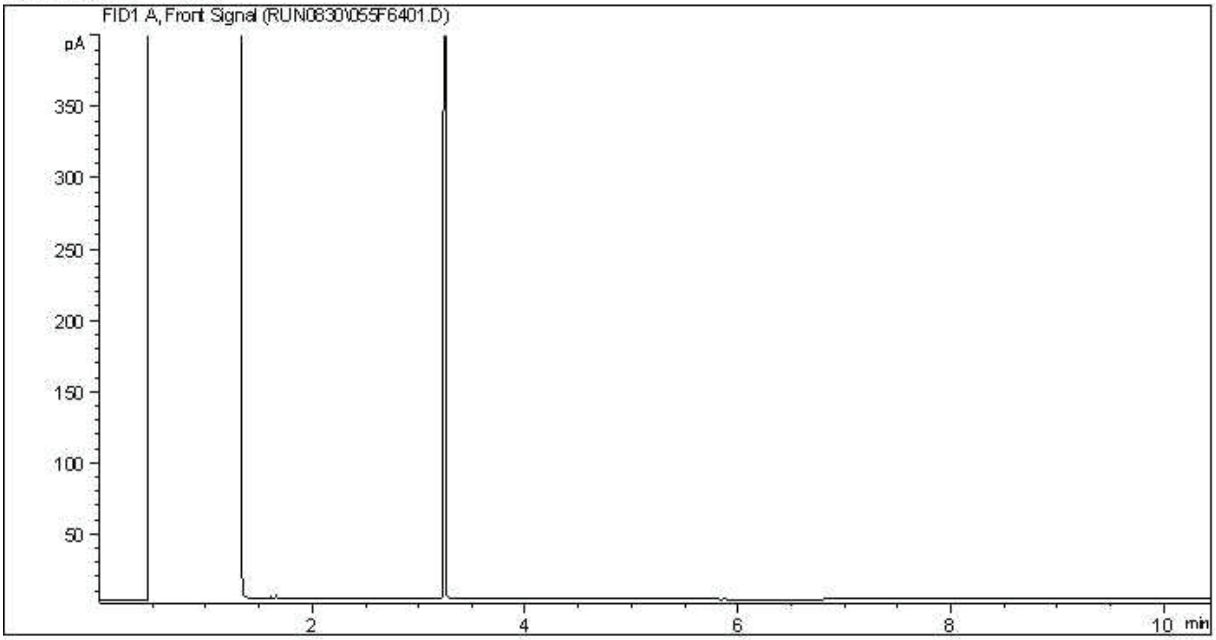
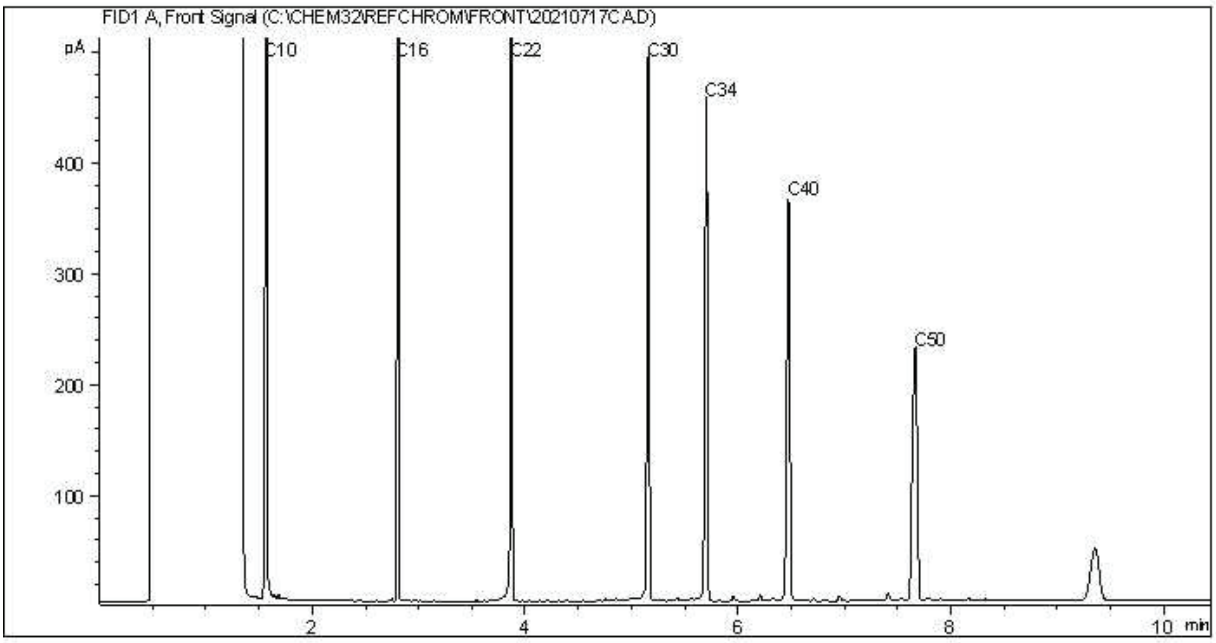


Carbon Range Distribution - Reference Chromatogram



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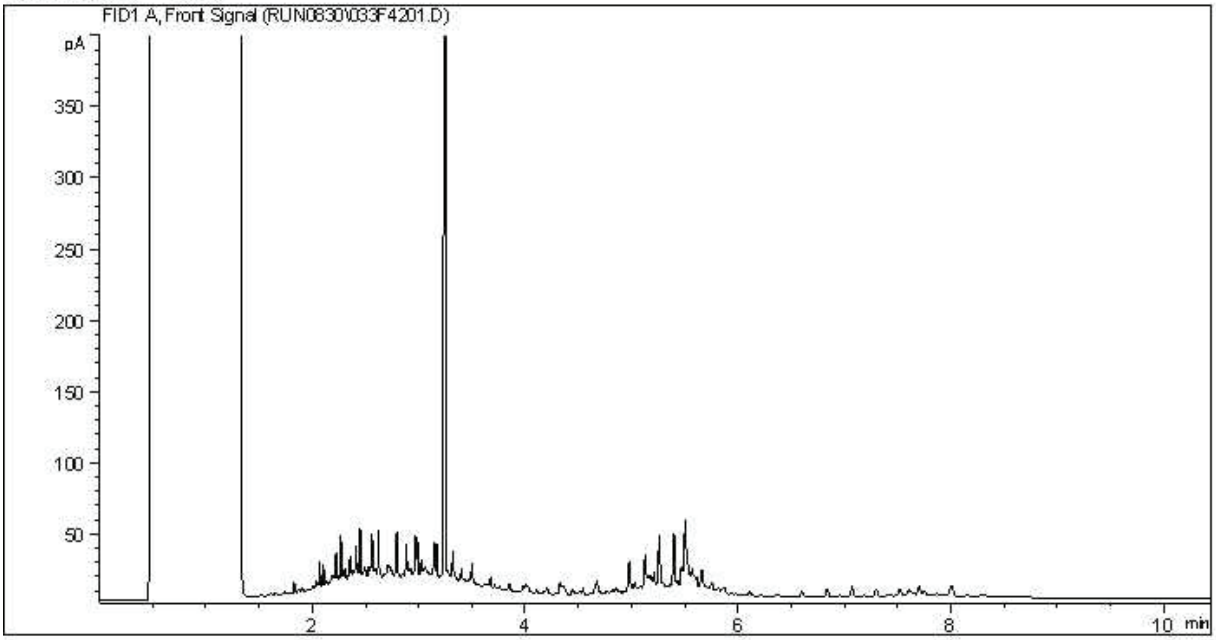

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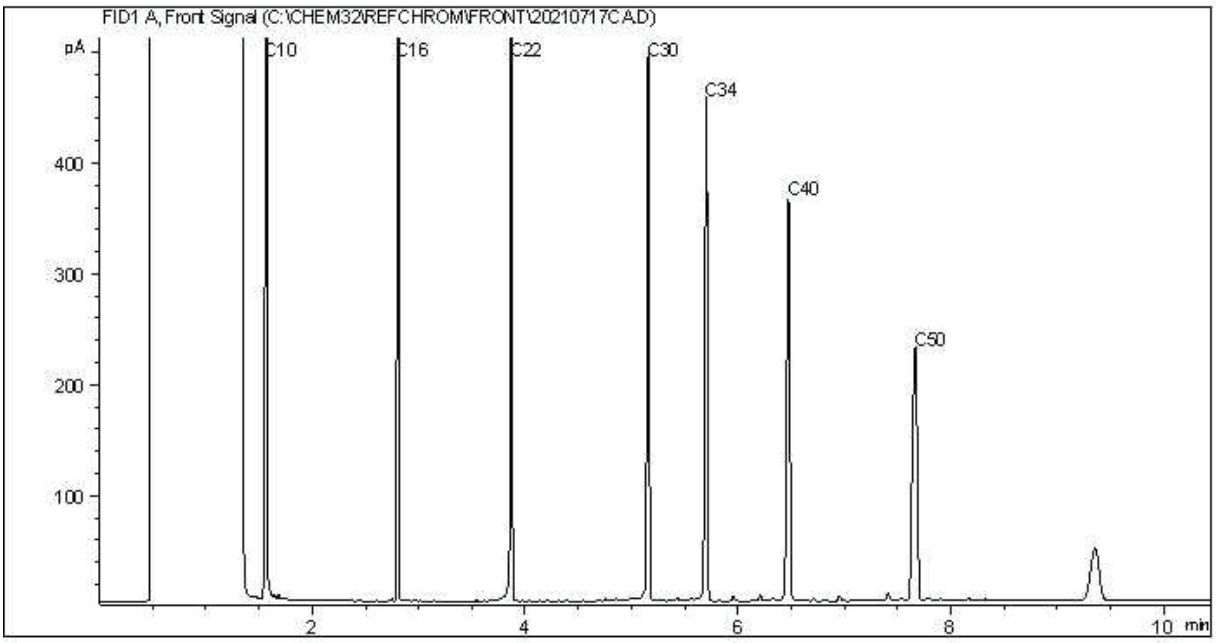

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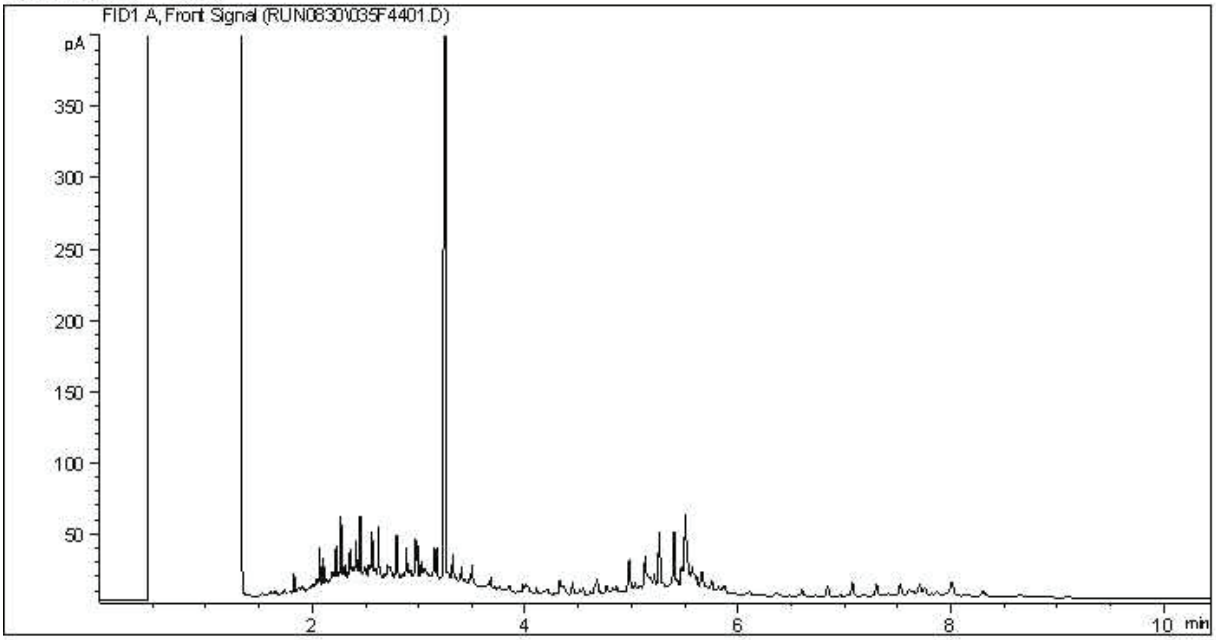
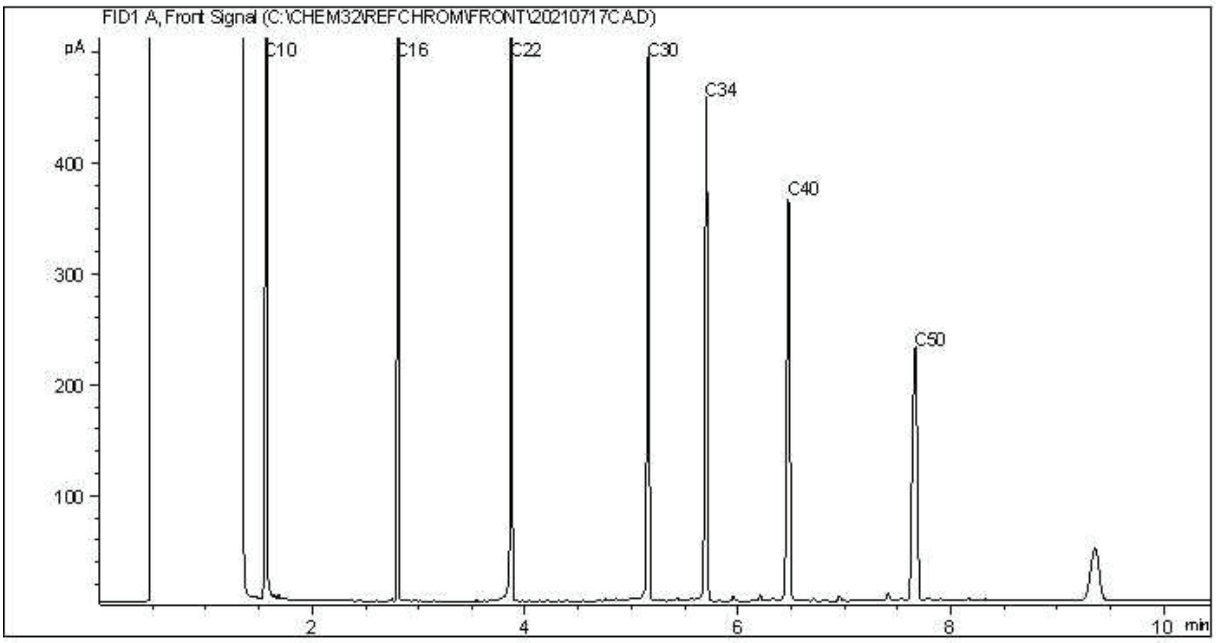


Carbon Range Distribution - Reference Chromatogram



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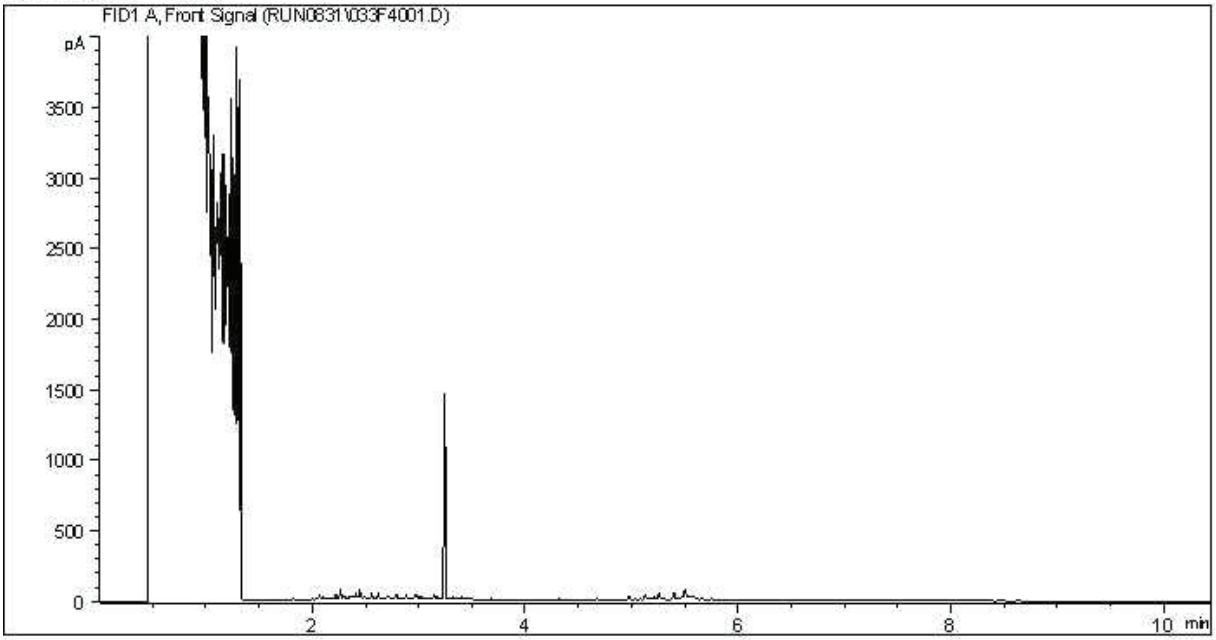

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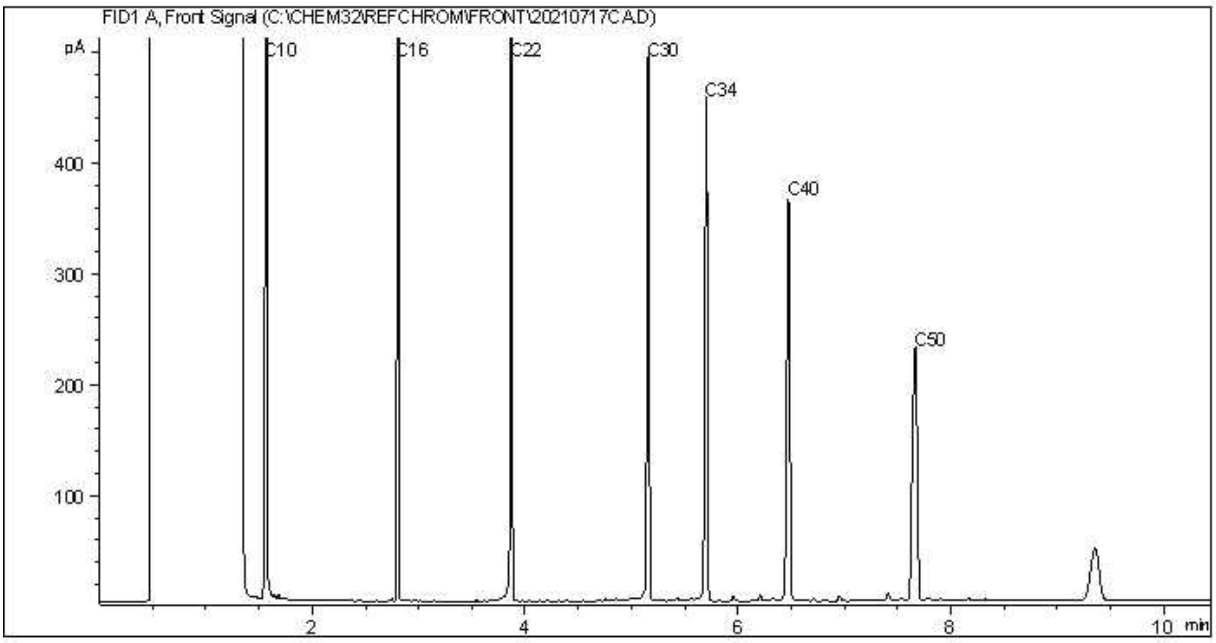


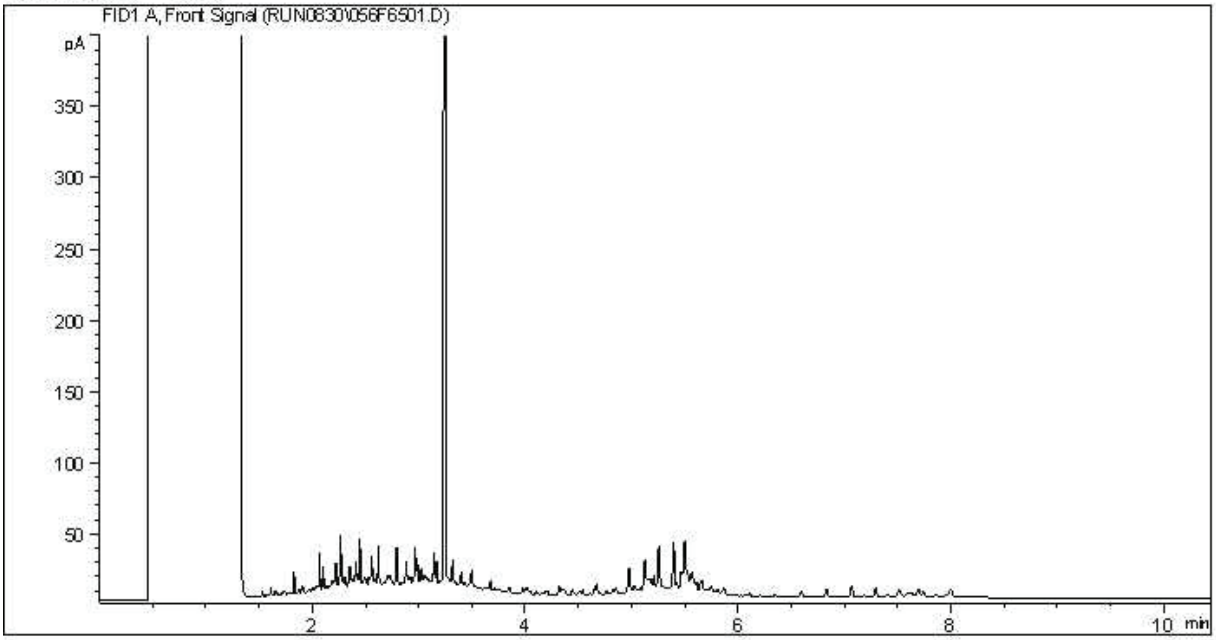
TYPICAL PRODUCT CARBON NUMBER RANGES

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

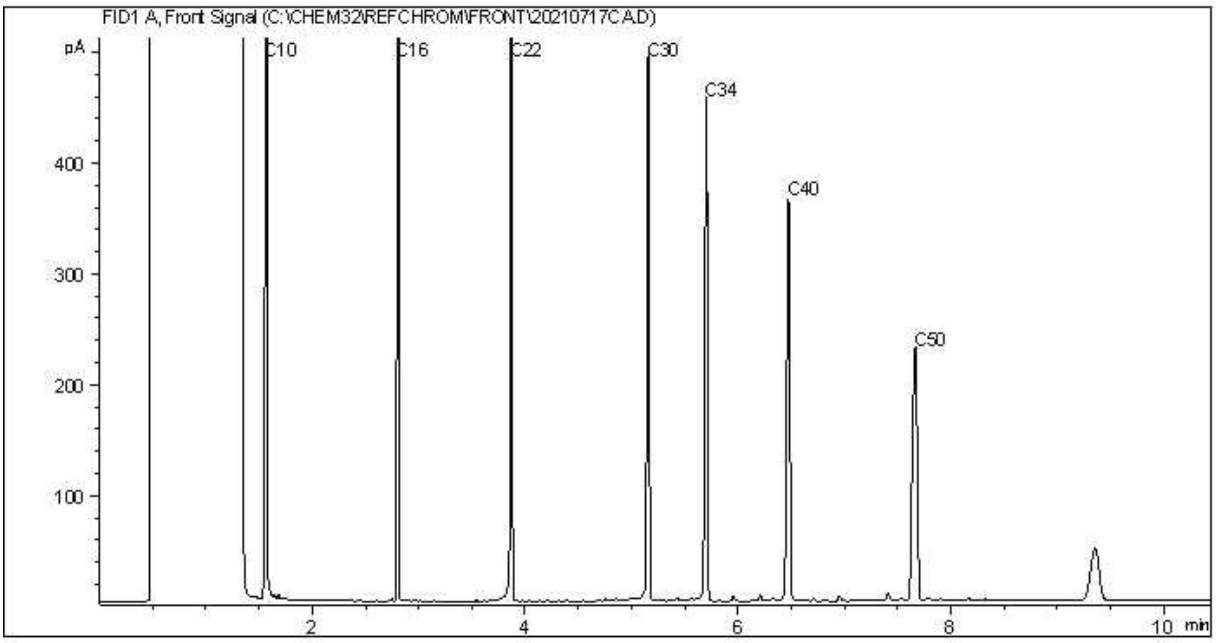
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



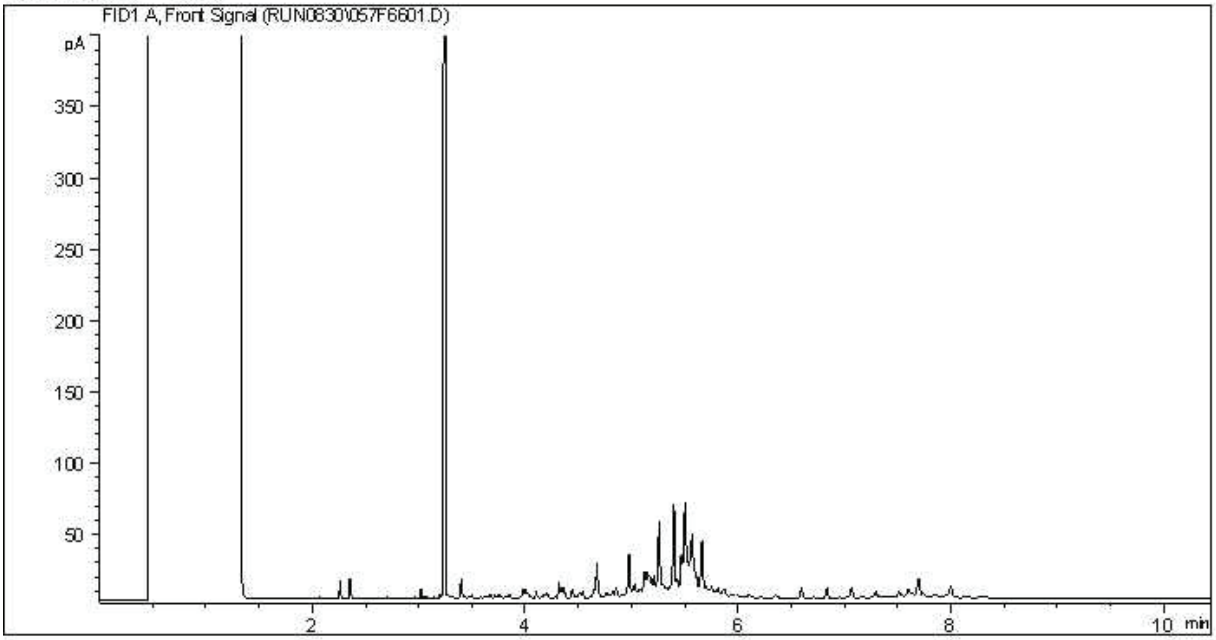
TYPICAL PRODUCT CARBON NUMBER RANGES

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

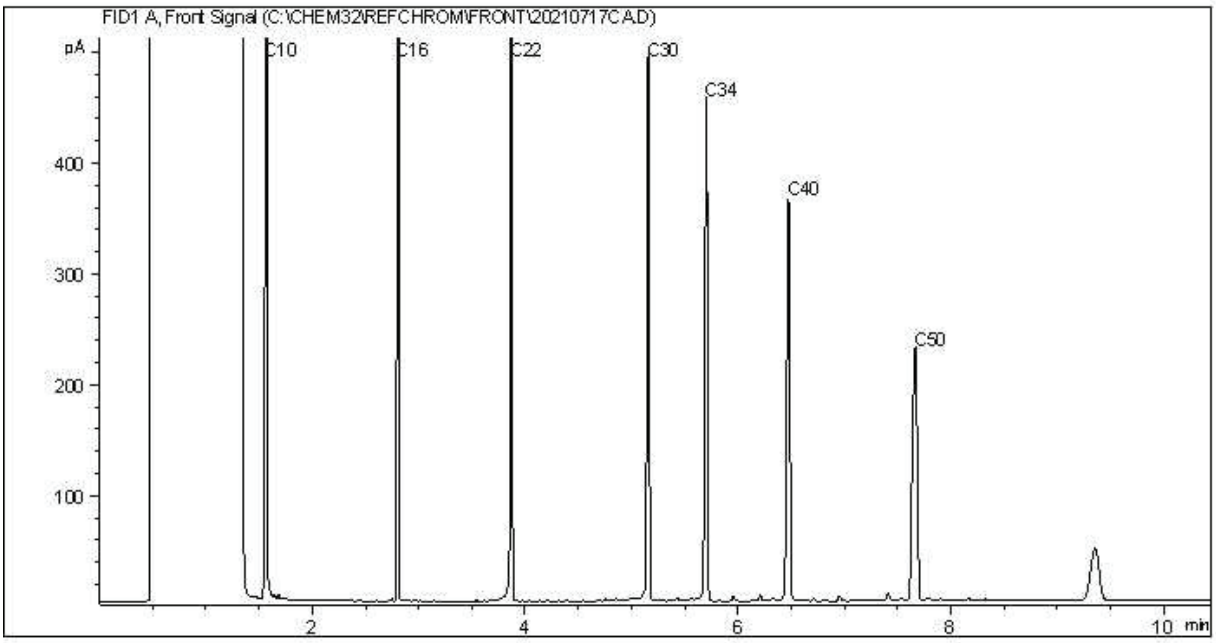
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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 18, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C162535

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?	No
Has lab warranted all samples were analyzed with limited headspace present?:	Yes

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

	Yes	No	NA	Comments
Surrogate Recovery	X			All laboratory QC results are within
Method Blank Concentration	X			acceptance criteria.
Laboratory Duplicate RPD	X			
Matrix Spike Recovery	X			
Blank Spike Recovery	X			

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

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

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

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

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: September 2, 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. #: 644511-38-01, 644511-39-01, 644511-40-01, 644511-41-01

Report Date: 2021/12/24
Report #: R3113901
Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C162661
Received: 2021/08/24, 09:45

Sample Matrix: Soil
Samples Received: 35

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1)	1	2021/08/27	2021/08/30	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1)	1	2021/08/28	2021/08/30	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	20	N/A	2021/08/29	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	13	N/A	2021/08/30	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	33	N/A	2021/08/30		Auto Calc
F1-BTEX (1)	2	N/A	2021/08/31		Auto Calc
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 3)	4	2021/08/27	2021/08/30	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	20	2021/08/27	2021/08/30	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	3	2021/08/28	2021/08/29	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	12	2021/08/28	2021/08/30	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 5)	2	N/A	2021/08/28		Auto Calc
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 5)	1	N/A	2021/12/23		Auto Calc
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 5)	1	N/A	2021/12/24		Auto Calc
CCME Hydrocarbons (F4G in soil) (1, 4)	1	2021/08/27	2021/08/31	AB SOP-00036 AB SOP-00040	CCME PHC-CWS m
Moisture (1)	20	N/A	2021/08/28	AB SOP-00002	CCME PHC-CWS m
Moisture (1)	15	N/A	2021/08/29	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.

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. #: 644511-38-01, 644511-39-01, 644511-40-01, 644511-41-01

Report Date: 2021/12/24
Report #: R3113901
Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C162661
Received: 2021/08/24, 09:45

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) 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

Bureau Veritas
24 Dec 2021 14:00:56

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 Job #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (SOIL)

Bureau Veritas ID		AEP016		AEP036	AEP036		
Sampling Date		2021/08/22 11:02		2021/08/22 11:03	2021/08/22 11:03		
COC Number		644511-39-01		644511-41-01	644511-41-01		
	UNITS	TP21-60-04	QC Batch	DUP S	DUP S Lab-Dup	RDL	QC Batch
Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	A334849	<10	N/A	10	A335162
F3 (C16-C34 Hydrocarbons)	mg/kg	350	A334849	76	N/A	50	A335162
F4 (C34-C50 Hydrocarbons)	mg/kg	68	A334849	<50	N/A	50	A335162
Reached Baseline at C50	mg/kg	Yes	A334849	Yes	N/A	N/A	A335162
Physical Properties							
Moisture	%	33	A334847	21	N/A	0.30	A335215
Volatiles							
Benzene	mg/kg	<0.0050	A335767	<0.0050	<0.0050	0.0050	A335767
Toluene	mg/kg	<0.050	A335767	<0.050	<0.050	0.050	A335767
Ethylbenzene	mg/kg	<0.010	A335767	<0.010	<0.010	0.010	A335767
m & p-Xylene	mg/kg	<0.040	A335767	<0.040	<0.040	0.040	A335767
o-Xylene	mg/kg	<0.020	A335767	<0.020	<0.020	0.020	A335767
Xylenes (Total)	mg/kg	<0.045	A334549	<0.045	N/A	0.045	A334549
F1 (C6-C10) - BTEX	mg/kg	<10	A334549	<10	N/A	10	A334549
F1 (C6-C10)	mg/kg	<10	A335767	<10	<10	10	A335767
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	98	A335767	99	99	N/A	A335767
4-Bromofluorobenzene (sur.)	%	98	A335767	97	98	N/A	A335767
D10-o-Xylene (sur.)	%	115	A335767	105	106	N/A	A335767
D4-1,2-Dichloroethane (sur.)	%	116	A335767	117	116	N/A	A335767
O-TERPHENYL (sur.)	%	97	A334849	109	N/A	N/A	A335162

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

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

Bureau Veritas Job #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEP003	AEP003		AEP004	AEP005	AEP006		
Sampling Date		2021/08/22 09:59	2021/08/22 09:59		2021/08/22 10:01	2021/08/22 10:24	2021/08/22 10:28		
COC Number		644511-38-01	644511-38-01		644511-38-01	644511-38-01	644511-38-01		
	UNITS	**TP21-62-02**	**TP21-62-02 Lab-Dup**	**RDL**	**TP21-62-04**	**TP21-63-01**	**TP21-63-03**	**RDL**	**QC Batch**
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	28	N/A	10	<10	120	230	10	A334849
F3 (C16-C34 Hydrocarbons)	mg/kg	410	N/A	50	<50	220	290	50	A334849
F4 (C34-C50 Hydrocarbons)	mg/kg	160	N/A	50	<50	<50	<50	50	A334849
Reached Baseline at C50	mg/kg	Yes	N/A	N/A	Yes	Yes	Yes	N/A	A334849
Physical Properties									
Moisture	%	29	N/A	0.30	12	15	3.6	0.30	A334839
Volatiles									
Xylenes (Total)	mg/kg	<0.18	N/A	0.18	<0.045	<0.045	<0.045	0.045	A334549
F1 (C6-C10) - BTEX	mg/kg	<25	N/A	25	<10	<10	<10	10	A334549
Field Preserved Volatiles									
Benzene	mg/kg	<0.018 (1)	<0.018	0.018	<0.0050	<0.0050	<0.0050	0.0050	A335196
Toluene	mg/kg	<0.050 (1)	<0.050	0.050	<0.050	<0.050	<0.050	0.050	A335196
Ethylbenzene	mg/kg	<0.033 (1)	<0.033	0.033	<0.010	<0.010	<0.010	0.010	A335196
m & p-Xylene	mg/kg	<0.16 (2)	<0.16	0.16	<0.040	<0.040	<0.040	0.040	A335196
o-Xylene	mg/kg	<0.081 (2)	<0.081	0.081	<0.020	<0.020	<0.020	0.020	A335196
F1 (C6-C10)	mg/kg	<25 (1)	<25	25	<10	<10	<10	10	A335196
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	85	87	N/A	86	86	84	N/A	A335196
4-Bromofluorobenzene (sur.)	%	104	104	N/A	101	102	104	N/A	A335196
D10-o-Xylene (sur.)	%	118	118	N/A	138	122	119	N/A	A335196
D4-1,2-Dichloroethane (sur.)	%	115	114	N/A	112	112	115	N/A	A335196
O-TERPHENYL (sur.)	%	105	N/A	N/A	100	106	109	N/A	A334849

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

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

Bureau Veritas Job #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEP007	AEP008	AEP008		AEP009	AEP010		
Sampling Date		2021/08/22 10:30	2021/08/22 10:29	2021/08/22 10:29		2021/08/22 10:32	2021/08/22 10:35		
COC Number		644511-38-01	644511-38-01	644511-38-01		644511-38-01	644511-38-01		
	UNITS	TP21-63-05	TP21-64-01	TP21-64-01 Lab-Dup	QC Batch	TP21-64-03	TP21-64-06	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	30	20	A334849	25	<10	10	A334849
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	120	87	A334849	66	<50	50	A334849
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	A334849	<50	<50	50	A334849
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	A334849	Yes	Yes	N/A	A334849
Physical Properties									
Moisture	%	15	14	N/A	A334839	5.6	19	0.30	A334847
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	N/A	A334549	<0.045	<0.045	0.045	A334549
F1 (C6-C10) - BTEX	mg/kg	<10	<10	N/A	A334549	<10	<10	10	A334549
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	N/A	A335196	<0.0050	<0.0050	0.0050	A335196
Toluene	mg/kg	<0.050	<0.050	N/A	A335196	<0.050	<0.050	0.050	A335196
Ethylbenzene	mg/kg	<0.010	<0.010	N/A	A335196	<0.010	<0.010	0.010	A335196
m & p-Xylene	mg/kg	<0.040	<0.040	N/A	A335196	<0.040	<0.040	0.040	A335196
o-Xylene	mg/kg	<0.020	<0.020	N/A	A335196	<0.020	<0.020	0.020	A335196
F1 (C6-C10)	mg/kg	<10	<10	N/A	A335196	<10	<10	10	A335196
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	86	86	N/A	A335196	87	88	N/A	A335196
4-Bromofluorobenzene (sur.)	%	108	101	N/A	A335196	104	103	N/A	A335196
D10-o-Xylene (sur.)	%	140	121	N/A	A335196	115	127	N/A	A335196
D4-1,2-Dichloroethane (sur.)	%	113	113	N/A	A335196	115	115	N/A	A335196
O-TERPHENYL (sur.)	%	102	104	91	A334849	96	98	N/A	A334849

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

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

Bureau Veritas Job #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEP011	AEP012		AEP013	AEP014	AEP014		
Sampling Date		2021/08/22 10:39	2021/08/22 10:40		2021/08/22 10:41	2021/08/22 10:42	2021/08/22 10:42		
COC Number		644511-38-01	644511-38-01		644511-39-01	644511-39-01	644511-39-01		
	UNITS	TP21-59-01	TP21-59-03	QC Batch	TP21-59-04	TP21-59-06	TP21-59-06 Lab-Dup	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	340	63	A334849	45	<10	N/A	10	A334849
F3 (C16-C34 Hydrocarbons)	mg/kg	610	120	A334849	110	<50	N/A	50	A334849
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A334849	<50	<50	N/A	50	A334849
Reached Baseline at C50	mg/kg	Yes	Yes	A334849	Yes	Yes	N/A	N/A	A334849
Physical Properties									
Moisture	%	14	11	A334839	8.0	19	20	0.30	A334839
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	A334549	<0.045	<0.045	N/A	0.045	A334698
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A334549	<10	<10	N/A	10	A334698
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	A335196	<0.0050	<0.0050	N/A	0.0050	A335196
Toluene	mg/kg	<0.050	0.50	A335196	1.3	<0.050	N/A	0.050	A335196
Ethylbenzene	mg/kg	<0.010	<0.010	A335196	<0.010	<0.010	N/A	0.010	A335196
m & p-Xylene	mg/kg	<0.040	<0.040	A335196	<0.040	<0.040	N/A	0.040	A335196
o-Xylene	mg/kg	<0.020	<0.020	A335196	<0.020	<0.020	N/A	0.020	A335196
F1 (C6-C10)	mg/kg	<10	<10	A335196	<10	<10	N/A	10	A335196
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	86	86	A335196	88	85	N/A	N/A	A335196
4-Bromofluorobenzene (sur.)	%	100	105	A335196	110	104	N/A	N/A	A335196
D10-o-Xylene (sur.)	%	122	117	A335196	112	120	N/A	N/A	A335196
D4-1,2-Dichloroethane (sur.)	%	109	113	A335196	117	111	N/A	N/A	A335196
O-TERPHENYL (sur.)	%	101	100	A334849	101	99	N/A	N/A	A334849

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

Bureau Veritas Job #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEP015	AEP017		AEP018		AEP019		
Sampling Date		2021/08/22 11:01	2021/08/22 11:03		2021/08/22 11:38		2021/08/22 13:48		
COC Number		644511-39-01	644511-39-01		644511-39-01		644511-39-01		
	UNITS	TP21-60-02	TP21-60-06	RDL	TP21-61-02	RDL	TP21-31-02	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	10	46	10	<10	10	A334849
F3 (C16-C34 Hydrocarbons)	mg/kg	74	67	50	1300	50	92	50	A334849
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	50	480	50	<50	50	A334849
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	No	N/A	Yes	N/A	A334849
Physical Properties									
Moisture	%	7.4	22	0.30	42	0.30	36	0.30	A334847
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	0.045	<0.10	0.10	<0.045	0.045	A334698
F1 (C6-C10) - BTEX	mg/kg	<10	<10	10	<23	23	<10	10	A334698
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	0.0050	<0.010 (1)	0.010	<0.0050	0.0050	A335196
Toluene	mg/kg	<0.050	<0.050	0.050	<0.050 (1)	0.050	<0.050	0.050	A335196
Ethylbenzene	mg/kg	<0.010	<0.010	0.010	<0.018 (1)	0.018	<0.010	0.010	A335196
m & p-Xylene	mg/kg	<0.040	<0.040	0.040	<0.090 (2)	0.090	<0.040	0.040	A335196
o-Xylene	mg/kg	<0.020	<0.020	0.020	<0.045 (2)	0.045	<0.020	0.020	A335196
F1 (C6-C10)	mg/kg	<10	<10	10	<23 (2)	23	<10	10	A335196
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	88	86	N/A	87	N/A	85	N/A	A335196
4-Bromofluorobenzene (sur.)	%	107	105	N/A	105	N/A	105	N/A	A335196
D10-o-Xylene (sur.)	%	120	132	N/A	115	N/A	101	N/A	A335196
D4-1,2-Dichloroethane (sur.)	%	116	114	N/A	117	N/A	113	N/A	A335196
O-TERPHENYL (sur.)	%	99	96	N/A	97	N/A	96	N/A	A334849

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

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

Bureau Veritas Job #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEP020			AEP021	AEP022	AEP023		
Sampling Date		2021/08/22 13:51			2021/08/22 14:00	2021/08/22 14:01	2021/08/22 14:02		
COC Number		644511-39-01			644511-39-01	644511-39-01	644511-40-01		
	UNITS	TP21-30-02	RDL	QC Batch	TP21-33-02	TP21-33-04	TP21-33-06	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<22 (1)	22	A334849	230	38	<10	10	A335167
F3 (C16-C34 Hydrocarbons)	mg/kg	250 (1)	110	A334849	330	110	<50	50	A335167
F4 (C34-C50 Hydrocarbons)	mg/kg	<110 (1)	110	A334849	52	<50	<50	50	A335167
Reached Baseline at C50	mg/kg	Yes	N/A	A334849	Yes	Yes	Yes	N/A	A335167
Physical Properties									
Moisture	%	55	0.30	A334847	9.0	8.0	15	0.30	A335215
Volatiles									
Xylenes (Total)	mg/kg	<0.13	0.13	A334698	<0.045	<0.045	<0.045	0.045	A334698
F1 (C6-C10) - BTEX	mg/kg	<19	19	A334698	<10	<10	<10	10	A334698
Field Preserved Volatiles									
Benzene	mg/kg	<0.013 (2)	0.013	A335196	<0.0050	<0.0050	<0.0050	0.0050	A335196
Toluene	mg/kg	<0.050 (2)	0.050	A335196	<0.050	<0.050	<0.050	0.050	A335196
Ethylbenzene	mg/kg	<0.024 (2)	0.024	A335196	<0.010	<0.010	<0.010	0.010	A335196
m & p-Xylene	mg/kg	<0.12 (3)	0.12	A335196	<0.040	<0.040	<0.040	0.040	A335196
o-Xylene	mg/kg	<0.060 (3)	0.060	A335196	<0.020	<0.020	<0.020	0.020	A335196
F1 (C6-C10)	mg/kg	<19 (2)	19	A335196	<10	<10	<10	10	A335196
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	89	N/A	A335196	86	88	87	N/A	A335196
4-Bromofluorobenzene (sur.)	%	104	N/A	A335196	102	106	109	N/A	A335196
D10-o-Xylene (sur.)	%	127	N/A	A335196	127	123	118	N/A	A335196
D4-1,2-Dichloroethane (sur.)	%	117	N/A	A335196	114	117	115	N/A	A335196
O-TERPHENYL (sur.)	%	100	N/A	A334849	111	104	101	N/A	A335167

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 #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEP024	AEP024		AEP025		AEP025		
Sampling Date		2021/08/22 14:24	2021/08/22 14:24		2021/08/22 14:25		2021/08/22 14:25		
COC Number		644511-40-01	644511-40-01		644511-40-01		644511-40-01		
	UNITS	TP21-32-03	TP21-32-03 Lab-Dup	QC Batch	TP21-32-04	QC Batch	TP21-32-04 REPEAT	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	830	860	A335167	6900	A334849	N/A	10	A334849
F3 (C16-C34 Hydrocarbons)	mg/kg	110	110	A335167	650	A334849	N/A	50	A334849
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A335167	130	A334849	N/A	50	A334849
Reached Baseline at C50	mg/kg	Yes	Yes	A335167	Yes	A334849	N/A	N/A	A334849
Physical Properties									
Moisture	%	4.1	N/A	A335215	40	A334847	N/A	0.30	A334847
Volatiles									
Xylenes (Total)	mg/kg	<0.045	N/A	A334698	18	A334698	32	0.045	A368317
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	A334698	740	A334698	800	10	A368317
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	N/A	A335198	<0.0050	A335198	0.016	0.0050	A363224
Toluene	mg/kg	<0.050	N/A	A335198	0.16	A335198	0.28	0.050	A363224
Ethylbenzene	mg/kg	<0.010	N/A	A335198	3.6	A335198	6.1	0.010	A363224
m & p-Xylene	mg/kg	<0.040	N/A	A335198	11	A335198	20	0.040	A363224
o-Xylene	mg/kg	<0.020	N/A	A335198	6.4	A335198	12	0.020	A363224
F1 (C6-C10)	mg/kg	<10	N/A	A335198	770	A335198	840	10	A363224
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	96	N/A	A335198	97	A335198	102	N/A	A363224
4-Bromofluorobenzene (sur.)	%	101	N/A	A335198	107	A335198	106	N/A	A363224
D10-o-Xylene (sur.)	%	95	N/A	A335198	111	A335198	122	N/A	A363224
D4-1,2-Dichloroethane (sur.)	%	103	N/A	A335198	103	A335198	106	N/A	A363224
O-TERPHENYL (sur.)	%	102	96	A335167	100	A334849	N/A	N/A	N/A

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

Bureau Veritas Job #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEP025			AEP026			AEP027		
Sampling Date		2021/08/22 14:25			2021/08/22 14:26			2021/08/22 14:45		
COC Number		644511-40-01			644511-40-01			644511-40-01		
	UNITS	TP21-32-04 Lab-Dup	RDL	QC Batch	TP21-32-05	RDL	QC Batch	TP21-28-02	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	10	A334849	30 (1)	24	A334849	480	10	A335167
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	50	A334849	510 (1)	120	A334849	690	50	A335167
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	50	A334849	170 (1)	120	A334849	72	50	A335167
Reached Baseline at C50	mg/kg	N/A	N/A	A334849	Yes	N/A	A334849	Yes	N/A	A335167
Physical Properties										
Moisture	%	40	0.30	A334847	58	0.30	A334847	14	0.30	A335215
Volatiles										
Xylenes (Total)	mg/kg	N/A	0.045	A368317	<0.16	0.16	A334698	<0.045	0.045	A334698
F1 (C6-C10) - BTEX	mg/kg	N/A	10	A368317	<22	22	A334698	11	10	A334698
Field Preserved Volatiles										
Benzene	mg/kg	N/A	0.0050	A363224	<0.016 (2)	0.016	A335198	<0.0050	0.0050	A335198
Toluene	mg/kg	N/A	0.050	A363224	0.20 (3)	0.18	A335198	<0.050	0.050	A335198
Ethylbenzene	mg/kg	N/A	0.010	A363224	<0.028 (2)	0.028	A335198	0.017	0.010	A335198
m & p-Xylene	mg/kg	N/A	0.040	A363224	<0.14 (3)	0.14	A335198	<0.040	0.040	A335198
o-Xylene	mg/kg	N/A	0.020	A363224	<0.071 (3)	0.071	A335198	<0.020	0.020	A335198
F1 (C6-C10)	mg/kg	N/A	10	A363224	<22 (2)	22	A335198	11	10	A335198
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	N/A	N/A	A363224	93	N/A	A335198	96	N/A	A335198
4-Bromofluorobenzene (sur.)	%	N/A	N/A	A363224	102	N/A	A335198	101	N/A	A335198
D10-o-Xylene (sur.)	%	N/A	N/A	A363224	124	N/A	A335198	99	N/A	A335198
D4-1,2-Dichloroethane (sur.)	%	N/A	N/A	A363224	112	N/A	A335198	106	N/A	A335198
O-TERPHENYL (sur.)	%	N/A	N/A	N/A	102	N/A	A334849	106	N/A	A335167

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.

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Bureau Veritas Job #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEP028	AEP029	AEP029	AEP030	AEP031		
Sampling Date		2021/08/22 14:57	2021/08/22 14:57	2021/08/22 14:57	2021/08/22 14:58	2021/08/22 15:10		
COC Number		644511-40-01	644511-40-01	644511-40-01	644511-40-01	644511-40-01		
	UNITS	TP21-28-04	TP21-28-06	TP21-28-06 Lab-Dup	TP21-28-08	TP21-29-02	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	220	<10	N/A	<10	<10	10	A335167
F3 (C16-C34 Hydrocarbons)	mg/kg	370	<50	N/A	<50	<50	50	A335167
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	N/A	<50	<50	50	A335167
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	Yes	Yes	N/A	A335167
Physical Properties								
Moisture	%	11	16	15	16	4.5	0.30	A335215
Volatiles								
Xylenes (Total)	mg/kg	0.13	0.17	N/A	<0.045	<0.045	0.045	A334698
F1 (C6-C10) - BTEX	mg/kg	31	<10	N/A	<10	<10	10	A334698
Field Preserved Volatiles								
Benzene	mg/kg	<0.0050	<0.0050	N/A	<0.0050	<0.0050	0.0050	A335198
Toluene	mg/kg	<0.050	<0.050	N/A	<0.050	<0.050	0.050	A335198
Ethylbenzene	mg/kg	0.022	0.035	N/A	<0.010	<0.010	0.010	A335198
m & p-Xylene	mg/kg	0.091	0.13	N/A	<0.040	<0.040	0.040	A335198
o-Xylene	mg/kg	0.040 (1)	0.041	N/A	0.037 (1)	<0.020	0.020	A335198
F1 (C6-C10)	mg/kg	31	<10	N/A	<10	<10	10	A335198
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	95	97	N/A	97	97	N/A	A335198
4-Bromofluorobenzene (sur.)	%	99	102	N/A	100	100	N/A	A335198
D10-o-Xylene (sur.)	%	102	110	N/A	92	91	N/A	A335198
D4-1,2-Dichloroethane (sur.)	%	107	107	N/A	107	105	N/A	A335198
O-TERPHENYL (sur.)	%	95	89	N/A	95	94	N/A	A335167

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

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Bureau Veritas Job #: C162661
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: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Bureau Veritas ID		AEP032			AEP033			AEP034		
Sampling Date		2021/08/22 15:11			2021/08/22 15:12			2021/08/22 14:22		
COC Number		644511-40-01			644511-41-01			644511-41-01		
	UNITS	TP21-29-04	RDL	QC Batch	TP21-29-05	RDL	QC Batch	TP21-32-01	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	15	10	A335167	<28 (1)	28	A335162	20	10	A335167
F3 (C16-C34 Hydrocarbons)	mg/kg	200	50	A335167	180 (1)	140	A335162	<50	50	A335167
F4 (C34-C50 Hydrocarbons)	mg/kg	52	50	A335167	<140 (1)	140	A335162	<50	50	A335167
Reached Baseline at C50	mg/kg	Yes	N/A	A335167	Yes	N/A	A335162	Yes	N/A	A335167
Physical Properties										
Moisture	%	46	0.30	A335215	64	0.30	A335215	4.9	0.30	A335215
Volatiles										
Xylenes (Total)	mg/kg	<0.092	0.092	A334698	<0.17	0.17	A334698	<0.045	0.045	A334698
F1 (C6-C10) - BTEX	mg/kg	<21	21	A334698	<24	24	A334698	<10	10	A334698
Field Preserved Volatiles										
Benzene	mg/kg	<0.0090 (2)	0.0090	A335198	<0.017 (2)	0.017	A335198	<0.0050	0.0050	A335198
Toluene	mg/kg	0.22 (3)	0.10	A335198	0.25 (3)	0.19	A335198	<0.050	0.050	A335198
Ethylbenzene	mg/kg	<0.016 (2)	0.016	A335198	<0.030 (2)	0.030	A335198	<0.010	0.010	A335198
m & p-Xylene	mg/kg	<0.082 (3)	0.082	A335198	<0.15 (3)	0.15	A335198	<0.040	0.040	A335198
o-Xylene	mg/kg	<0.041 (3)	0.041	A335198	0.10 (3)	0.076	A335198	<0.020	0.020	A335198
F1 (C6-C10)	mg/kg	<21 (3)	21	A335198	<24 (2)	24	A335198	<10	10	A335198
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	96	N/A	A335198	94	N/A	A335198	94	N/A	A335198
4-Bromofluorobenzene (sur.)	%	99	N/A	A335198	102	N/A	A335198	101	N/A	A335198
D10-o-Xylene (sur.)	%	93	N/A	A335198	101	N/A	A335198	102	N/A	A335198
D4-1,2-Dichloroethane (sur.)	%	103	N/A	A335198	101	N/A	A335198	102	N/A	A335198
O-TERPHENYL (sur.)	%	104	N/A	A335167	106	N/A	A335162	99	N/A	A335167

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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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)

Bureau Veritas ID		AEP035		AEP037			AEP037		
Sampling Date		2021/08/22 10:28		2021/08/22 14:25			2021/08/22 14:25		
COC Number		644511-41-01		644511-41-01			644511-41-01		
	UNITS	DUP U	QC Batch	DUP T	RDL	QC Batch	DUP T REPEAT	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	80	A335162	4300	10	A335167	N/A	10	A335167
F3 (C16-C34 Hydrocarbons)	mg/kg	130	A335162	800	50	A335167	N/A	50	A335167
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	A335162	240	50	A335167	N/A	50	A335167
Reached Baseline at C50	mg/kg	Yes	A335162	Yes	N/A	A335167	N/A	N/A	A335167
Physical Properties									
Moisture	%	13	A335215	44	0.30	A335215	N/A	0.30	A335215
Volatiles									
Xylenes (Total)	mg/kg	<0.045	A334698	32	0.045	A334698	35	0.092	A368317
F1 (C6-C10) - BTEX	mg/kg	<10	A334698	1400	10	A334698	640	21	A368317
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	A335198	<0.0050	0.0050	A335198	0.022 (1)	0.010	A363224
Toluene	mg/kg	<0.050	A335198	0.27	0.050	A335198	0.33 (1)	0.10	A363224
Ethylbenzene	mg/kg	<0.010	A335198	6.5	0.010	A335198	6.7 (1)	0.021	A363224
m & p-Xylene	mg/kg	<0.040	A335198	20	0.040	A335198	22 (1)	0.082	A363224
o-Xylene	mg/kg	<0.020	A335198	11	0.020	A335198	13 (1)	0.041	A363224
F1 (C6-C10)	mg/kg	<10	A335198	1400	10	A335198	680 (1)	21	A363224
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	95	A335198	96	N/A	A335198	100	N/A	A363224
4-Bromofluorobenzene (sur.)	%	100	A335198	111	N/A	A335198	101	N/A	A363224
D10-o-Xylene (sur.)	%	105	A335198	111	N/A	A335198	125	N/A	A363224
D4-1,2-Dichloroethane (sur.)	%	104	A335198	104	N/A	A335198	107	N/A	A363224
O-TERPHENYL (sur.)	%	125	A335162	101	N/A	A335167	N/A	N/A	N/A

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

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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

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		AEP003		AEP012	AEP013	AEP018		
Sampling Date		2021/08/22 09:59		2021/08/22 10:40	2021/08/22 10:41	2021/08/22 11:38		
COC Number		644511-38-01		644511-38-01	644511-39-01	644511-39-01		
	UNITS	TP21-62-02	QC Batch	TP21-59-03	TP21-59-04	TP21-61-02	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	28	A457151	N/A	N/A	N/A	10	A457151
F3 (C16-C34 Hydrocarbons)	mg/kg	410	A453392	N/A	N/A	N/A	71	A453392
F3A (C16-C22)	mg/kg	62	A457151	78	60	N/A	50	A330260
F3B (C22-C34)	mg/kg	350	A457151	<50	51	N/A	50	A330260
F2% (BIC)	mg/kg	7.6	A453392	NC	NC	N/A	N/A	A334554
Reached Baseline at C50	mg/kg	N/A	N/A	Yes	Yes	N/A	N/A	A330260
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	N/A	N/A	N/A	N/A	6800	500	A337167
Surrogate Recovery (%)								
O-TERPHENYL (sur.)	%	105	A457151	N/A	N/A	N/A	N/A	N/A

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas ID		AEP026		
Sampling Date		2021/08/22 14:26		
COC Number		644511-40-01		
	UNITS	TP21-32-05	RDL	QC Batch
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	30 (1)	24	A457151
F3 (C16-C34 Hydrocarbons)	mg/kg	430	170	A453392
F3A (C16-C22)	mg/kg	<120 (1)	120	A457151
F3B (C22-C34)	mg/kg	430 (1)	120	A457151
F2% (BIC)	mg/kg	6.5	N/A	A453392
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	102	N/A	A457151

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

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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

Revision #3: Report reissued with both set of data for F1 (C6-C10) - BTEX, BTEX on samples TP21-32-04 & DUP T.

Revised report: Generate EDD 2021/09/20

Version #4: Report reissued to include results for F3A/F3B/Chromatogram on samples listed below as per client request received 2021/12/16.

TP21-32-05/AEP026
TP21-62-02/AEP003

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 AEP006 [TP21-63-03] : Sample was analyzed past method specified hold time for CCME Hydrocarbons (F2-F4 in soil).

Sample AEP016 [TP21-60-04] : Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.

Sample AEP026 [TP21-32-05] : 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.

Sample AEP035 [DUP U] : Sample was analyzed past method specified hold time for CCME Hydrocarbons (F2-F4 in soil).

Sample AEP036 [DUP S] : 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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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A330260	GG3	Matrix Spike	O-TERPHENYL (sur.)	2021/08/25		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/25		90	%	60 - 140
			F3A (C16-C22)	2021/08/25		87	%	60 - 140
			F3B (C22-C34)	2021/08/25		58 (1)	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/25		88	%	60 - 140
A330260	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/25		112	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/25		97	%	60 - 140
			F3A (C16-C22)	2021/08/25		96	%	60 - 140
			F3B (C22-C34)	2021/08/25		100	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/25		99	%	60 - 140
A330260	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/25		105	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/25	<10		mg/kg	
			F3A (C16-C22)	2021/08/25	<50		mg/kg	
			F3B (C22-C34)	2021/08/25	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/25	<50		mg/kg	
A330260	GG3	RPD	F3A (C16-C22)	2021/08/25	NC		%	40
			F3B (C22-C34)	2021/08/25	18		%	40
A334839	ARV	Method Blank	Moisture	2021/08/28	<0.30		%	
A334839	ARV	RPD [AEP014-01]	Moisture	2021/08/28	4.1		%	20
A334847	ARV	Method Blank	Moisture	2021/08/28	<0.30		%	
A334847	ARV	RPD [AEP025-01]	Moisture	2021/08/28	2.3		%	20
A334849	GG3	Matrix Spike [AEP008-01]	O-TERPHENYL (sur.)	2021/08/30		118	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		114	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		116	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		120	%	60 - 140
A334849	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/30		101	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		97	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		99	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		98	%	60 - 140
A334849	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/30		97	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/30	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/30	<50		mg/kg	
A334849	GG3	RPD [AEP008-01]	F2 (C10-C16 Hydrocarbons)	2021/08/30	39		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/30	34		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/30	NC		%	40
A335162	MHF	Matrix Spike	O-TERPHENYL (sur.)	2021/08/29		125	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/29		122	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/29		124	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/29		125	%	60 - 140
A335162	MHF	Spiked Blank	O-TERPHENYL (sur.)	2021/08/29		99	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/29		98	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/29		99	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/29		99	%	60 - 140
A335162	MHF	Method Blank	O-TERPHENYL (sur.)	2021/08/29		108	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/29	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/29	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/29	<50		mg/kg	
A335162	MHF	RPD	F2 (C10-C16 Hydrocarbons)	2021/08/29	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/29	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/29	NC		%	40

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A335167	GG3	Matrix Spike [AEP024-01]	O-TERPHENYL (sur.)	2021/08/30		124	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		NC	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		111	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		100	%	60 - 140
A335167	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/30		96	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		88	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/30		92	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		83	%	60 - 140
A335167	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/30		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/30	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/30	<50		mg/kg	
A335167	GG3	RPD [AEP024-01]	F2 (C10-C16 Hydrocarbons)	2021/08/30	4.3		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/30	3.2		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/30	NC		%	40
A335196	JNG	Matrix Spike [AEP003-02]	1,4-Difluorobenzene (sur.)	2021/08/29		86	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/29		105	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/29		120	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/29		109	%	50 - 140
			Benzene	2021/08/29		99	%	50 - 140
			Toluene	2021/08/29		108	%	50 - 140
			Ethylbenzene	2021/08/29		111	%	50 - 140
			m & p-Xylene	2021/08/29		106	%	50 - 140
			o-Xylene	2021/08/29		102	%	50 - 140
			F1 (C6-C10)	2021/08/29		107	%	60 - 140
A335196	JNG	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/29		75	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/29		95	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/29		98	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/29		107	%	50 - 140
			Benzene	2021/08/29		81	%	60 - 130
			Toluene	2021/08/29		90	%	60 - 130
			Ethylbenzene	2021/08/29		90	%	60 - 130
			m & p-Xylene	2021/08/29		87	%	60 - 130
			o-Xylene	2021/08/29		78	%	60 - 130
			F1 (C6-C10)	2021/08/29		99	%	60 - 140
A335196	JNG	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/29		86	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/29		109	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/29		107	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/29		113	%	50 - 140
			Benzene	2021/08/29	<0.0050		mg/kg	
			Toluene	2021/08/29	<0.050		mg/kg	
			Ethylbenzene	2021/08/29	<0.010		mg/kg	
			m & p-Xylene	2021/08/29	<0.040		mg/kg	
			o-Xylene	2021/08/29	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/29	<10		mg/kg	
A335196	JNG	RPD [AEP003-02]	Benzene	2021/08/29	NC		%	50
			Toluene	2021/08/29	NC		%	50
			Ethylbenzene	2021/08/29	NC		%	50
			m & p-Xylene	2021/08/29	NC		%	50
			o-Xylene	2021/08/29	NC		%	50
			LH (C5-C10)	2021/08/29	NC		%	30

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F1 (C6-C10)	2021/08/29	NC		%	30
A335198	JNG	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/08/29		97	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/29		128	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/29		109	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/29		103	%	50 - 140
			Benzene	2021/08/29		83	%	50 - 140
			Toluene	2021/08/29		89	%	50 - 140
			Ethylbenzene	2021/08/29		90	%	50 - 140
			m & p-Xylene	2021/08/29		86	%	50 - 140
			o-Xylene	2021/08/29		82	%	50 - 140
			F1 (C6-C10)	2021/08/29		87	%	60 - 140
A335198	JNG	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/29		87	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/29		89	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/29		86	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/29		98	%	50 - 140
			Benzene	2021/08/29		69	%	60 - 130
			Toluene	2021/08/29		77	%	60 - 130
			Ethylbenzene	2021/08/29		76	%	60 - 130
			m & p-Xylene	2021/08/29		75	%	60 - 130
			o-Xylene	2021/08/29		64	%	60 - 130
			F1 (C6-C10)	2021/08/29		100	%	60 - 140
A335198	JNG	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/30		93	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		97	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		107	%	50 - 140
			Benzene	2021/08/30	<0.0050		mg/kg	
			Toluene	2021/08/30	<0.050		mg/kg	
			Ethylbenzene	2021/08/30	<0.010		mg/kg	
			m & p-Xylene	2021/08/30	<0.040		mg/kg	
			o-Xylene	2021/08/30	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/30	<10		mg/kg	
A335198	JNG	RPD	Benzene	2021/08/29	18		%	50
			Toluene	2021/08/29	NC		%	50
			Ethylbenzene	2021/08/29	1.8		%	50
			m & p-Xylene	2021/08/29	11		%	50
			o-Xylene	2021/08/29	2.4		%	50
			F1 (C6-C10)	2021/08/29	9.2		%	30
A335215	RIL	Method Blank	Moisture	2021/08/29	<0.30		%	
A335215	RIL	RPD [AEP029-01]	Moisture	2021/08/29	5.3		%	20
A335767	DO1	Matrix Spike [AEP036-01]	1,4-Difluorobenzene (sur.)	2021/08/30		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		104	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		115	%	50 - 140
			Benzene	2021/08/30		109	%	50 - 140
			Toluene	2021/08/30		106	%	50 - 140
			Ethylbenzene	2021/08/30		109	%	50 - 140
			m & p-Xylene	2021/08/30		108	%	50 - 140
			o-Xylene	2021/08/30		107	%	50 - 140
			F1 (C6-C10)	2021/08/30		82	%	60 - 140
A335767	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/30		96	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		97	%	50 - 140

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			D10-o-Xylene (sur.)	2021/08/30		97	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		119	%	50 - 140
			Benzene	2021/08/30		98	%	60 - 130
			Toluene	2021/08/30		98	%	60 - 130
			Ethylbenzene	2021/08/30		99	%	60 - 130
			m & p-Xylene	2021/08/30		97	%	60 - 130
			o-Xylene	2021/08/30		89	%	60 - 130
			F1 (C6-C10)	2021/08/30		109	%	60 - 140
A335767	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/30		100	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/30		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/30		99	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/30		116	%	50 - 140
			Benzene	2021/08/30	<0.0050		mg/kg	
			Toluene	2021/08/30	<0.050		mg/kg	
			Ethylbenzene	2021/08/30	<0.010		mg/kg	
			m & p-Xylene	2021/08/30	<0.040		mg/kg	
			o-Xylene	2021/08/30	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/30	<10		mg/kg	
A335767	DO1	RPD [AEP036-01]	Benzene	2021/08/30	NC		%	50
			Toluene	2021/08/30	NC		%	50
			Ethylbenzene	2021/08/30	NC		%	50
			m & p-Xylene	2021/08/30	NC		%	50
			o-Xylene	2021/08/30	NC		%	50
			LH (C5-C10)	2021/08/30	NC		%	40
			F1 (C6-C10)	2021/08/30	NC		%	40
A337167	JB9	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/08/31		109	%	60 - 140
A337167	JB9	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/08/31	<500		mg/kg	
A363224	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/23		115	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/23		94	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/23		114	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/23		121	%	50 - 140
			Benzene	2021/09/23		102	%	50 - 140
			Toluene	2021/09/23		99	%	50 - 140
			Ethylbenzene	2021/09/23		103	%	50 - 140
			m & p-Xylene	2021/09/23		104	%	50 - 140
			o-Xylene	2021/09/23		104	%	50 - 140
			F1 (C6-C10)	2021/09/23		100	%	60 - 140
A363224	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/23		121	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/23		93	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/23		108	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/23		119	%	50 - 140
			Benzene	2021/09/23		105	%	60 - 130
			Toluene	2021/09/23		106	%	60 - 130
			Ethylbenzene	2021/09/23		103	%	60 - 130
			m & p-Xylene	2021/09/23		106	%	60 - 130
			o-Xylene	2021/09/23		106	%	60 - 130
			F1 (C6-C10)	2021/09/23		86	%	60 - 140
A363224	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/23		123	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/23		93	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/23		107	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/23		121	%	50 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Benzene	2021/09/23	<0.0050		mg/kg	
			Toluene	2021/09/23	<0.050		mg/kg	
			Ethylbenzene	2021/09/23	<0.010		mg/kg	
			m & p-Xylene	2021/09/23	<0.040		mg/kg	
			o-Xylene	2021/09/23	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/23	<10		mg/kg	
A364348	LL0	Matrix Spike	O-TERPHENYL (sur.)	2021/09/24		83	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/24		80	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/24		84	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/24		83	%	60 - 140
A364348	LL0	Spiked Blank	O-TERPHENYL (sur.)	2021/09/24		97	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/24		100	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/24		101	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/24		97	%	60 - 140
A364348	LL0	Method Blank	O-TERPHENYL (sur.)	2021/09/24		89	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/24	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/24	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/24	<50		mg/kg	
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
			F4 (C34-C50 Hydrocarbons)	2021/08/24		107	%	60 - 140
A457151	MHF	Method Blank	O-TERPHENYL (sur.)	2021/08/24		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/24	<10		mg/kg	
			F3A (C16-C22)	2021/08/24	<50		mg/kg	
			F3B (C22-C34)	2021/08/24	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	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.

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

Bureau Veritas Job #: C162661
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: 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

Luba Shymushovska, B.Sc., QP, Senior Analyst, Organics

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

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

Maxxam
A Bureau Veritas Group Company

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

Page	CHAIN OF CUSTODY #
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COOLER OBSERVATIONS:

MAXXAM JOB#: C162661

Block	Custody Seal Present (Yes/No)	Custody Seal Intact (Yes/No)	Ice Present (Yes/No)	Cooler ID	Temp 1	Temp 2	Temp 3
1	Yes ✓	Yes ✓	Yes ✓		2	4	8
2	Yes ✓	Yes ✓	Yes ✓		1	3	6
3	Yes ✓	Yes ✓	Yes ✓		3	1	2
4	Yes ✓	Yes ✓	Yes ✓		1	0	3
5	Yes ✓	Yes ✓	Yes ✓		3	3	3
6							
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19							
20							

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
Jose Mercan	[signature]	2021/08/24	9:45 AM

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MCAL

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #	
Page 1 of 4	644511-38-01
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COOLER OBSERVATIONS:

MAXXAM JOB#: C162661

Cooler	Custody Seal Present	Custody Seal Intact	Ice Present	Cooler ID	Temp 1	Temp 2	Temp 3
1	YES ✓	YES ✓	YES ✓		5	7	7
2	YES ✓	YES ✓	YES ✓		6	6	6
3	YES ✓	YES ✓	YES ✓		3	2	5
4	YES ✓	YES ✓	YES ✓		8	2	2
5	YES ✓	YES ✓	YES ✓		5	5	5
6	YES ✓	YES ✓	YES ✓		6	5	7
7							
8							
9							
10							
11–20							

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
NATASHA · MUKUCHA	[signature]	2021/08/25	16:20

MCAL

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4000 19st 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

Page 1 of 4

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 #:	Bottle Order #:
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001	C162661	644511
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #:	Project Manager:
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:		C#644511-38-01	Carmen McKay
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions

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)	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): ~~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	N/A	TP21-62-02	22AUG/21	09:59	SOIL			V									3	
2		TP21-62-04		10:01				V									3	
3		TP21-63-01		10:24				V									3	
4		TP21-63-03		10:28				V									3	Received in Yellowknife
5		TP21-63-05		10:30				V									3	By: J.Mercado @ 9:45
6		TP21-64-01		10:29				V									3	AUG 24 2021
7		TP21-64-03		10:32				V									3	Pls. see ACTR
8		TP21-64-06		10:35				V									3	Temp: / /
9		TP21-59-01		10:39				V									3	
10		TP21-59-03		10:40				V	V								3	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/22	16:30	NATASHA MWAUCI-IA	2021/08/25	16:20		[ ]	ACTR	[x] 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.
* 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

White: BV Labs Yellow: Client

ice: yes

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
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CHAIN OF CUSTODY RECORD

Page of 2 of 4

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 #: C162661	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
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:	Project Name:		COC #: C#644511-39-01	Project Manager: Carmen McKay
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	~~ATI~~ Regulated Metals - Soils	~~ATI~~ 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	N/A	TP21-59-04	22AUG21	10:41	SOIL			✓	✓								3	
2		TP21-59-06		10:42				✓									3	
3		TP21-60-02		11:01				✓									3	
4		TP21-60-04		11:02				✓									3	Received in Yellowknife
5		TP21-60-06		11:03				✓									3	By: J. MCLEAN @ 09:45
6		TP21-61-02		11:38				✓									3	AUG 24 2021
7		TP21-31-02		13:48				✓									3	see ACTR
8		TP21-30-02		13:51				✓									3	Temp:
9		TP21-33-02		14:00				✓									3	
10		TP21-33 04		14:01				✓									3	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/22	16:30	NATASHA MUKUCHA	2021/08/25	16:20		[ ]	ACTR	[x] Yes [ ] No

Laboratory Use Only

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

White: BV Labs Yellow: Client

ice: yes

Bureau Veritas Canada (2019) Inc.

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CHAIN OF CUSTODY RECORD

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 #:	Bottle Order #:
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001	C162661	644511
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #:	Project Manager:
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:		C#644511-40-01	Carmen McKay
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions

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)	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): ~~ATI~~ Regulated Metals - Soils	~~ATI~~ 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	N/A	TP21-33-06	22AUG/21	14:02	SOIL			✓									3	
2		TP21-32-03		14:24				✓									3	
3		TP21-32-04		14:25				✓									3	
4		TP21-32-05		14:26				✓									3	Received in Yellowknife
5		TP21-28-02		1446				✓									3	By: J. MCLEAN @ 9:45
6		TP21-28-04		1457				✓									3	AUG 24 2021
7		TP21-28-06		1457				✓									3	SCC ACTR
8		TP21-28-08		1458				✓									3	Temp:
9		TP21-29-02		1510				✓									3	
10		TP21-29-04		1511				✓									3	

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

[x]

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

[ ]

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
PETER TAM	21/08/22	16:30	NATASHA MUKUCHA	2021/08/25	16:20	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[ ]	ACTR	[x] Yes [ ] No

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White: BV Labs Yellow: Client

ice : ya

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CHAIN OF CUSTODY RECORD

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 #: C162661	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Address:	2800, 700 -2nd Street SW CALGARY AB T2P 2W2	Project:	20368099-6000-1001	COC #: C#644511-41-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Project Name:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Site #:			
				Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions

SAMPLES MUST BE KEPT COOL (< 10ºC) 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	~~AT4~~ 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	N/A	TP21-29-05	22AUG/21	15:12	SOIL			✓									3	
2		TP21-32-61		14:22				✓									3	
3		DUP U		10:28				✓									3	
4		DUP S		11:03				✓									3	Received in Yellowknife
5		DUP T	22AUG/21	14:25	SOIL			✓									3	By: J. Mercan @ 9:45
6																		AUG 24 2021
7																		see AEPR
8																		Temp: / /
9																		
10																		

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
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Job Specific Rush TAT (if applies to entire submission) [ ]
Date Required:
Rush Confirmation Number: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (ºC) on Receipt	Custody Seal Intact on Cooler?
PETER TAM	21/08/22	16:30	NATASHA MUKUCHTA	2021/08/25	16:20		[ ]		[ ] Yes [ ] No

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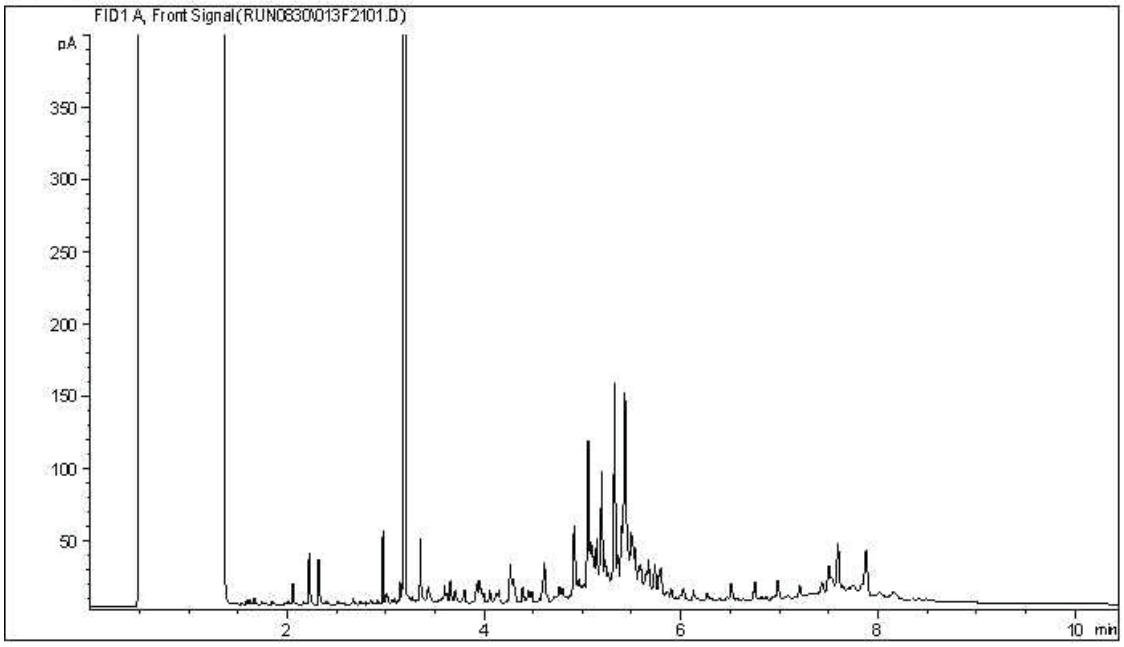
** ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER

White: BV Labs Yellow: Client

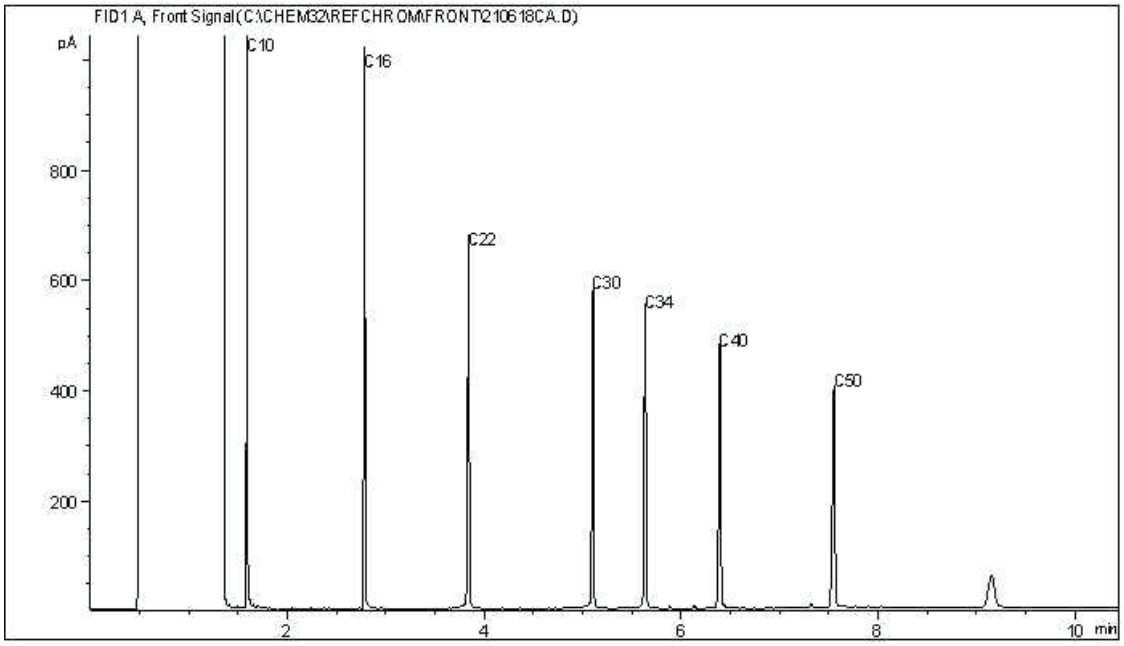
Bureau Veritas Canada (2019) Inc.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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Gasoline:	C4 - C12	Diesel:	C8 - C22
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CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

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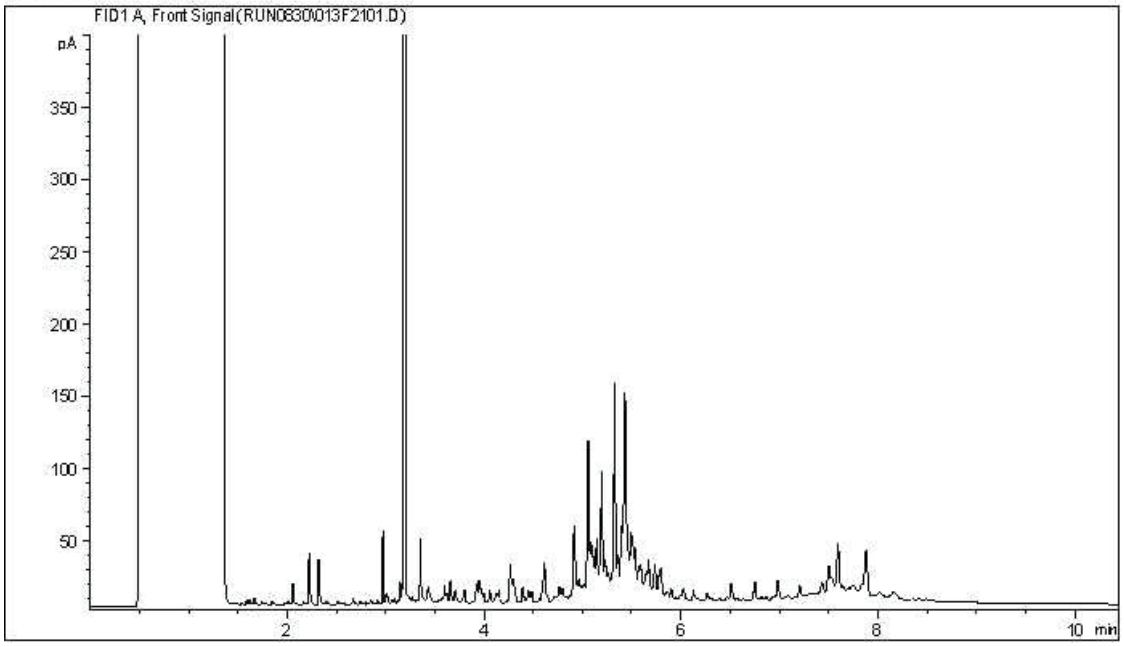

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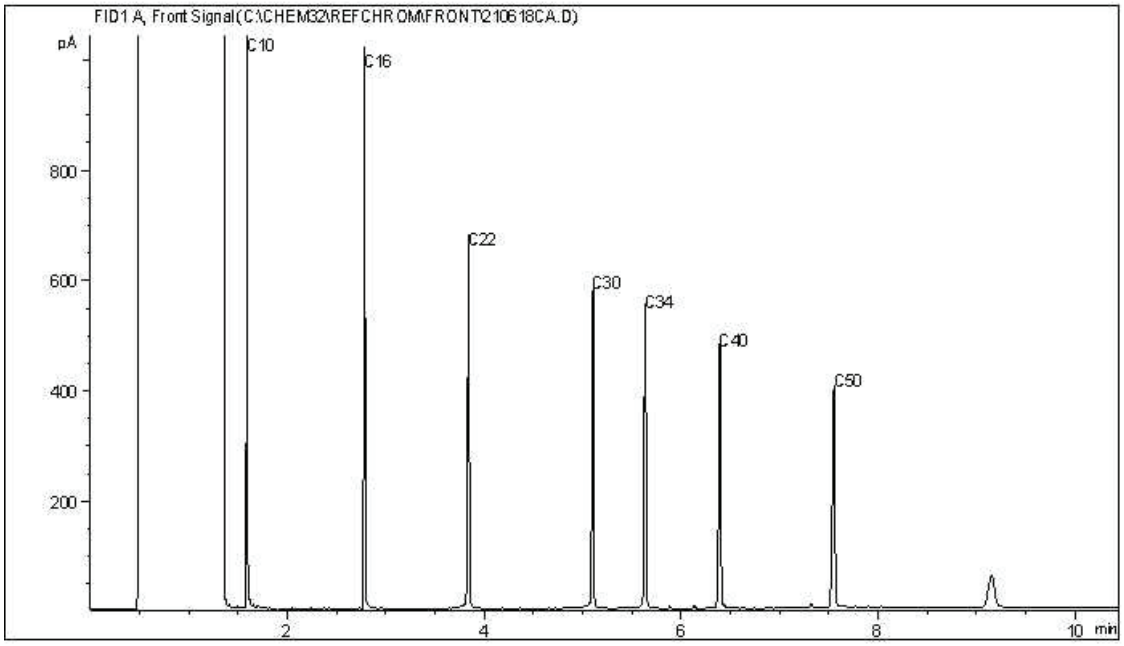

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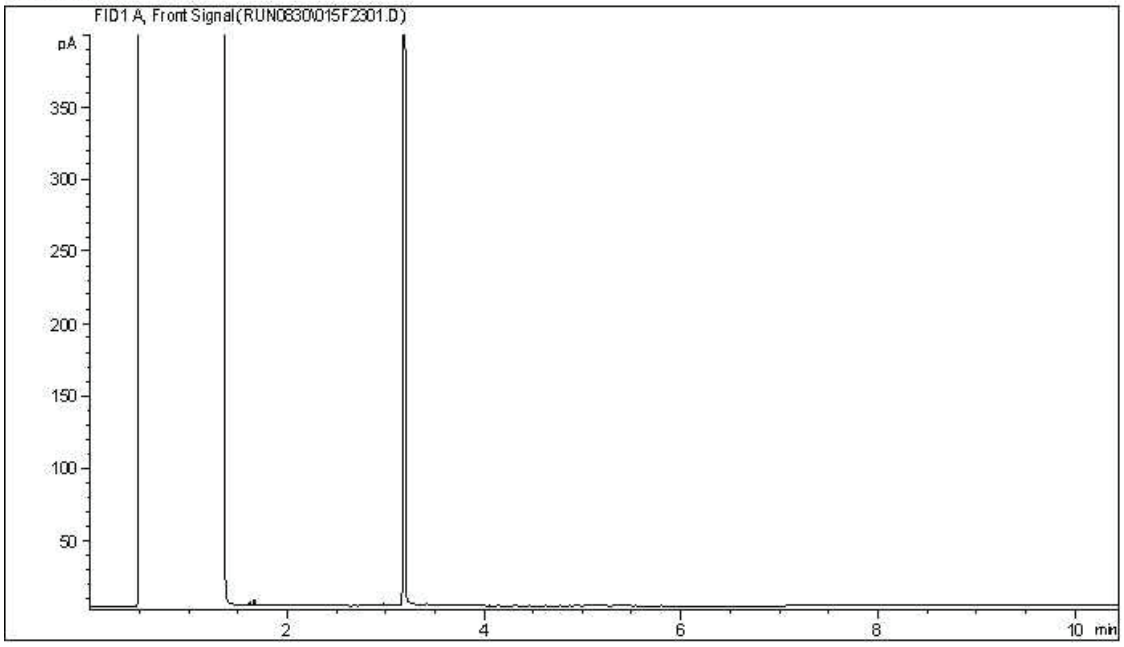

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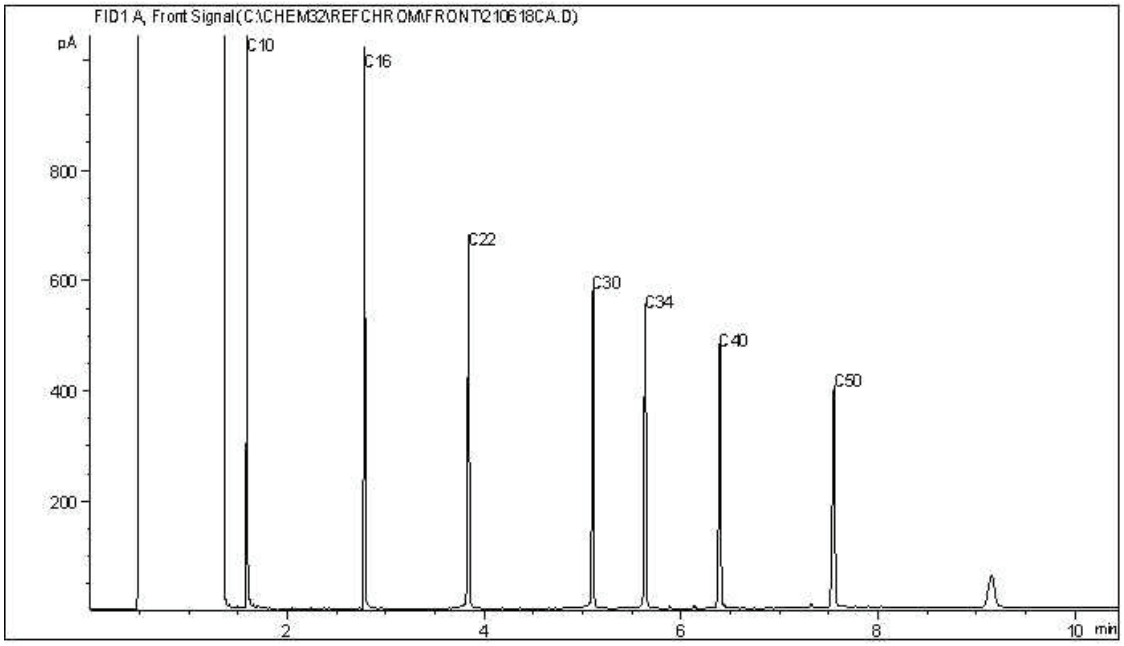

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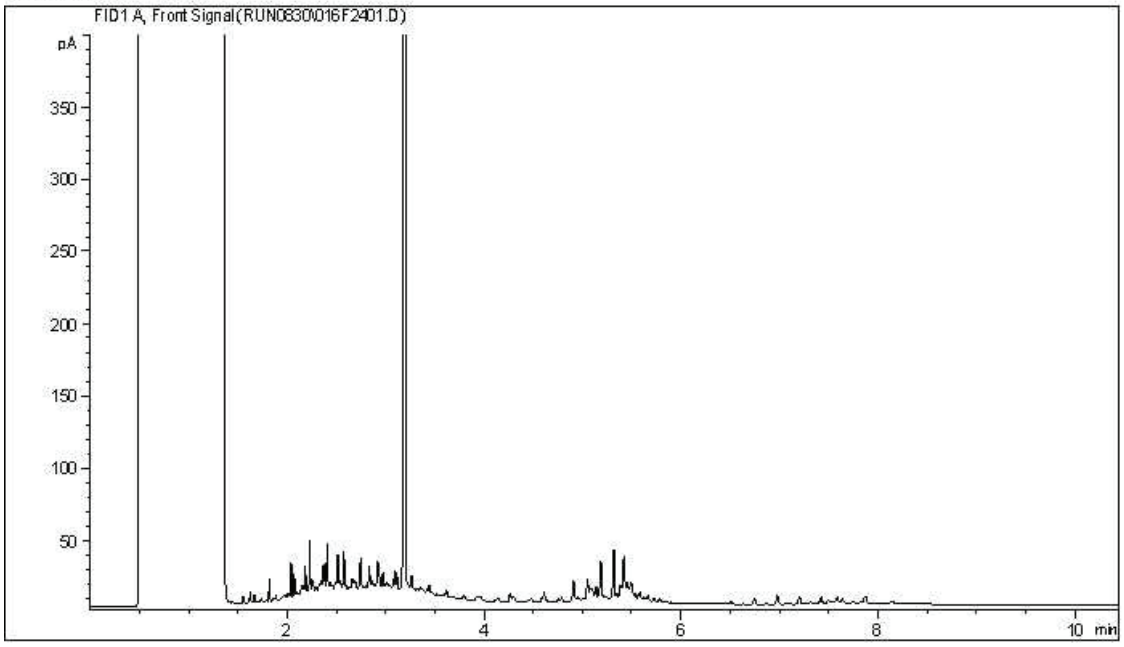

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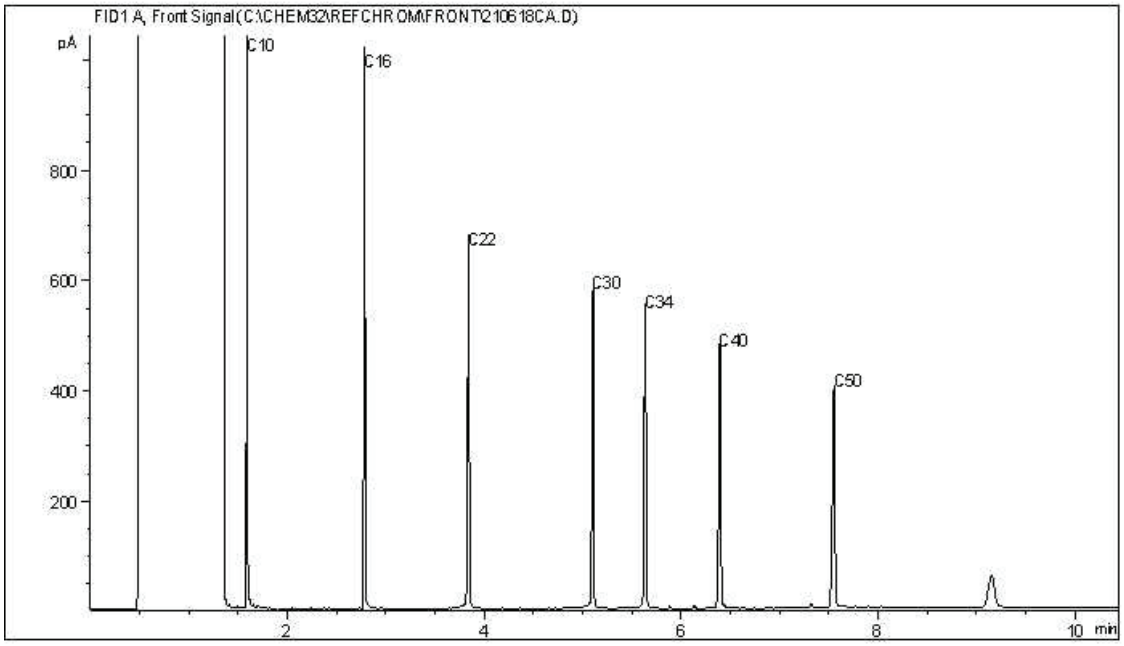

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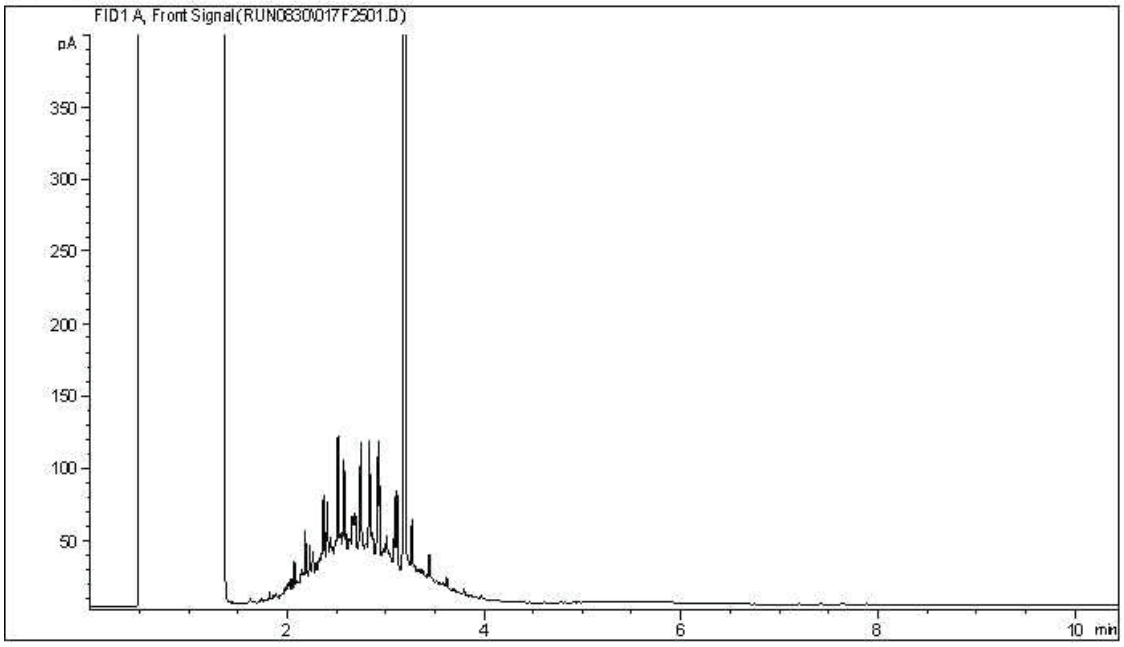

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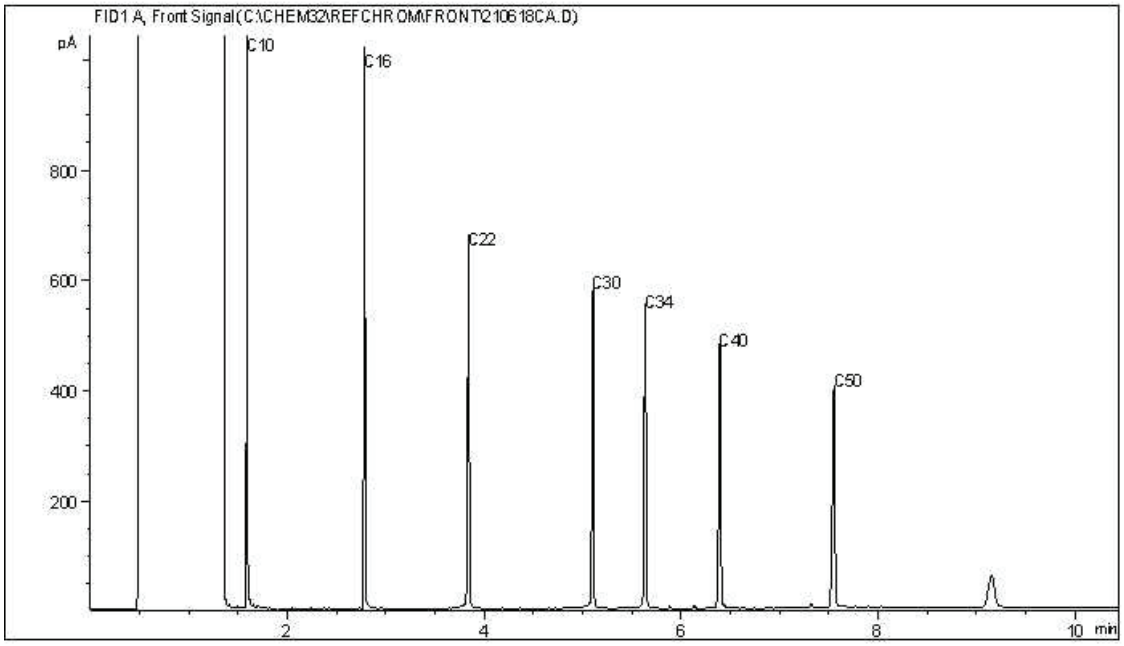

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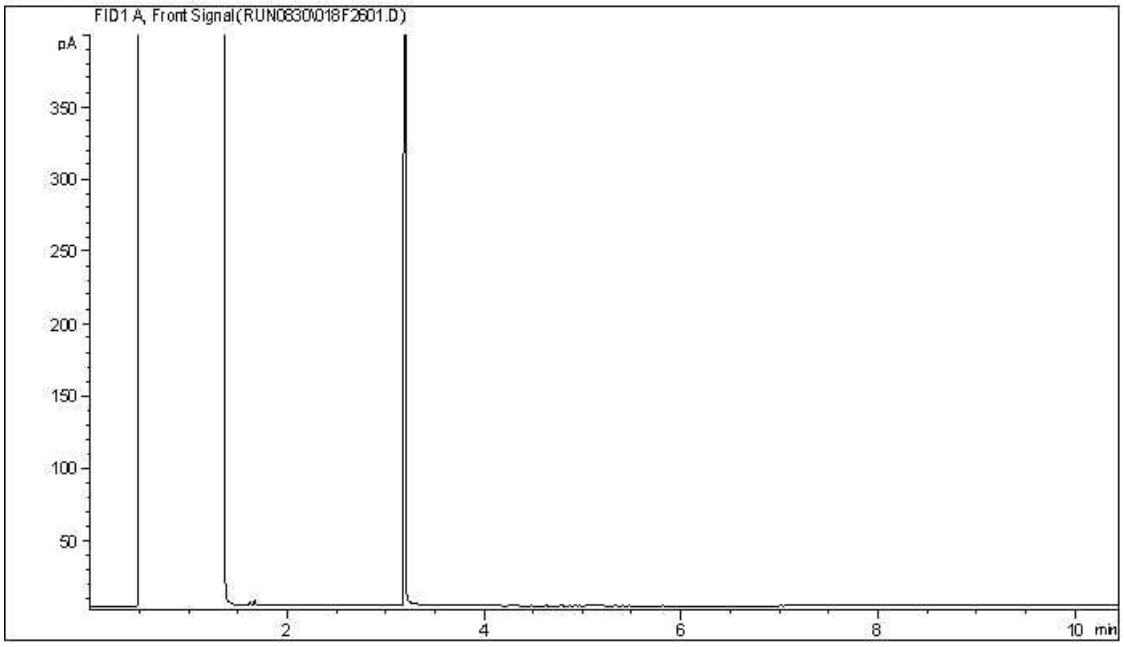

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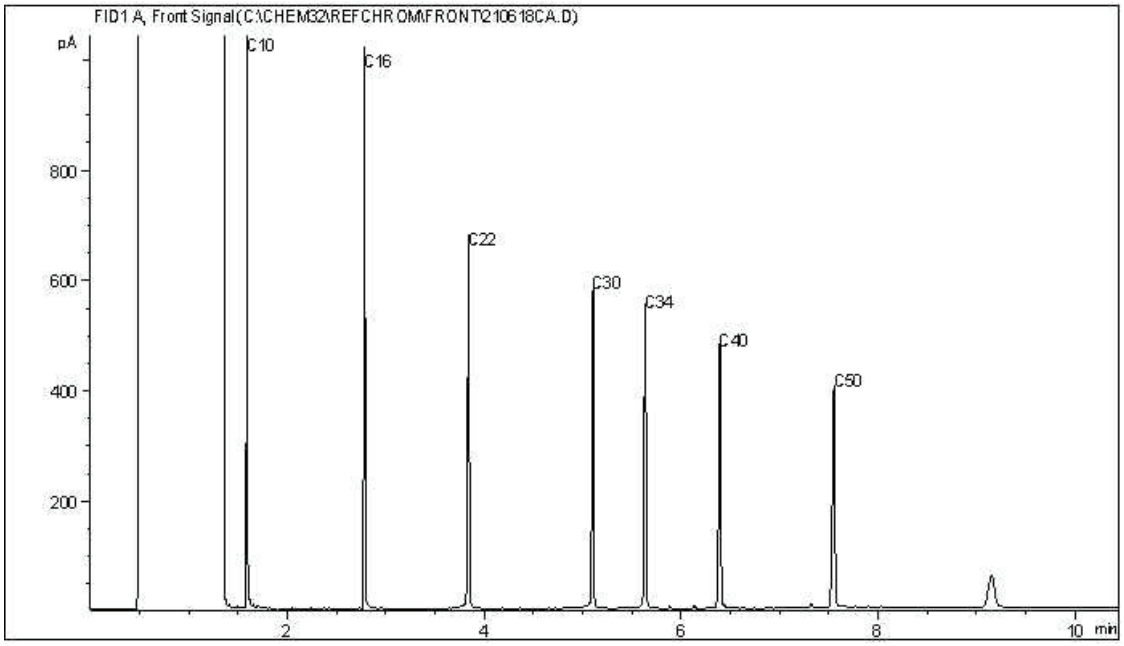

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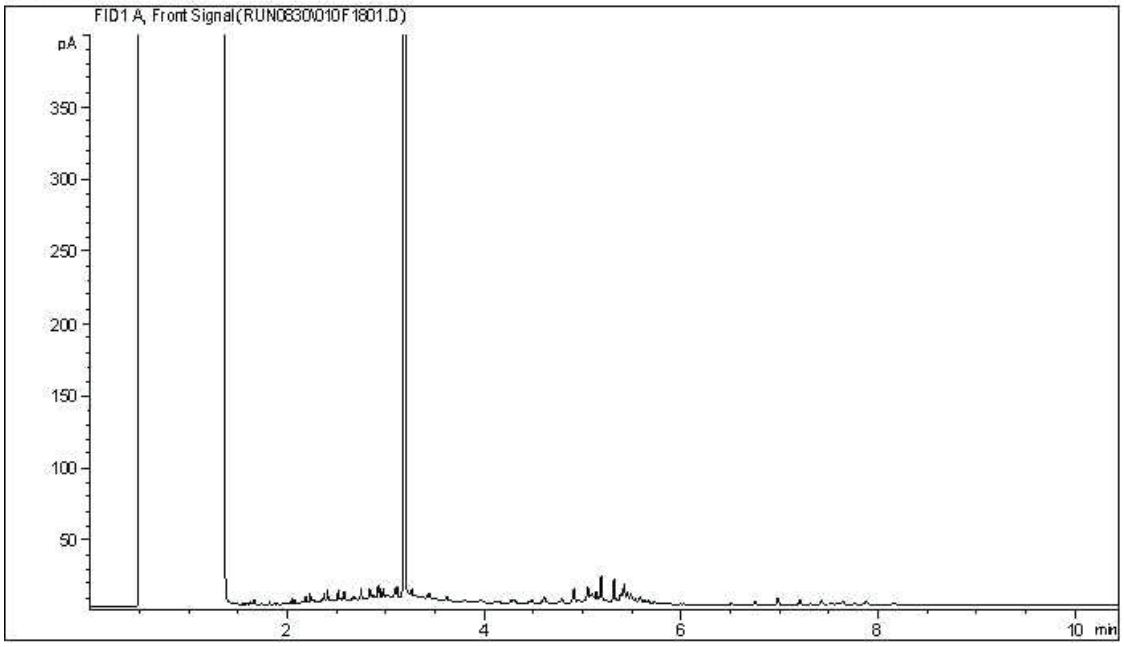

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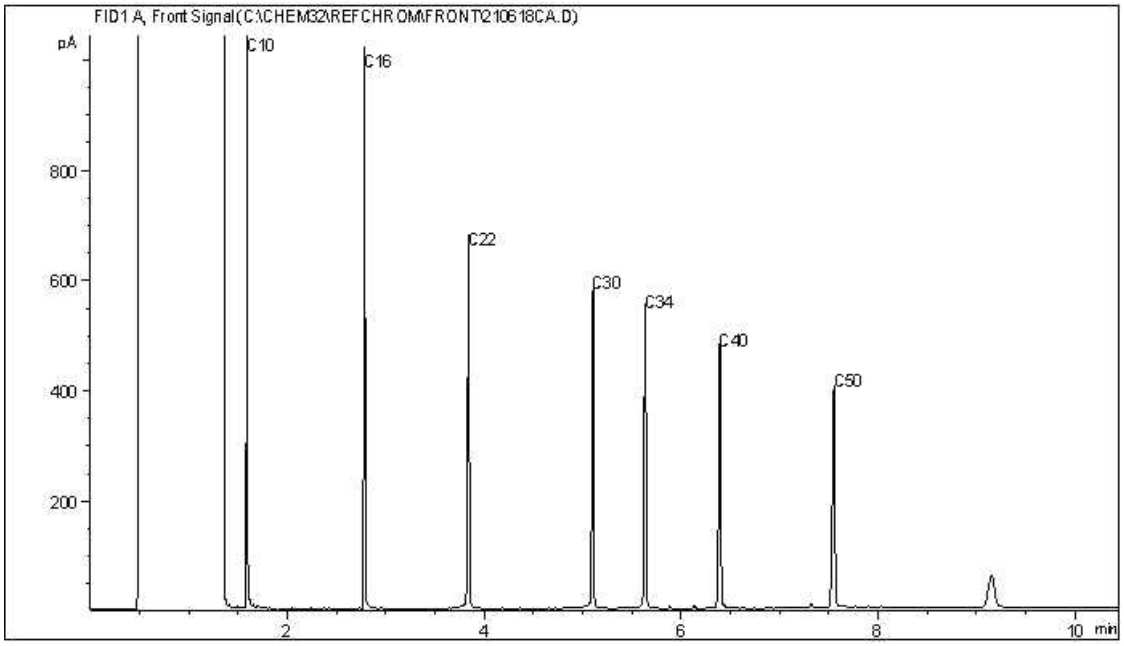

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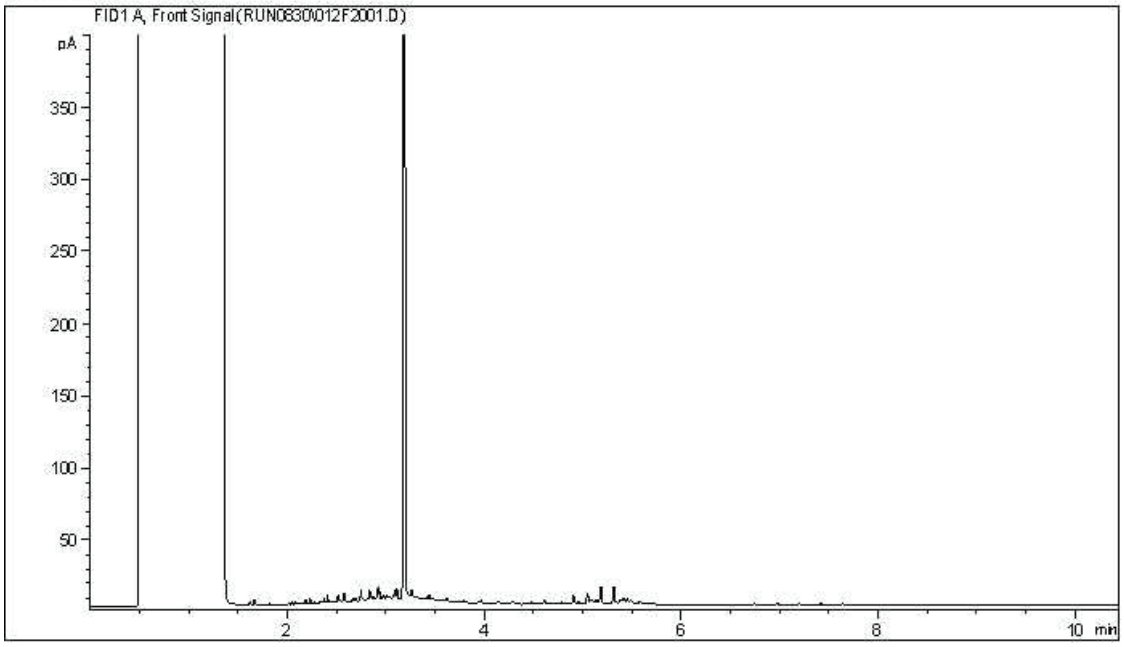

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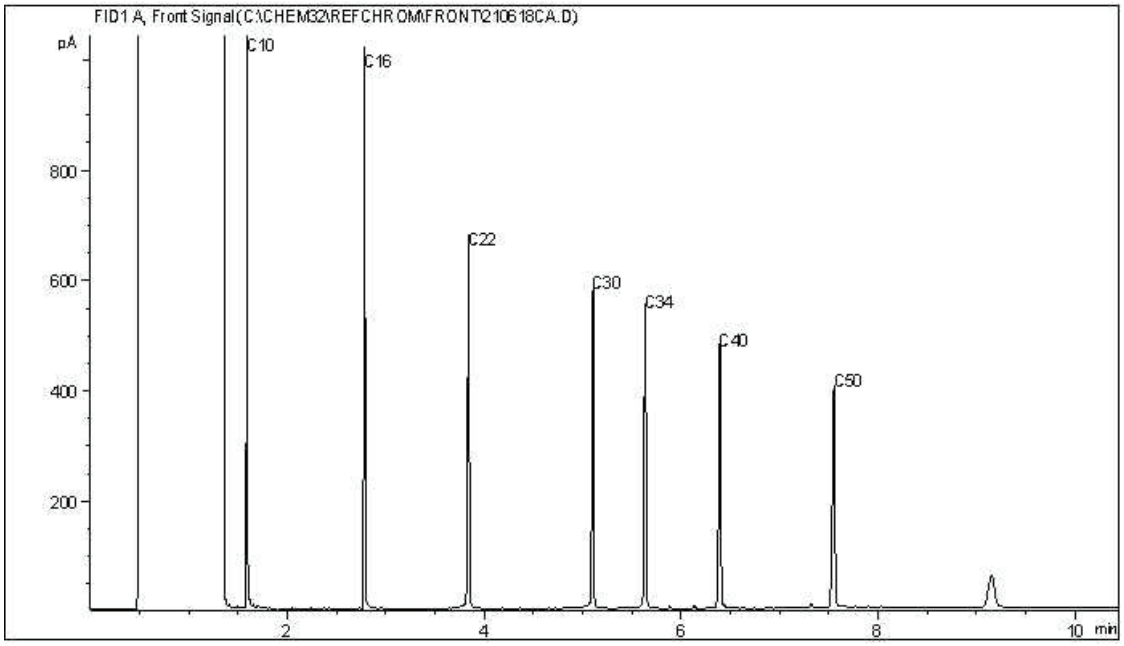

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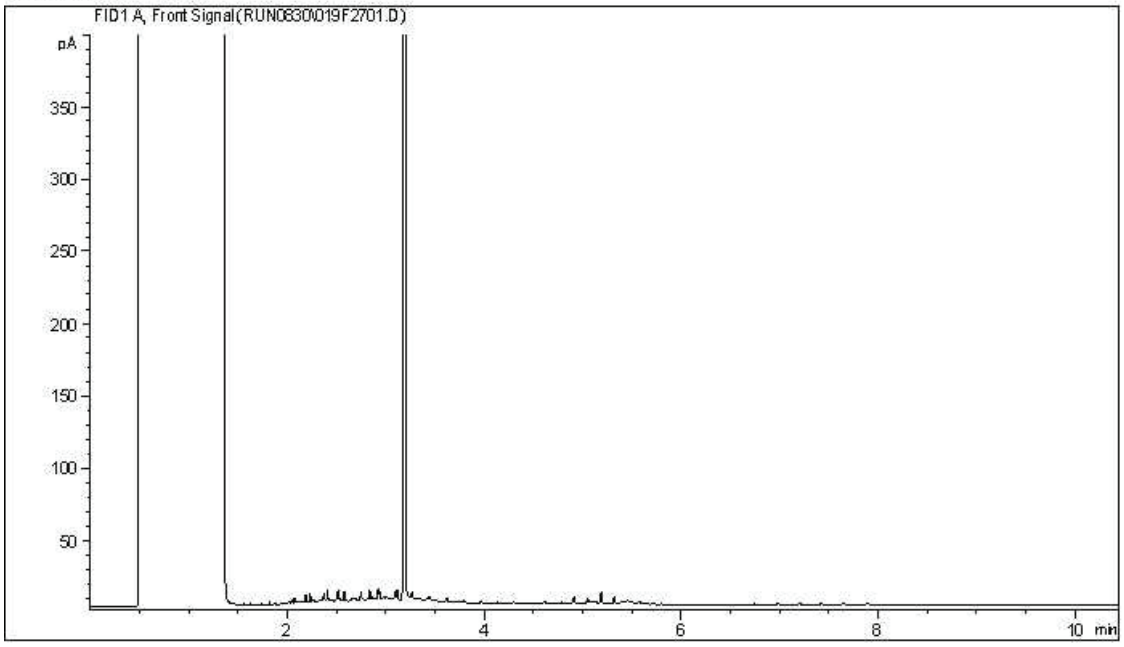

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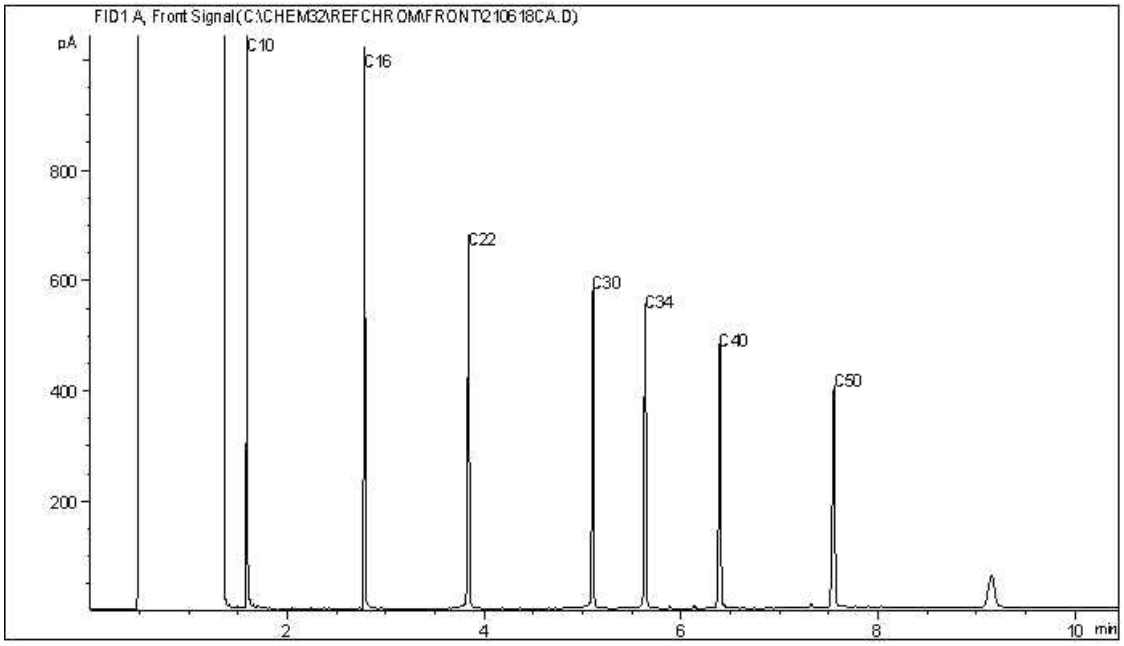

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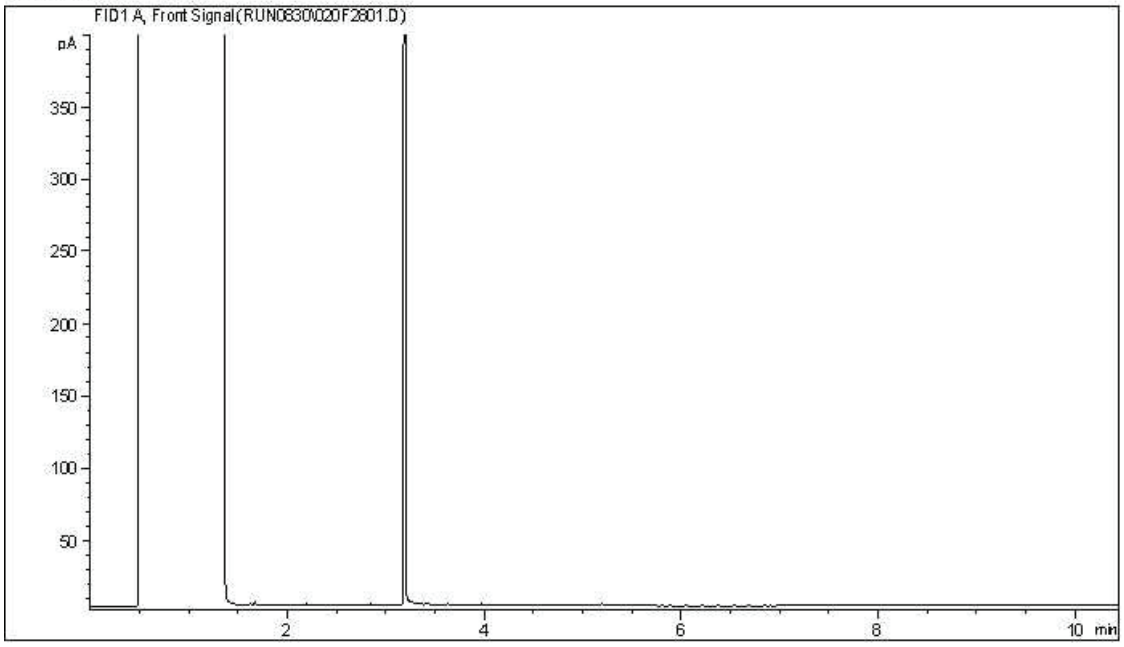

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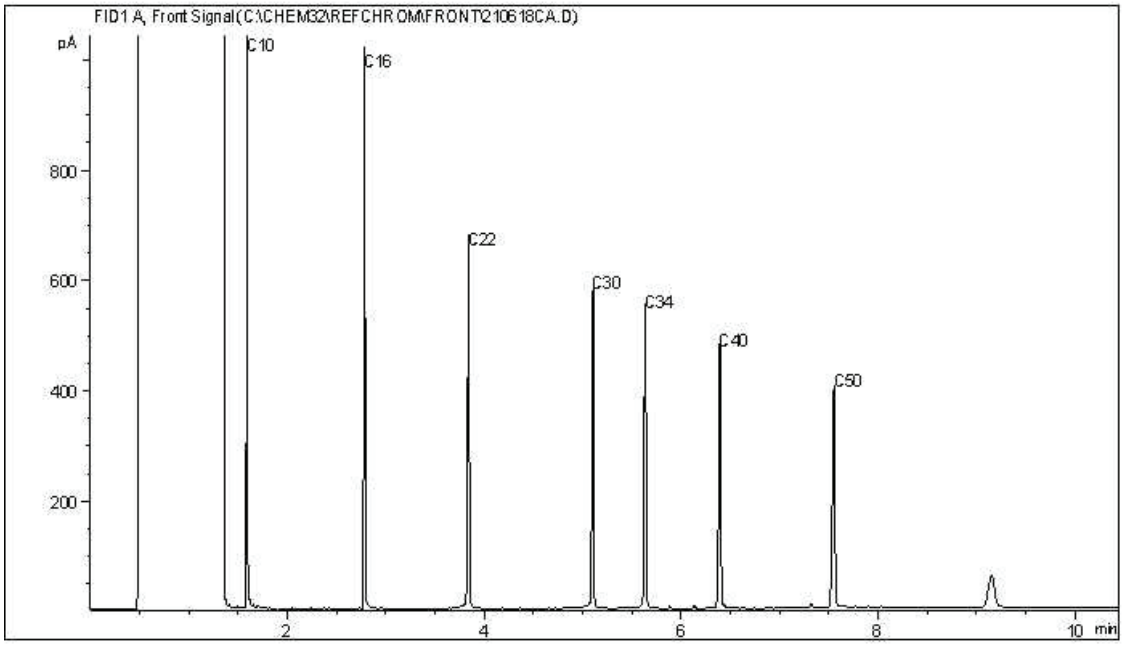

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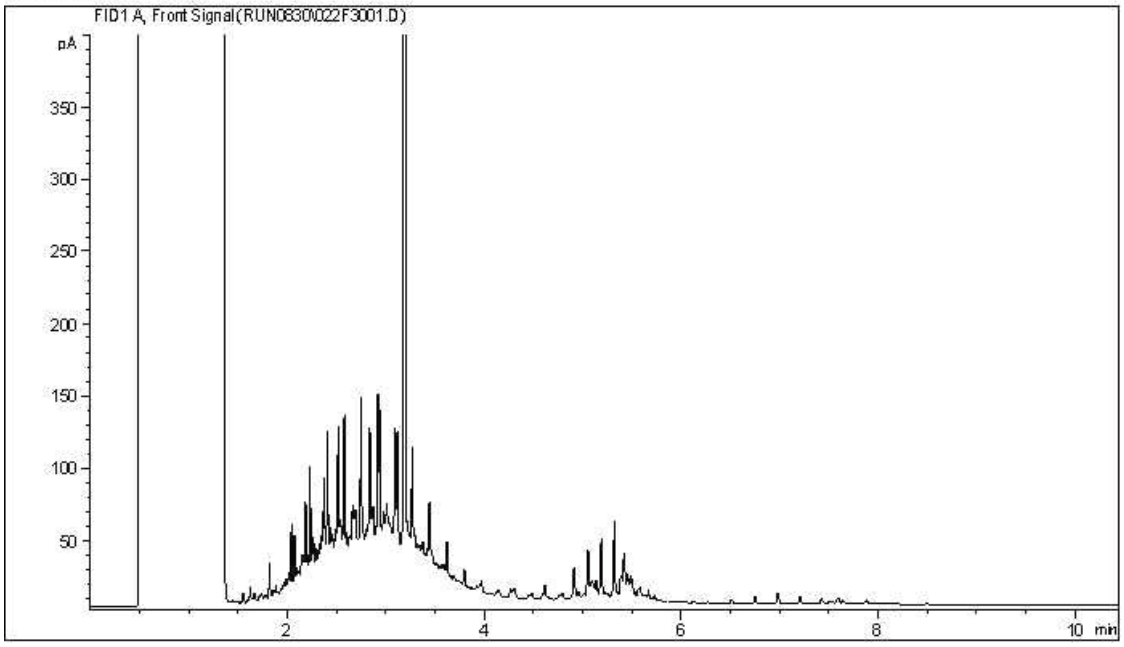

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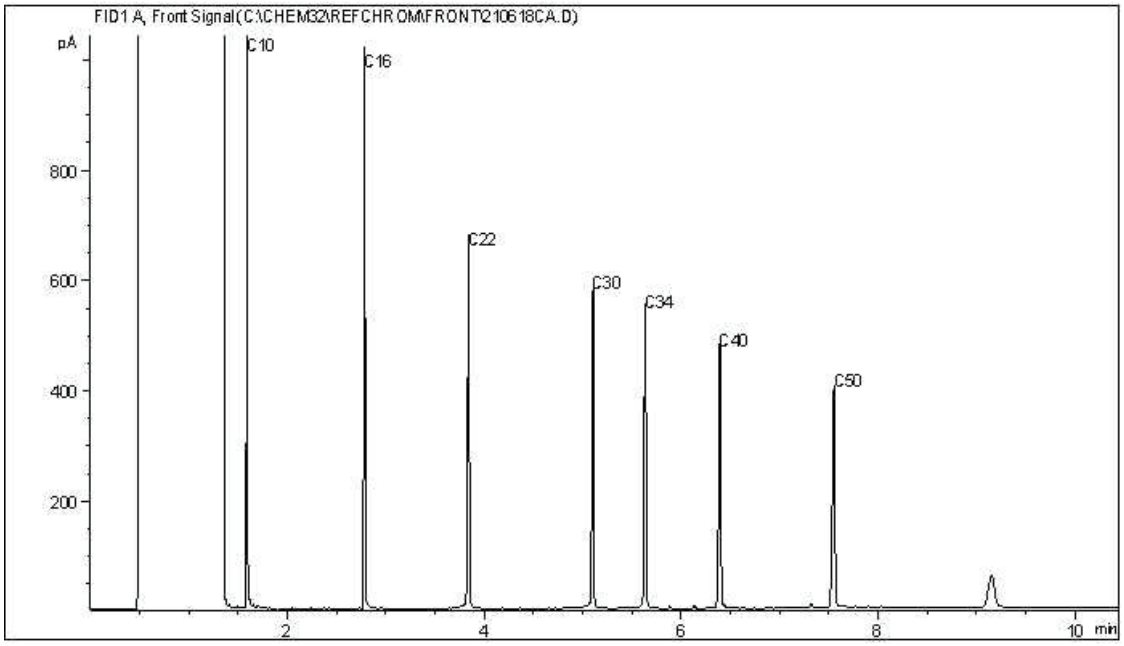

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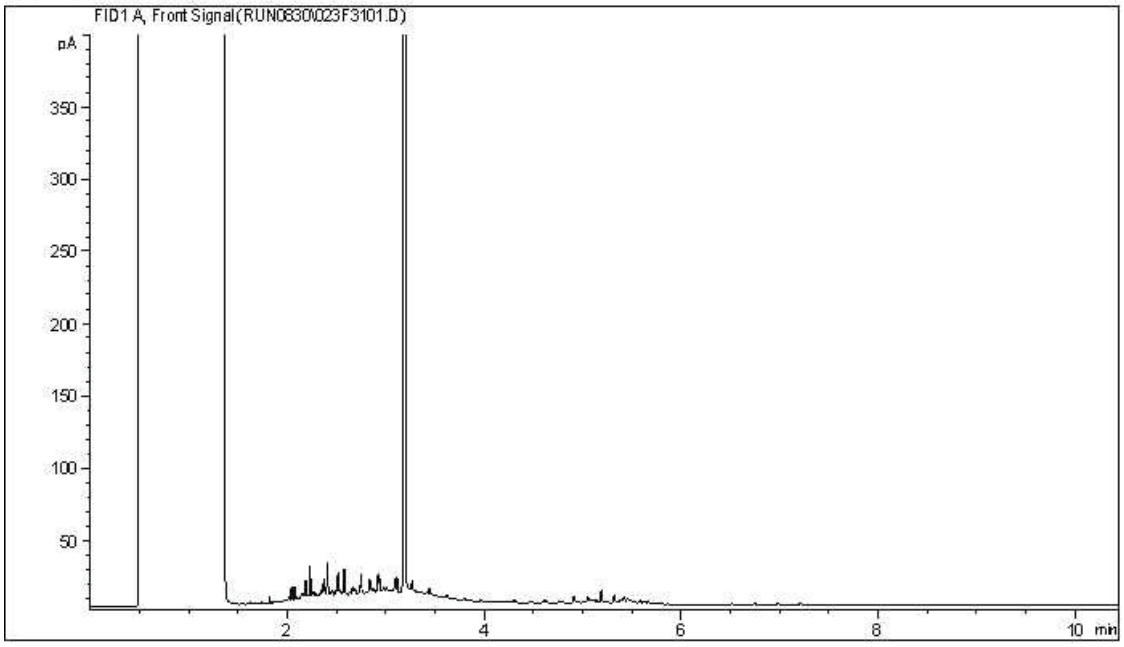

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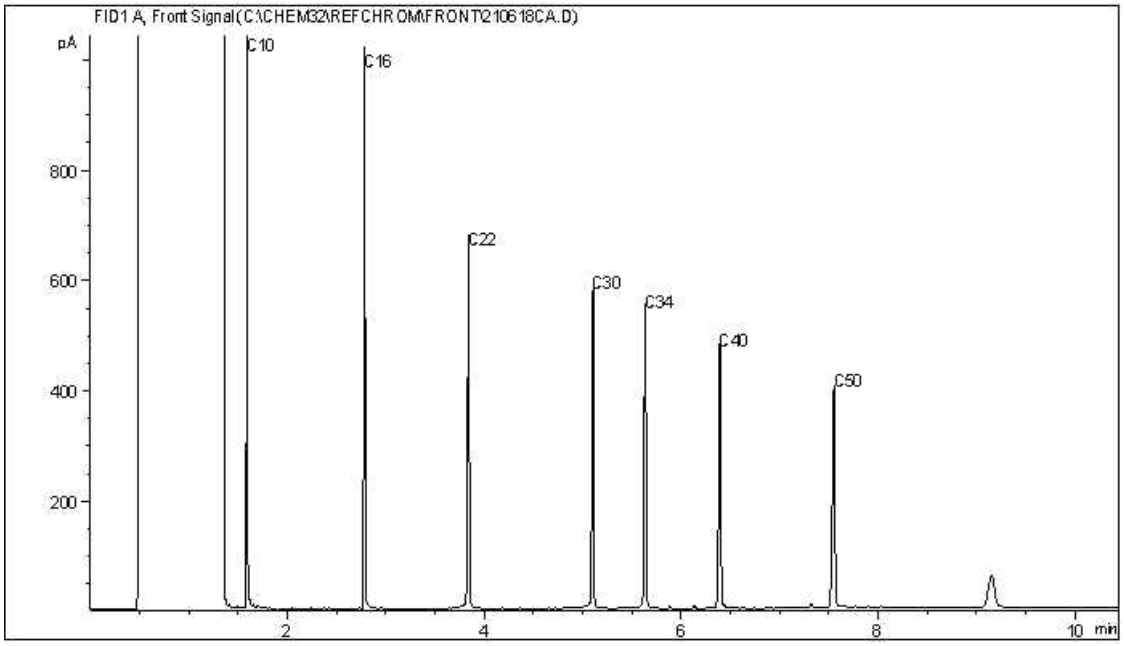

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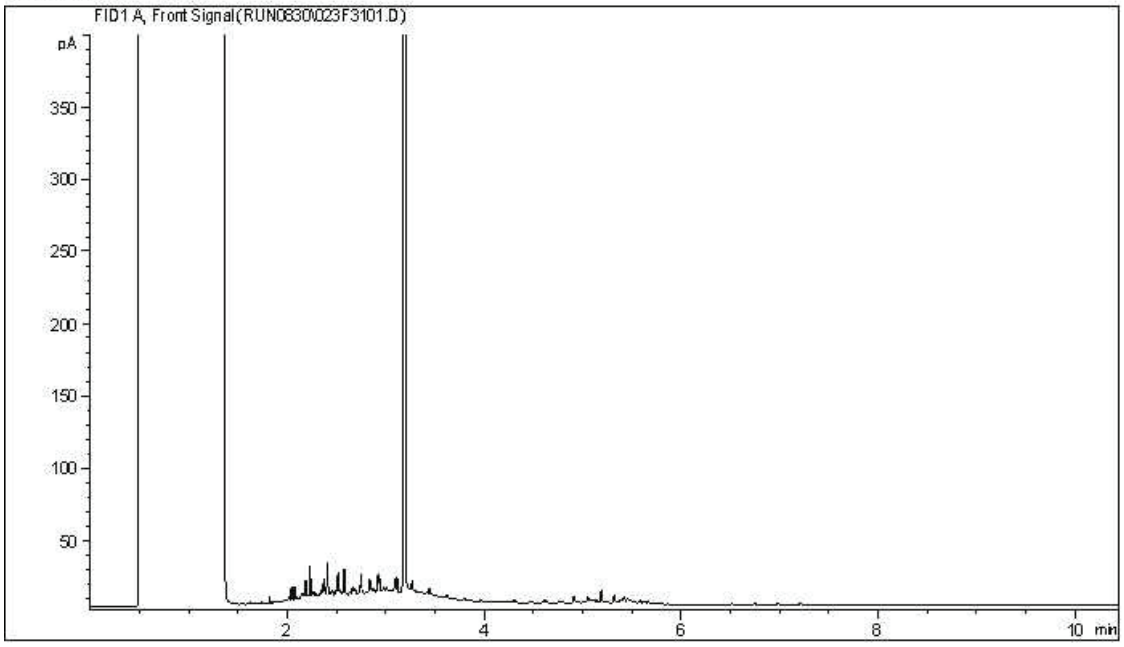

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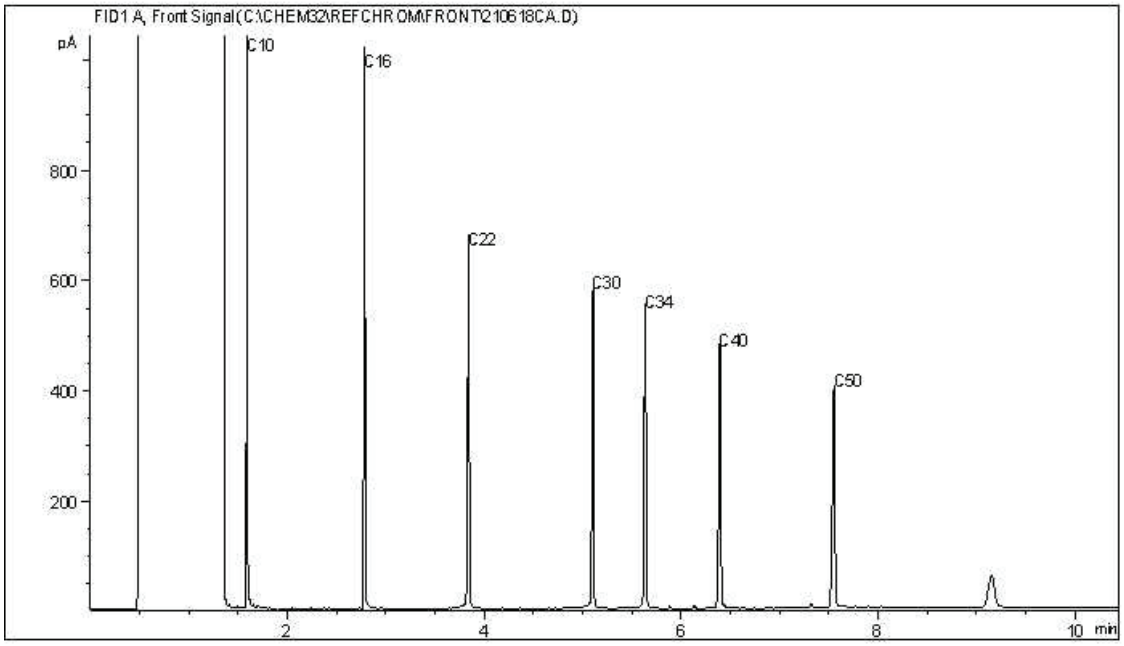

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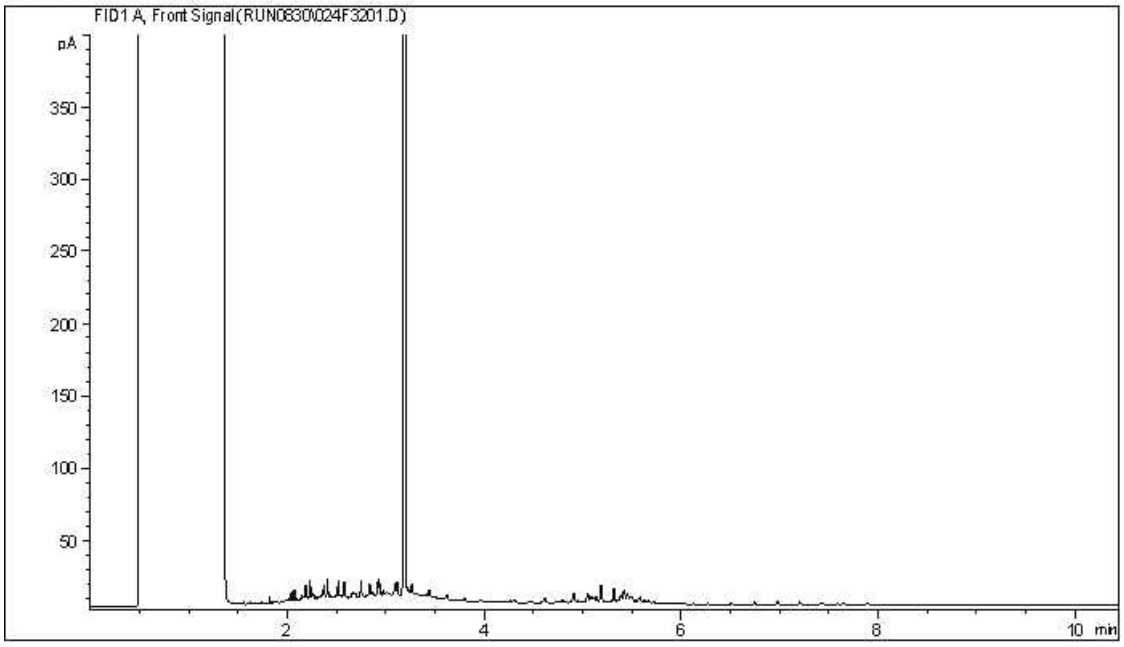

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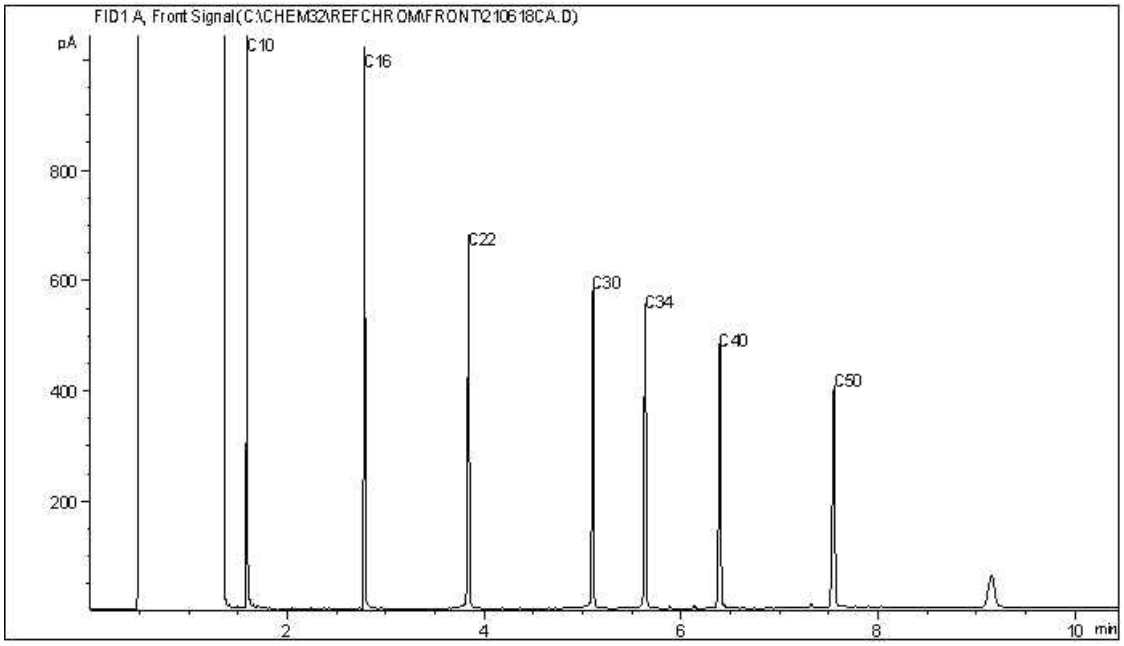

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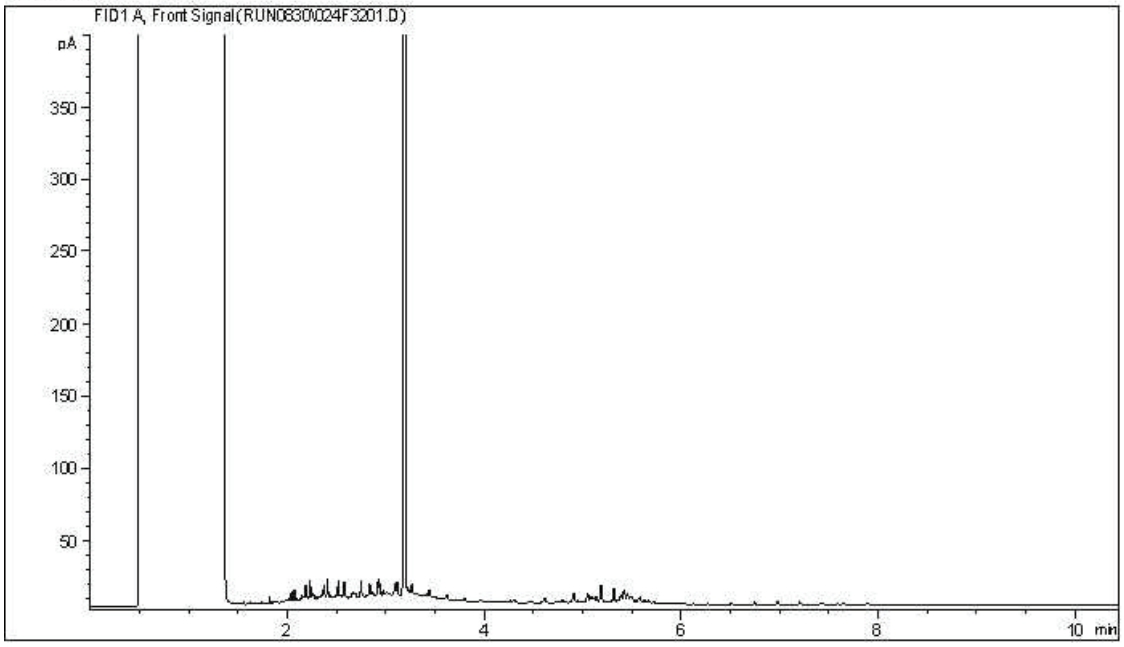

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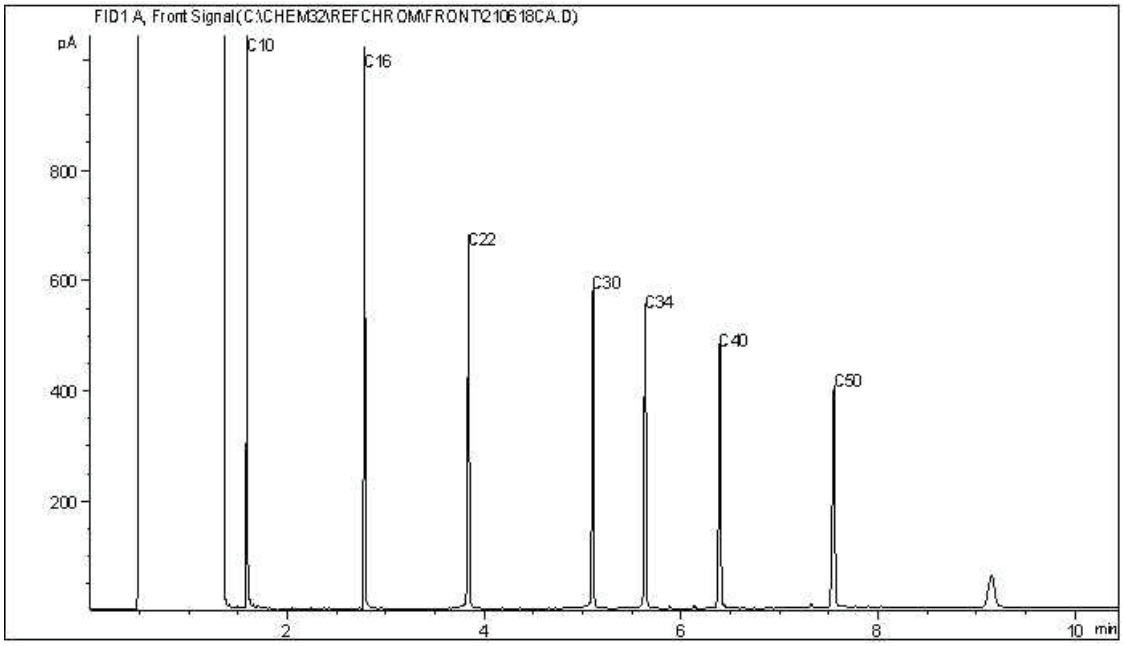

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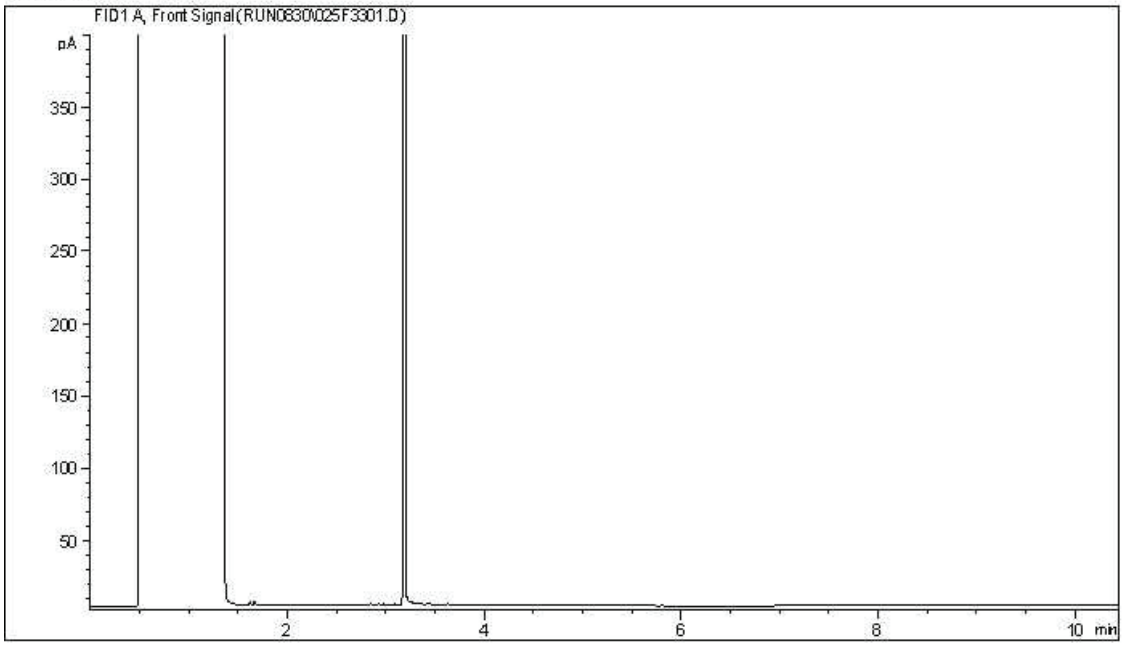

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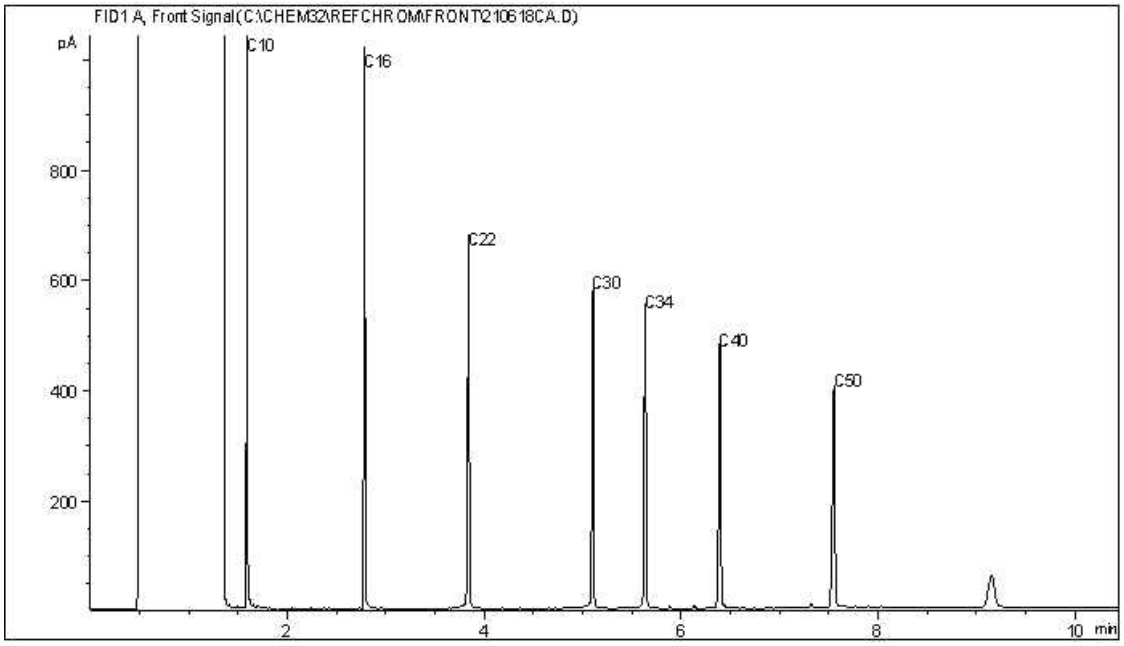

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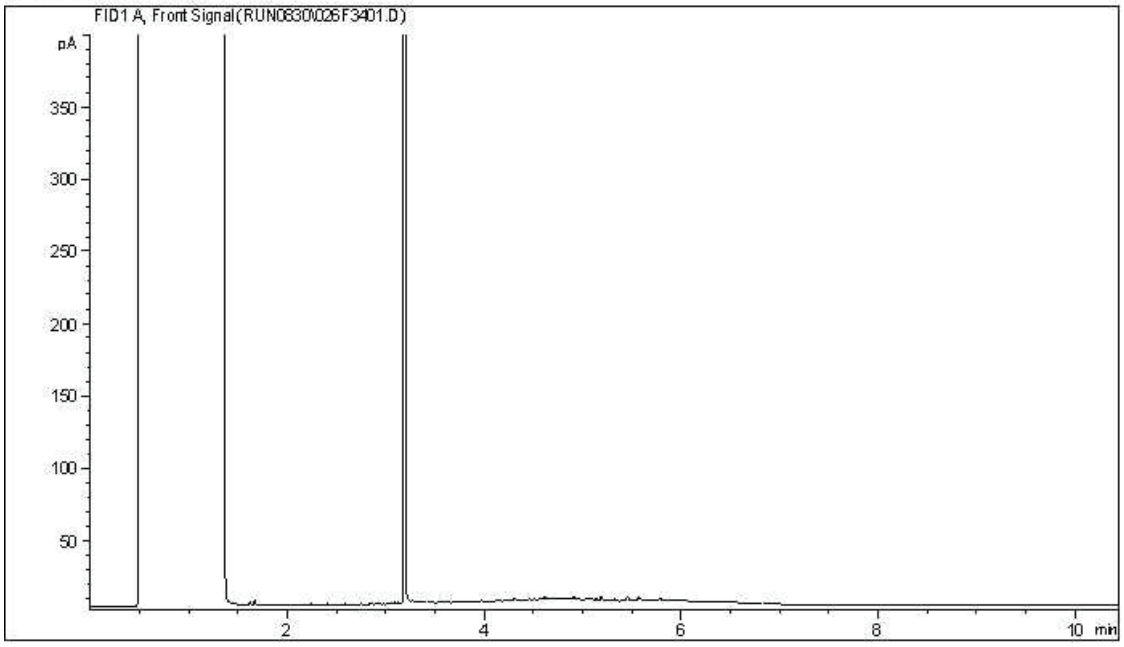

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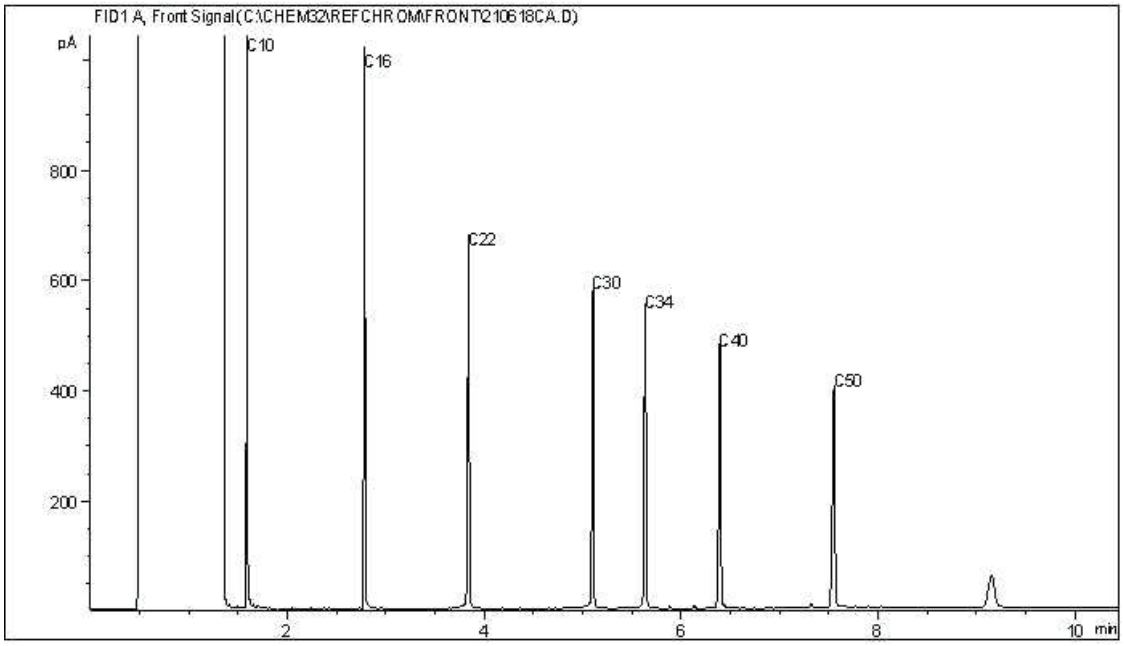

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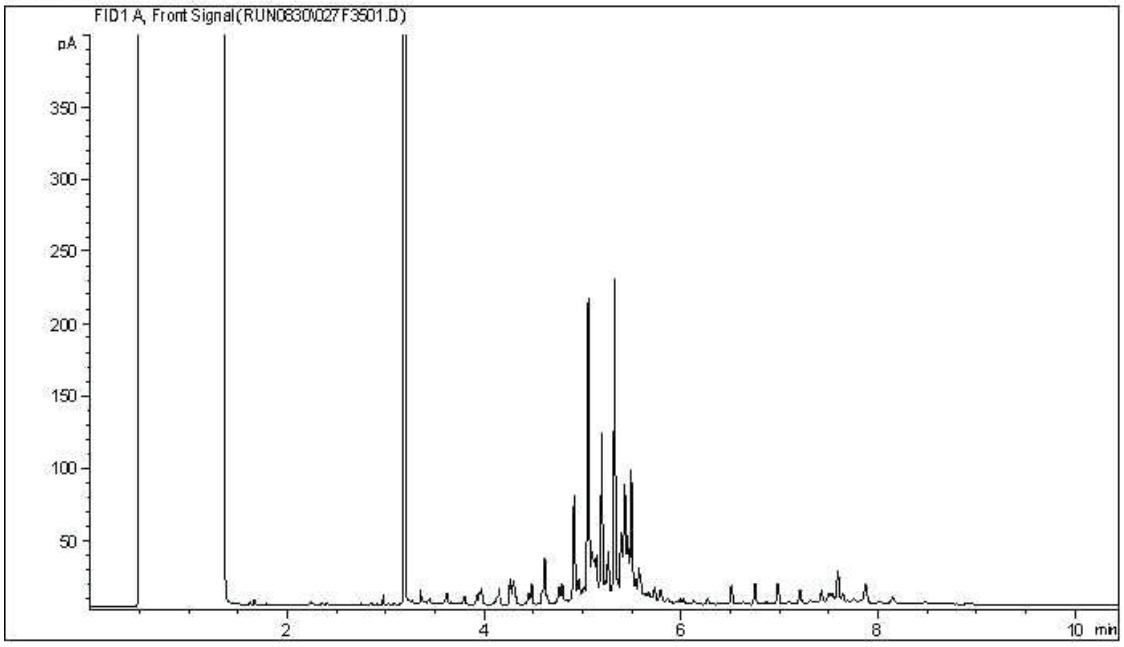

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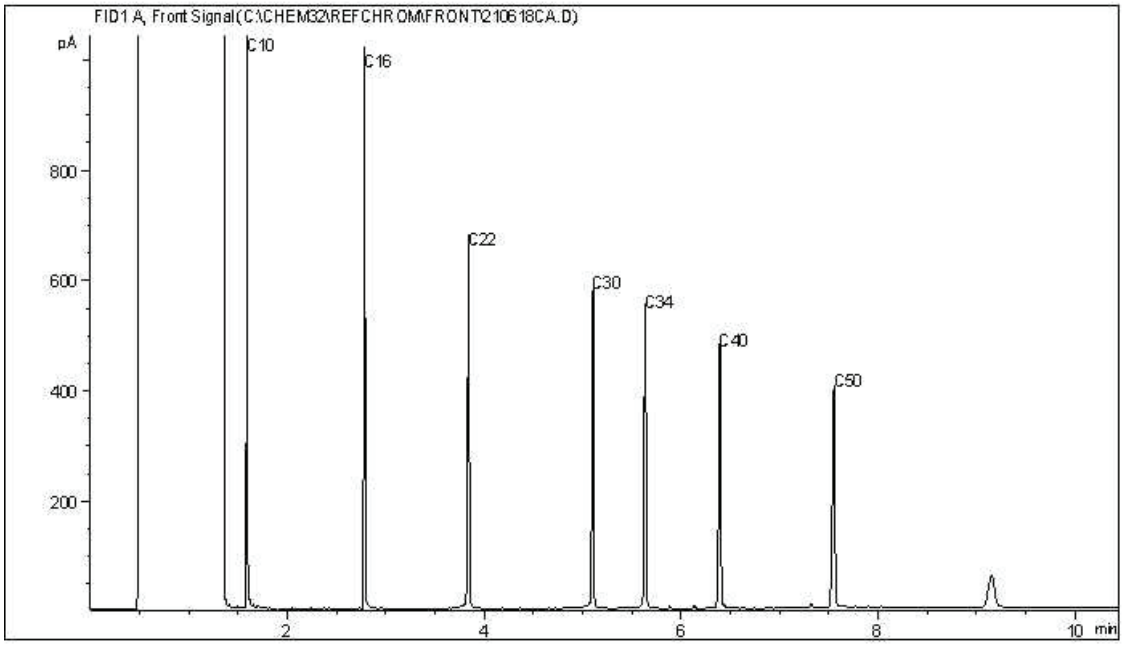

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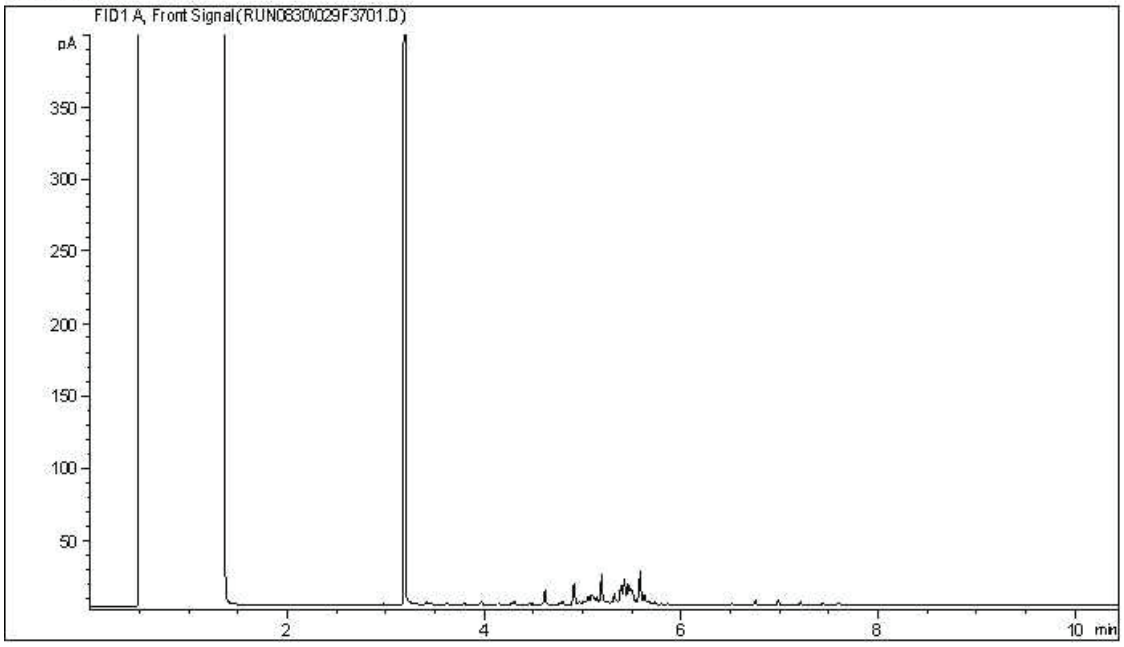

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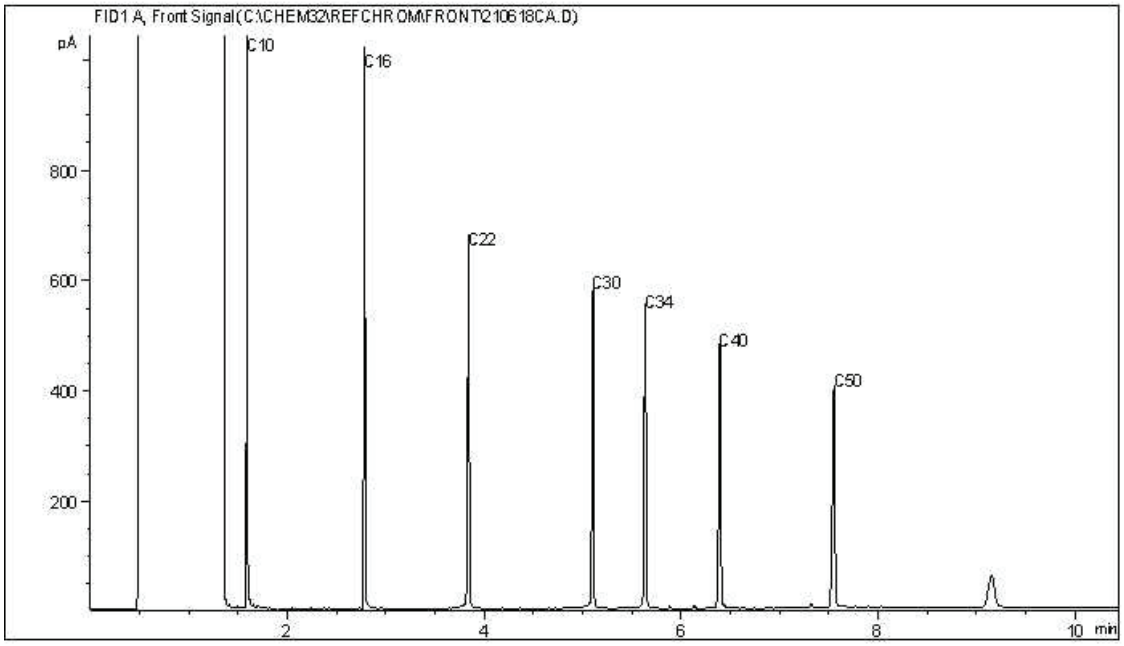

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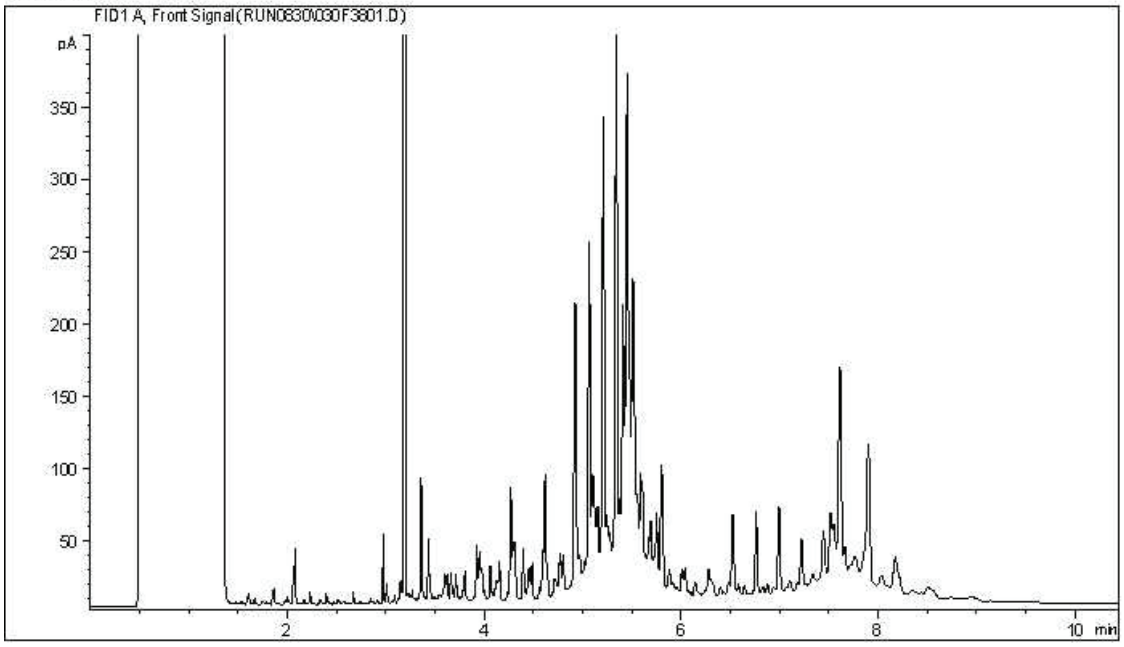
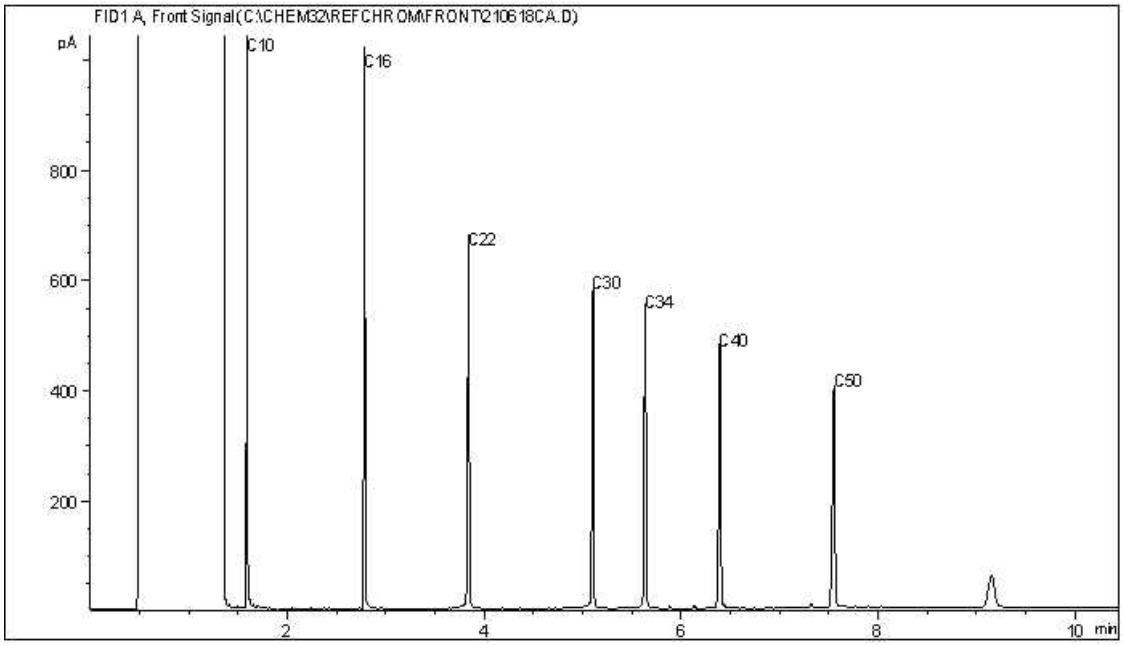


Carbon Range Distribution - Reference Chromatogram



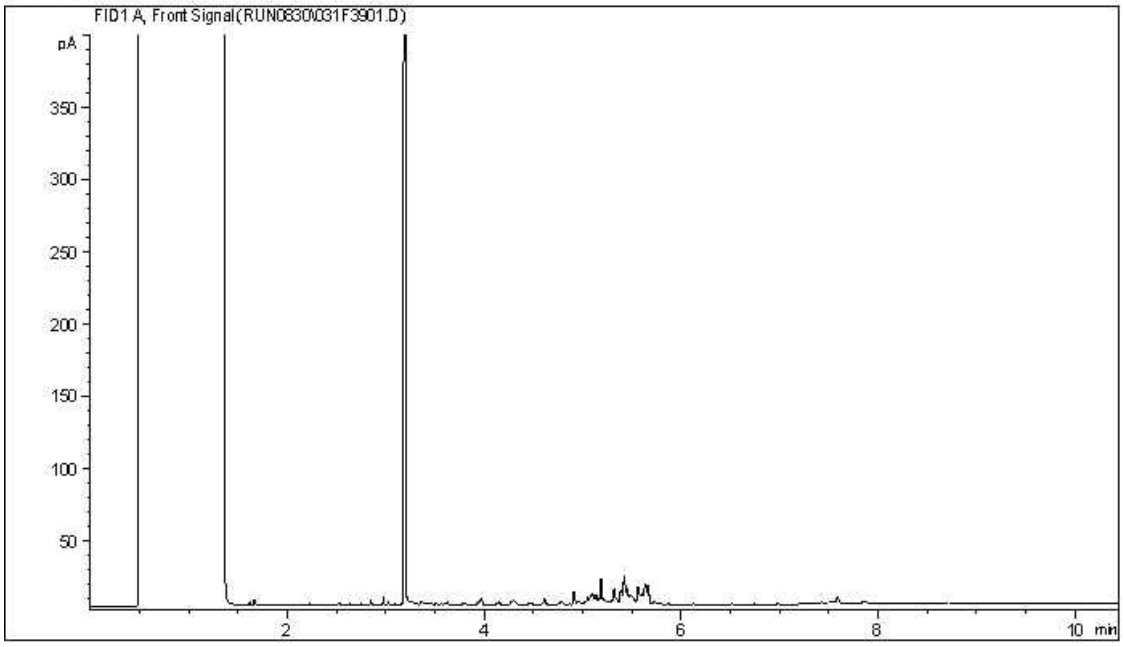
TYPICAL PRODUCT CARBON NUMBER RANGES

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

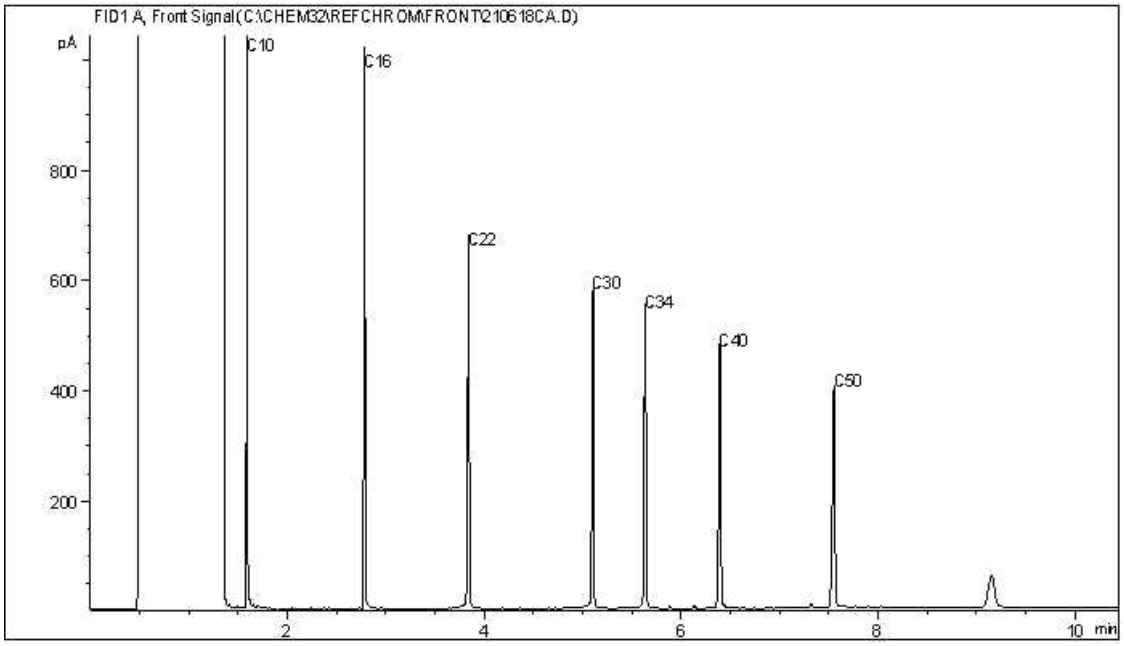
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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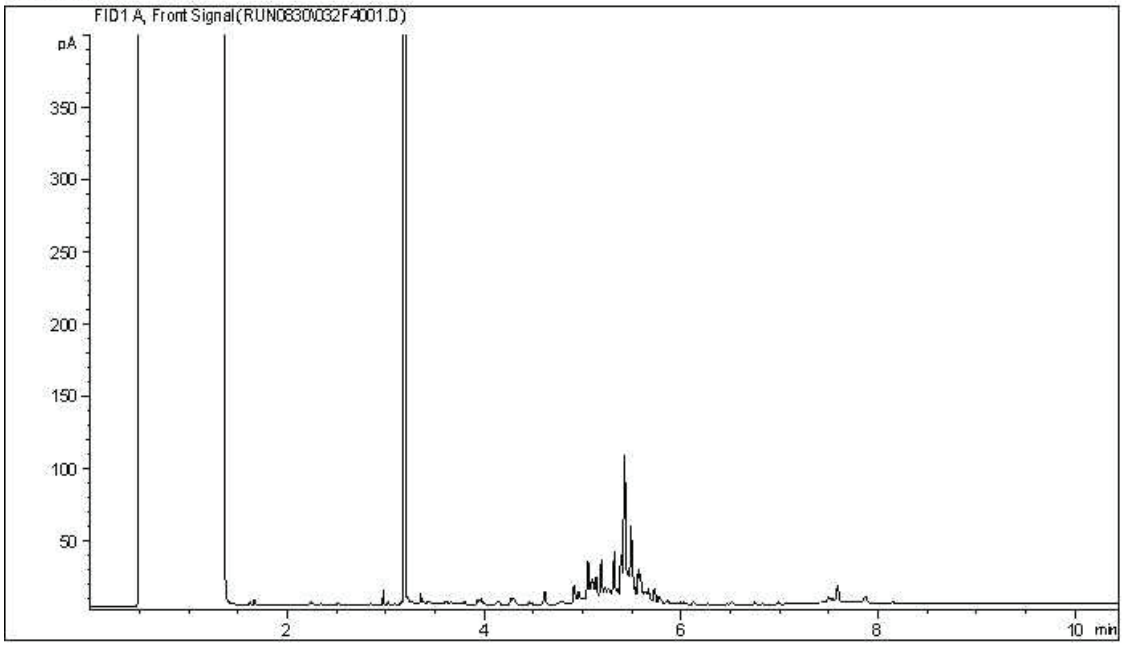
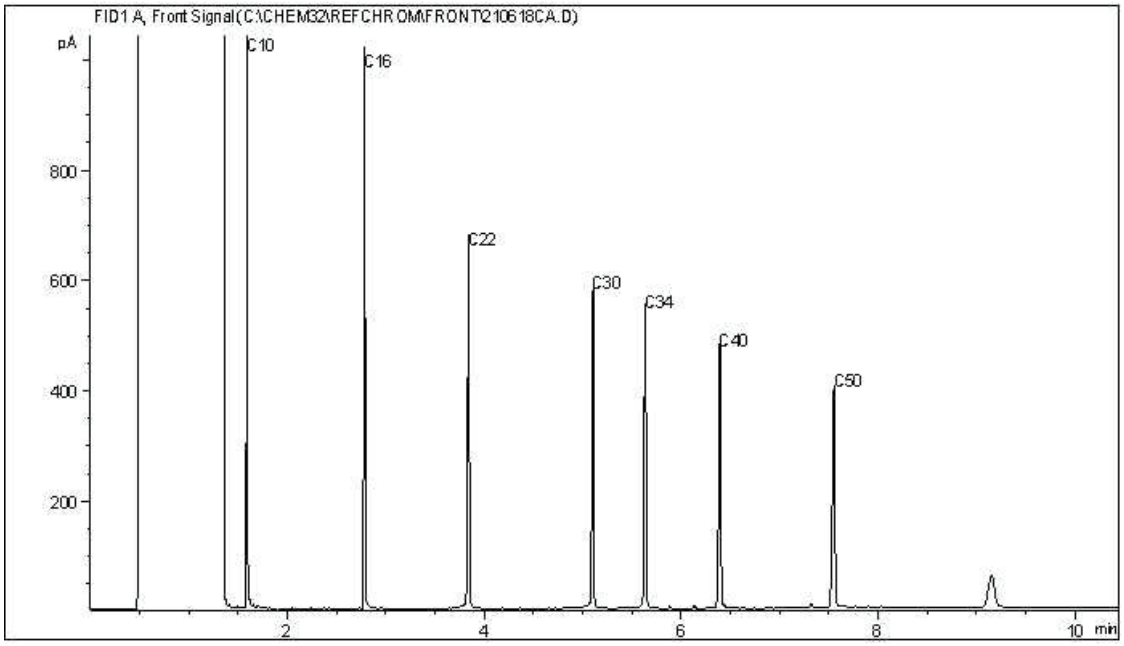
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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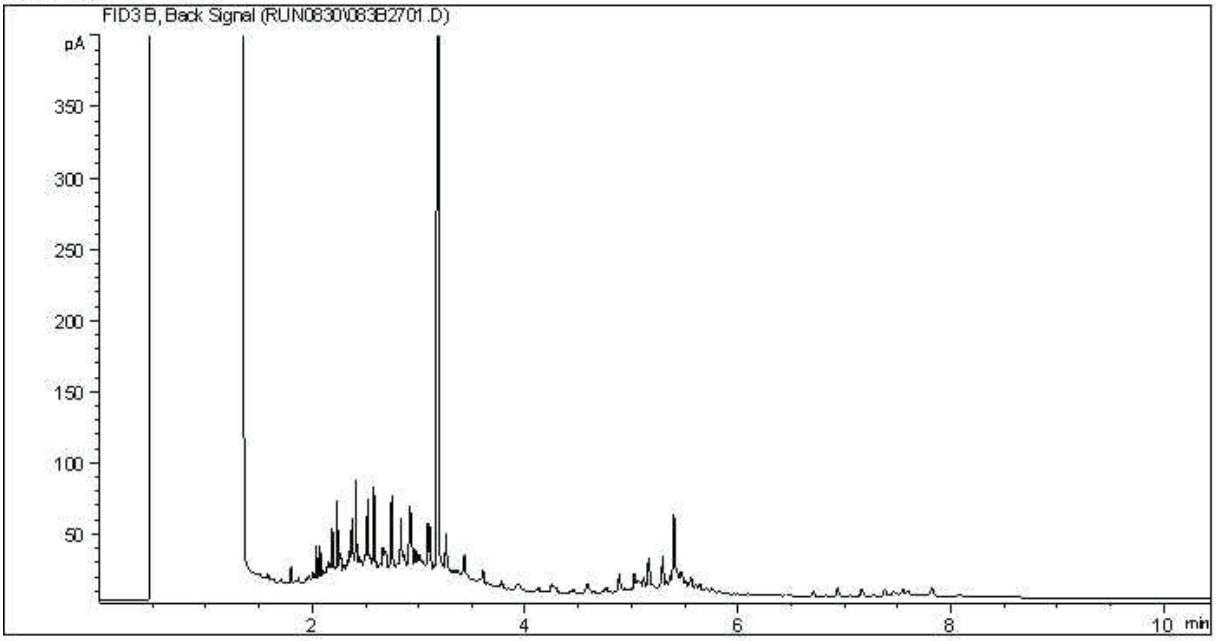
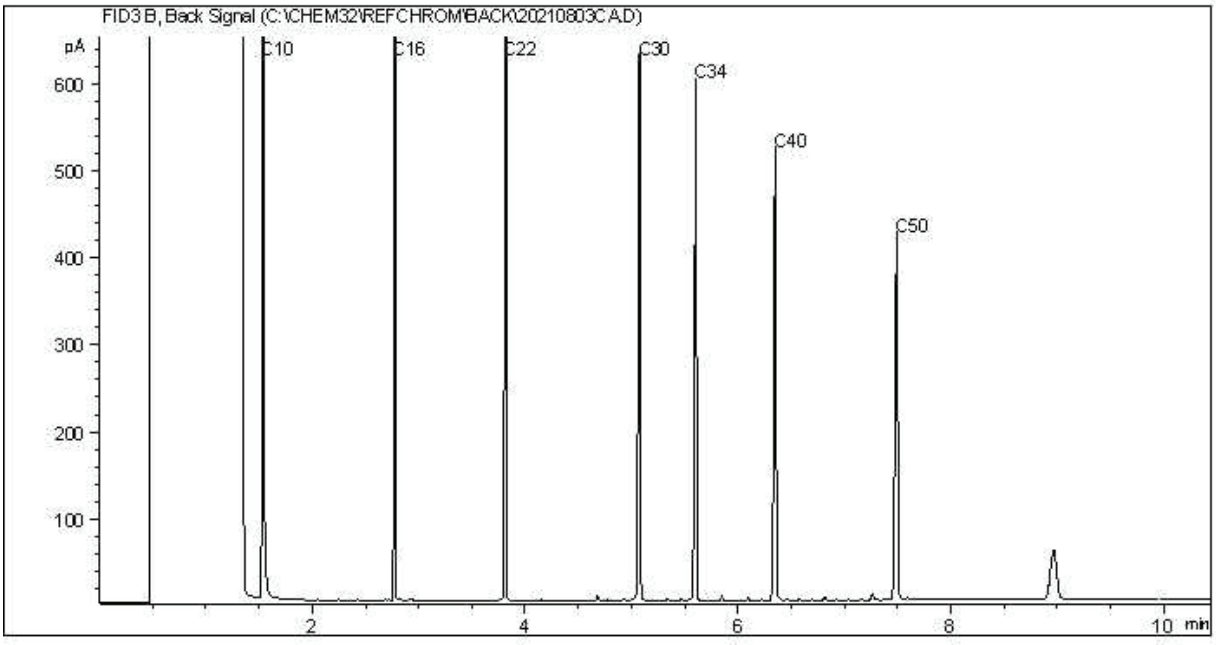
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



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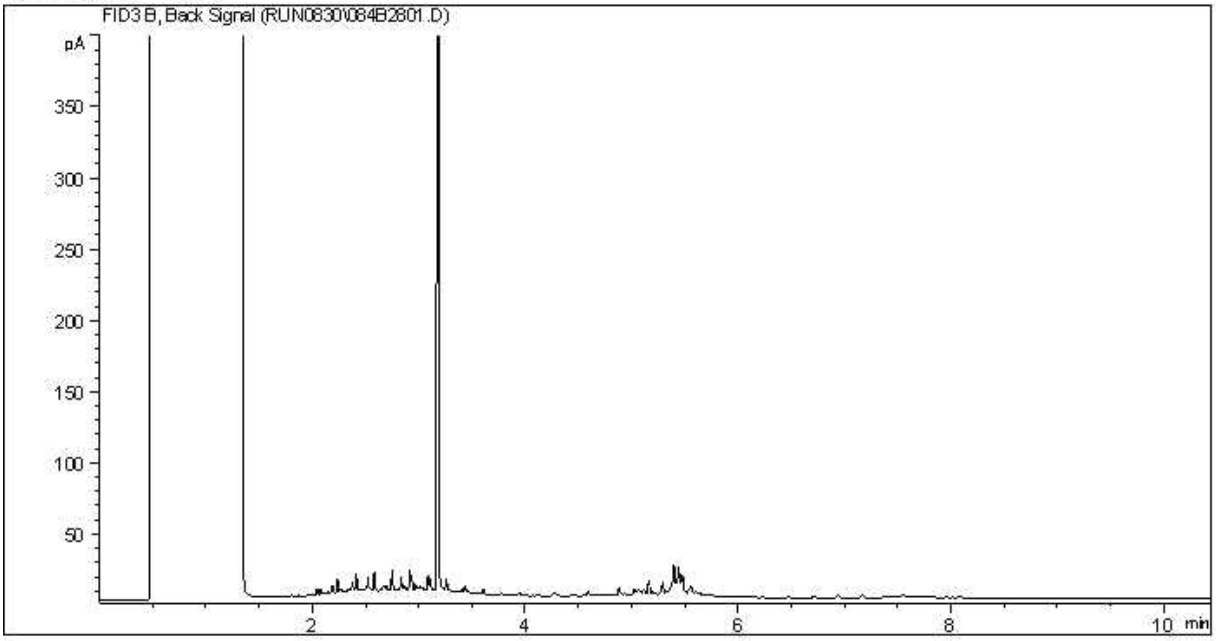
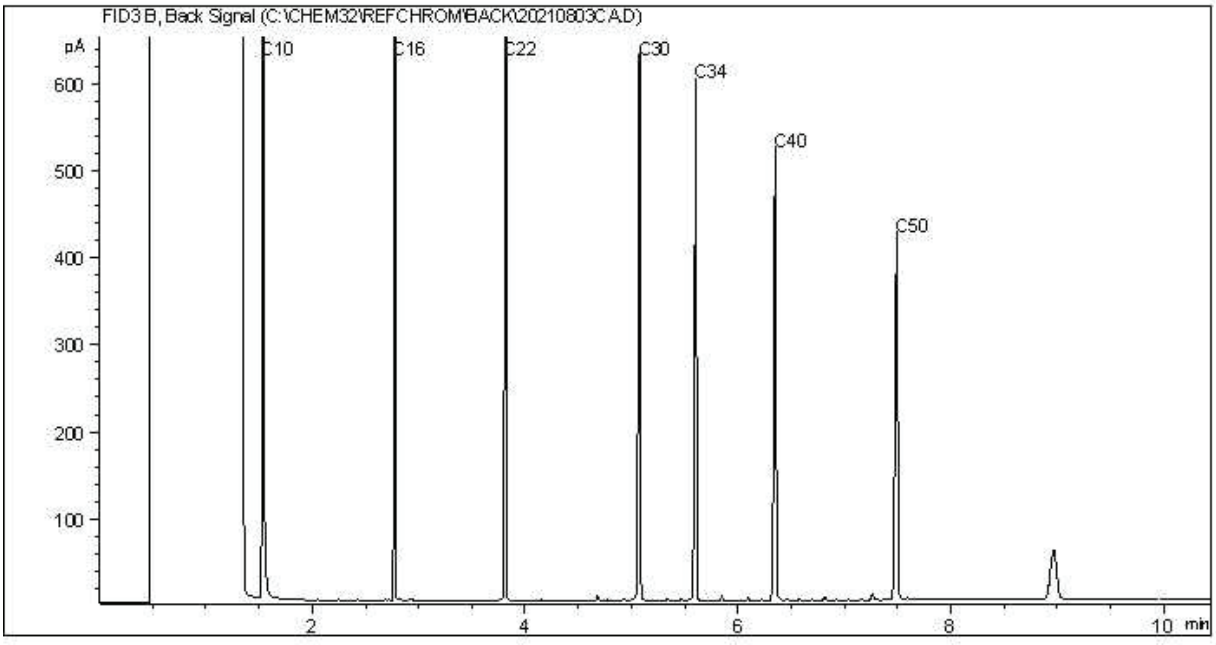
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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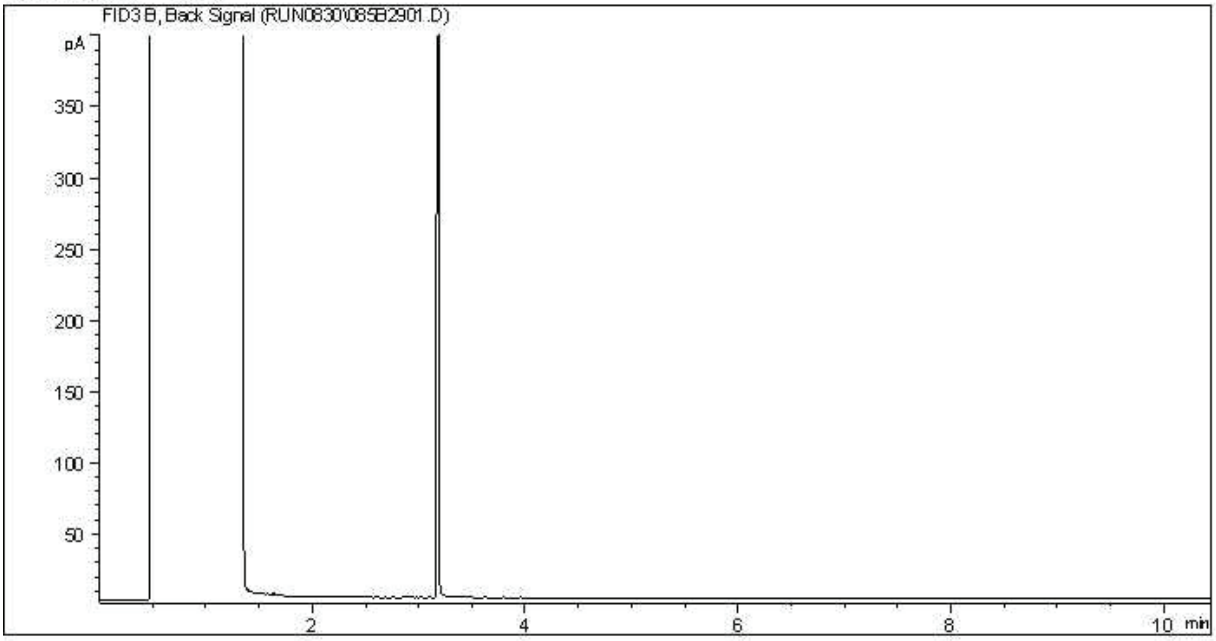
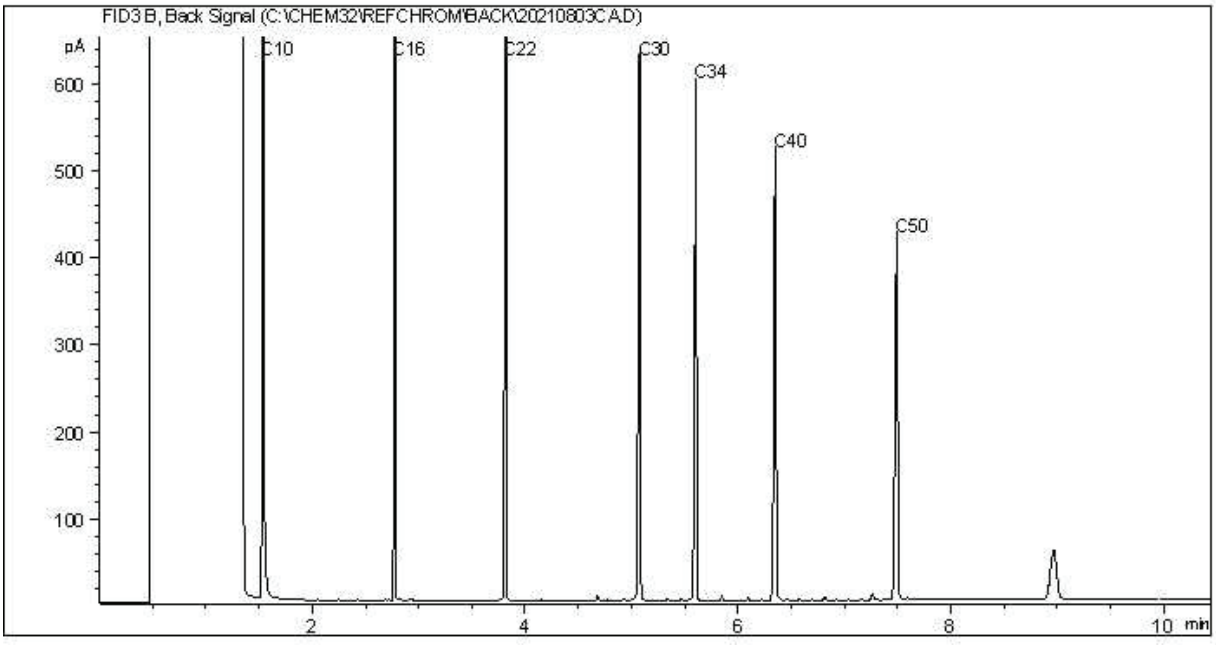
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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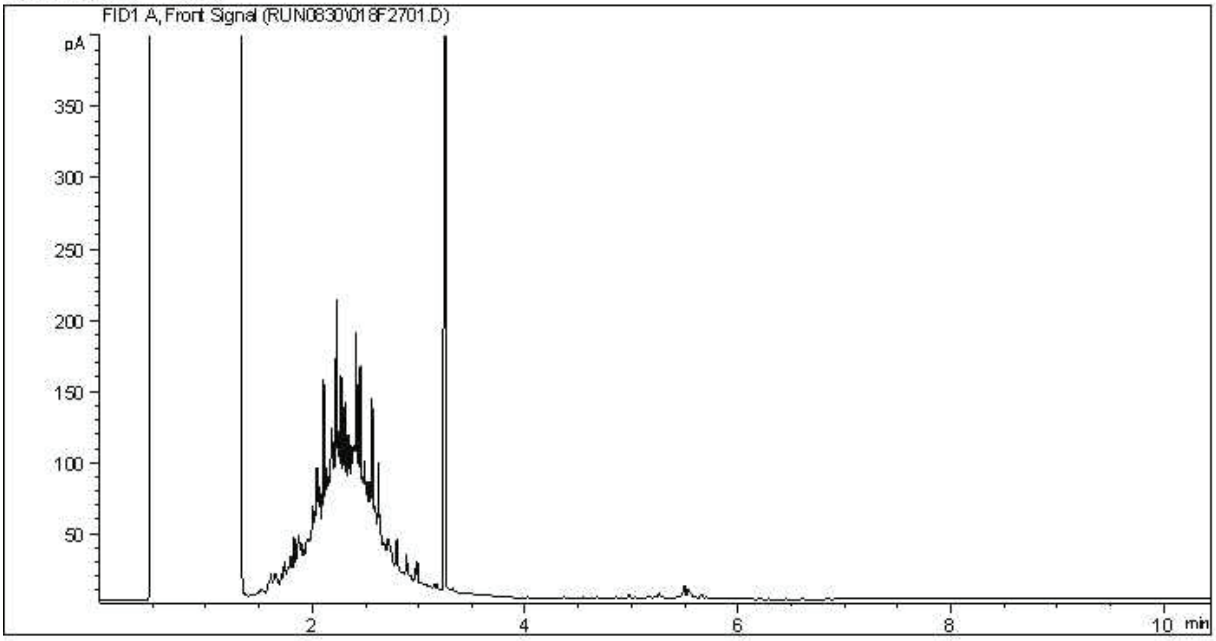
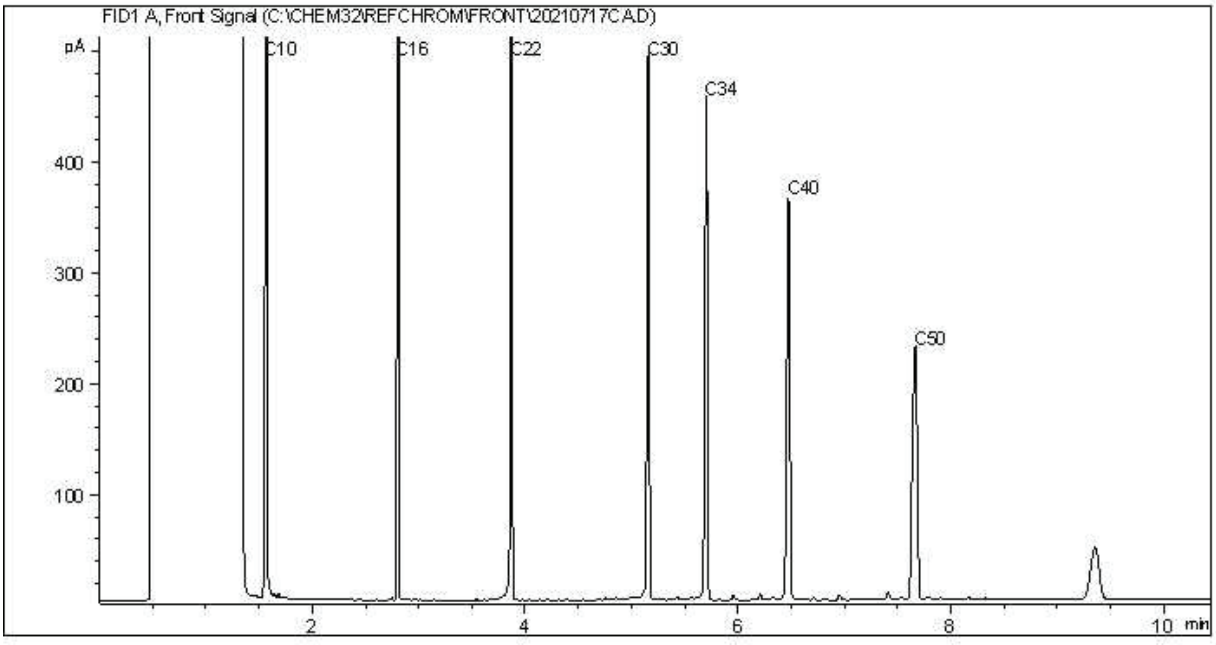
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

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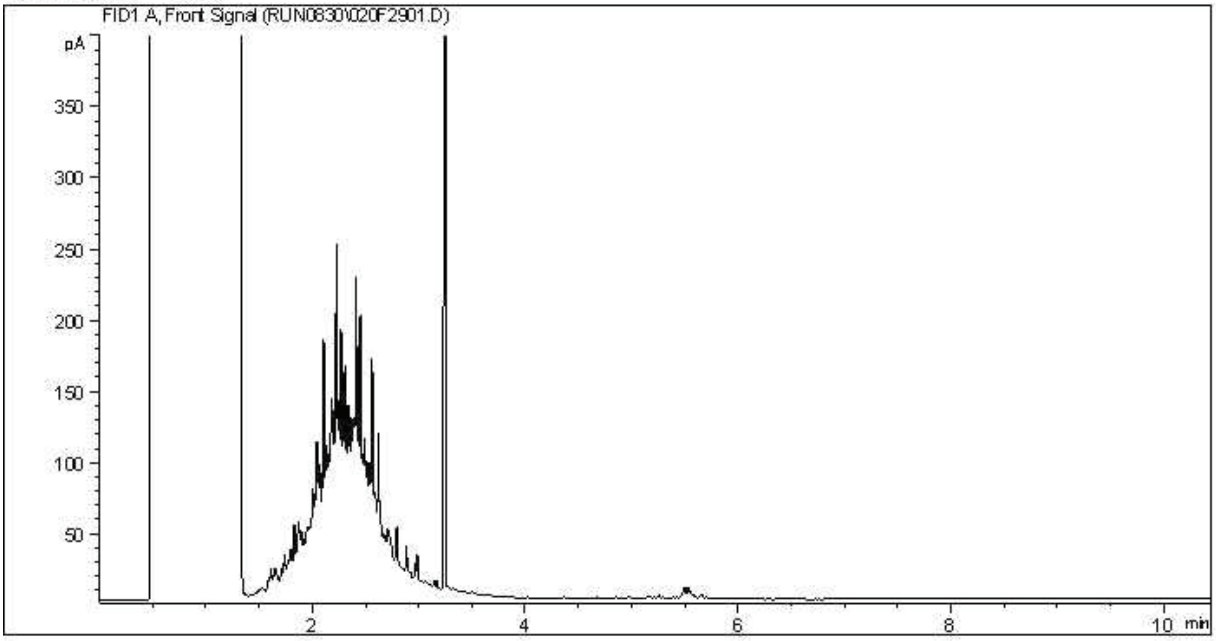
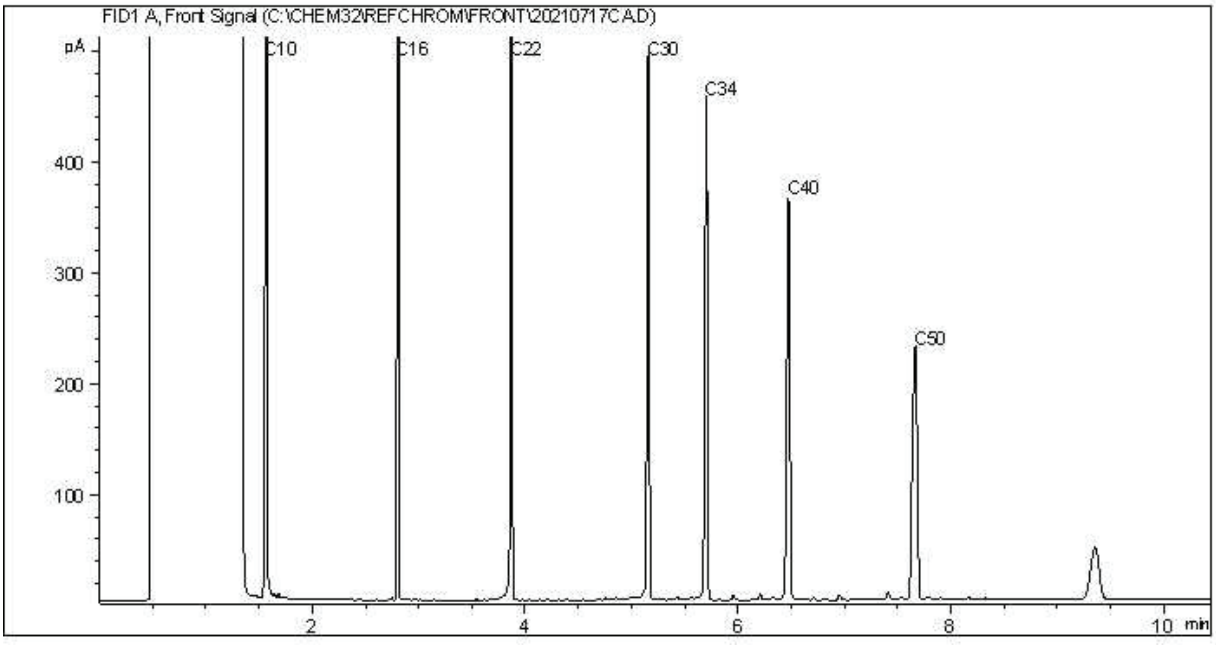
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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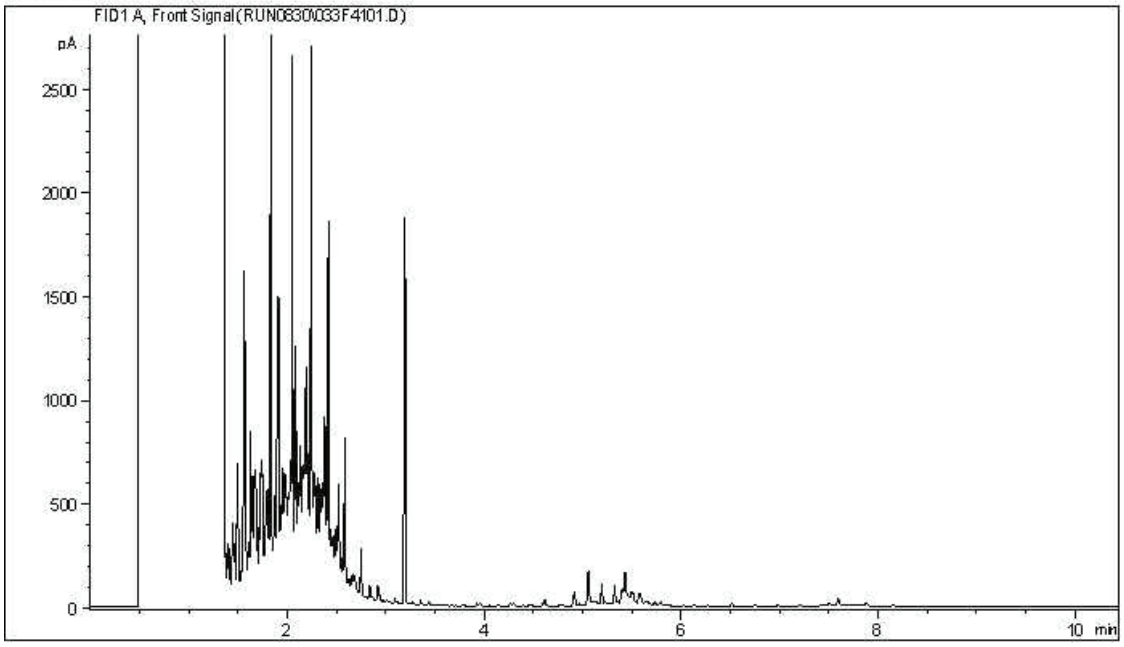
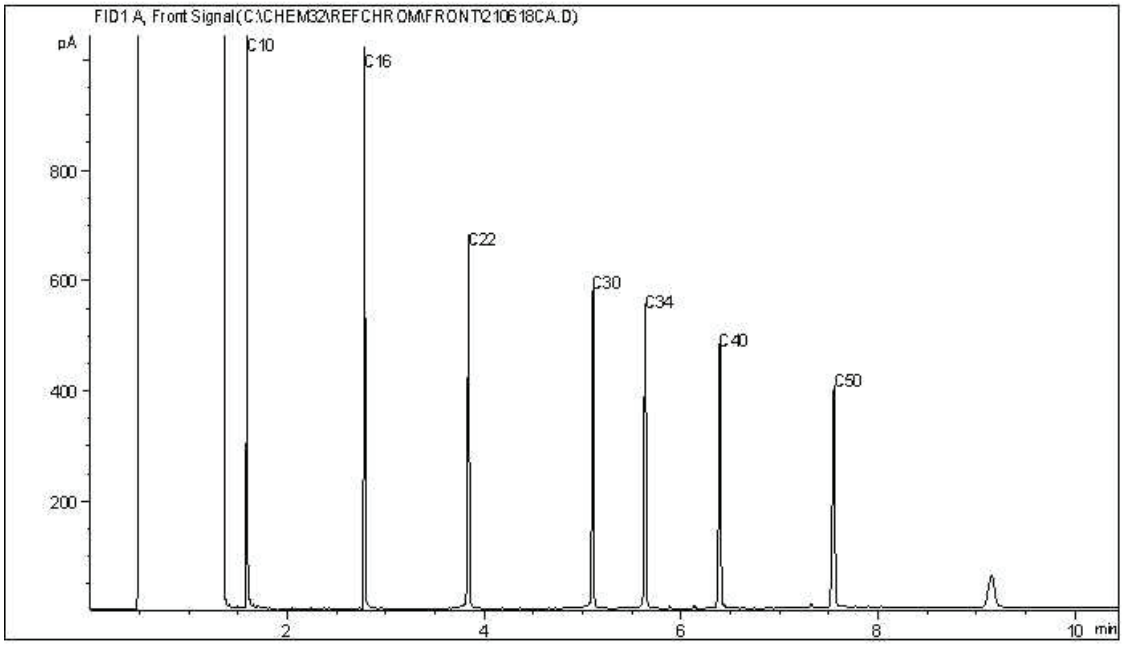
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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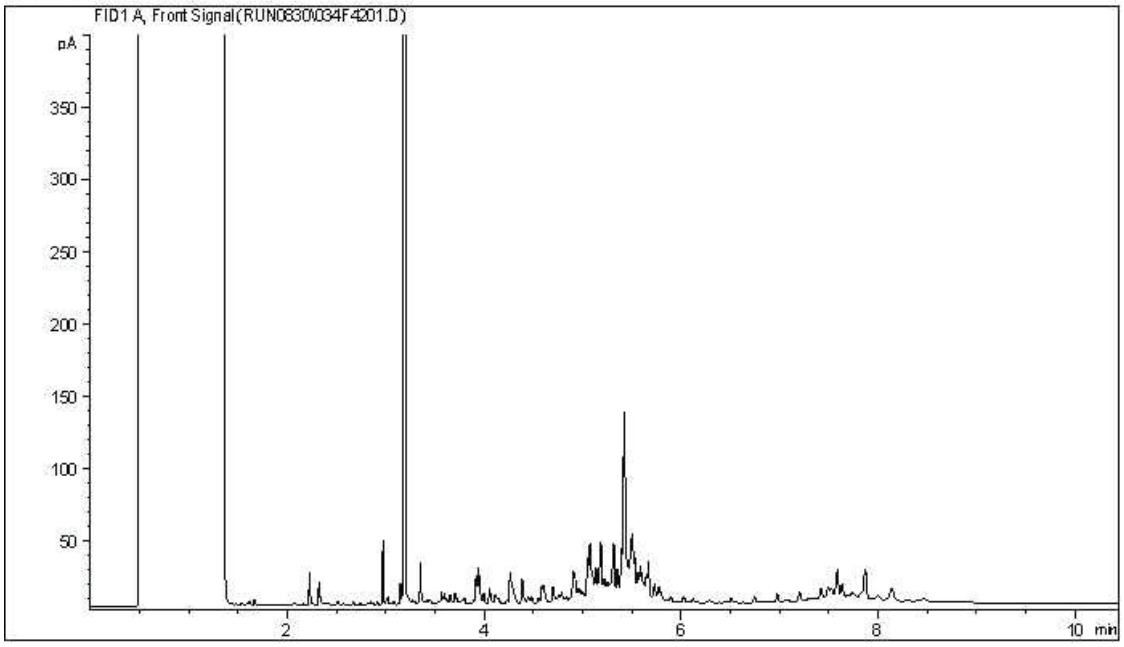
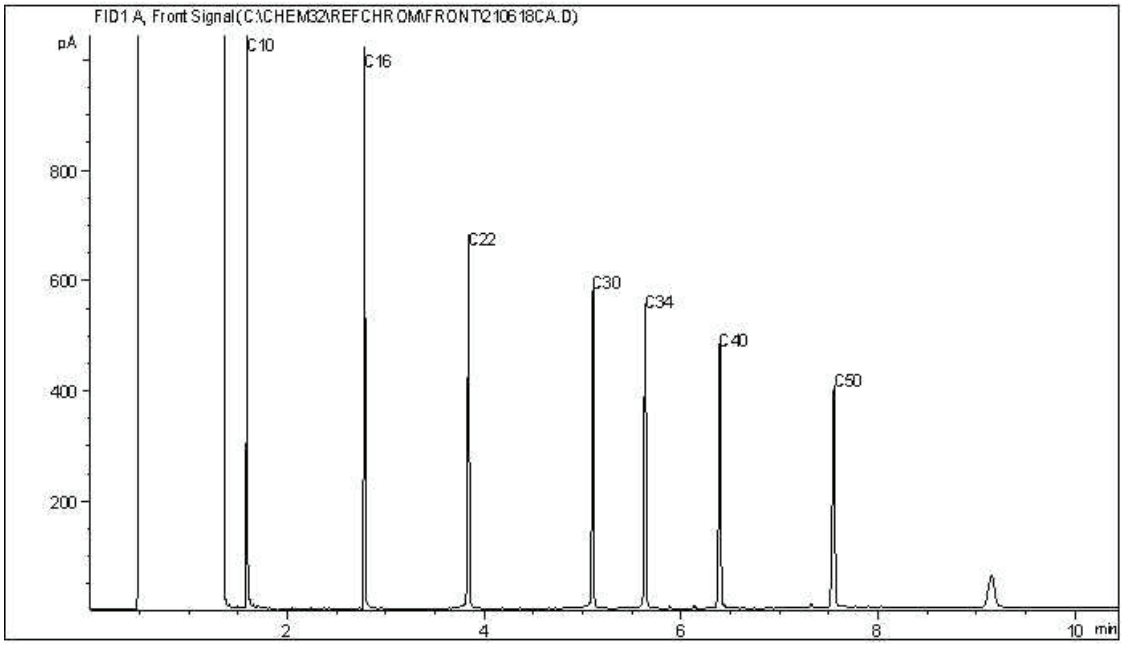
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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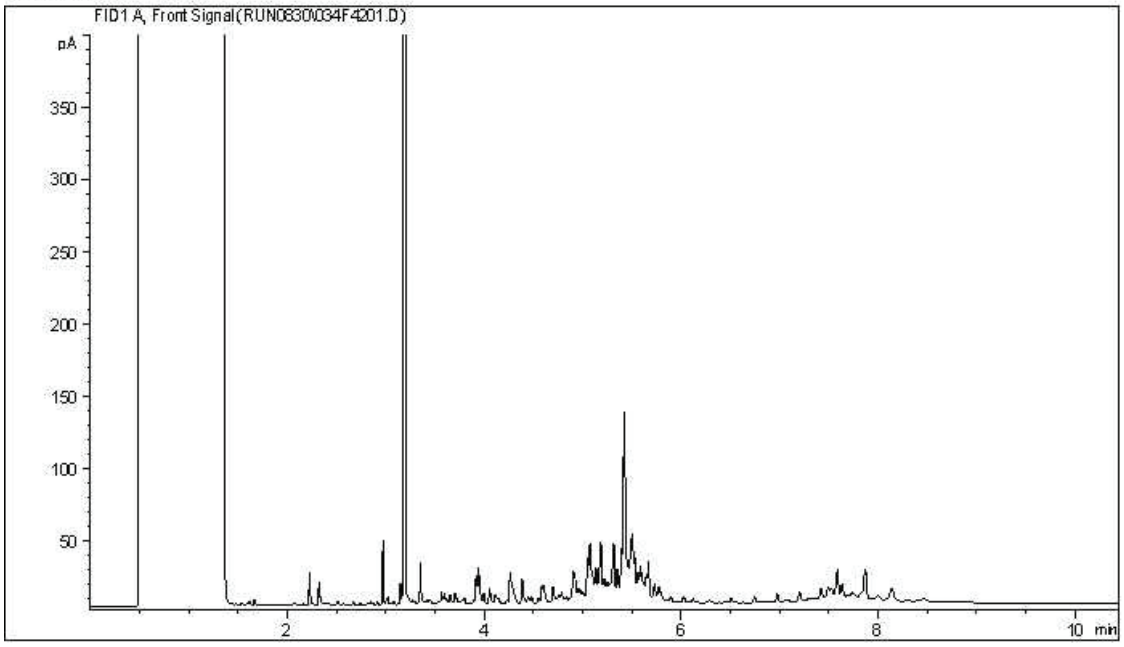
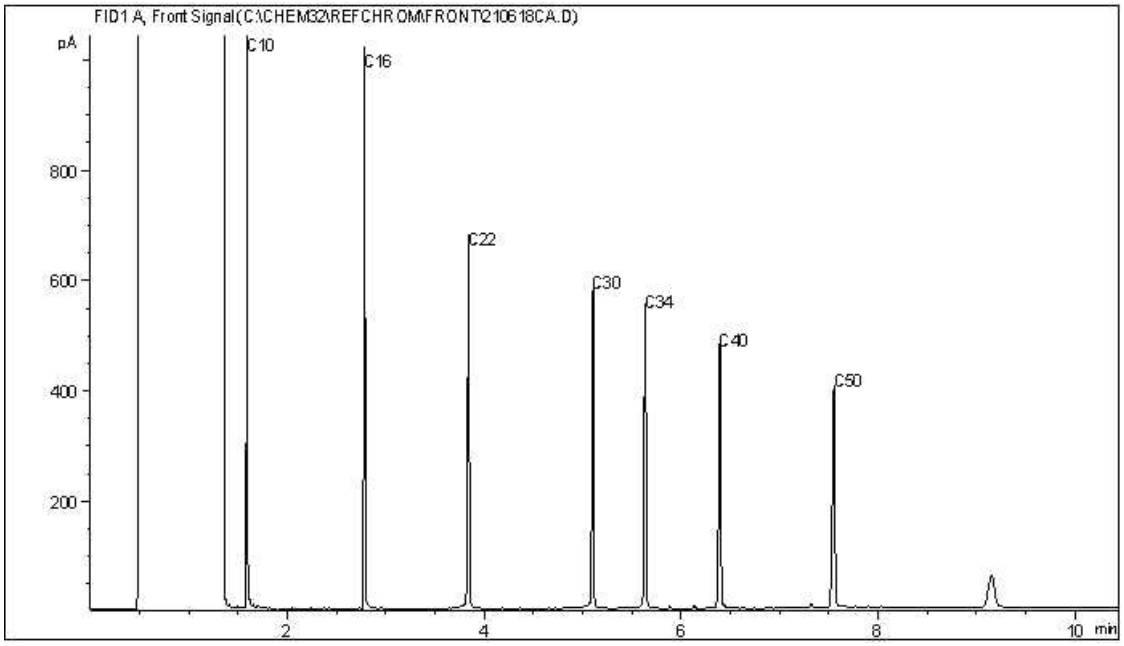
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

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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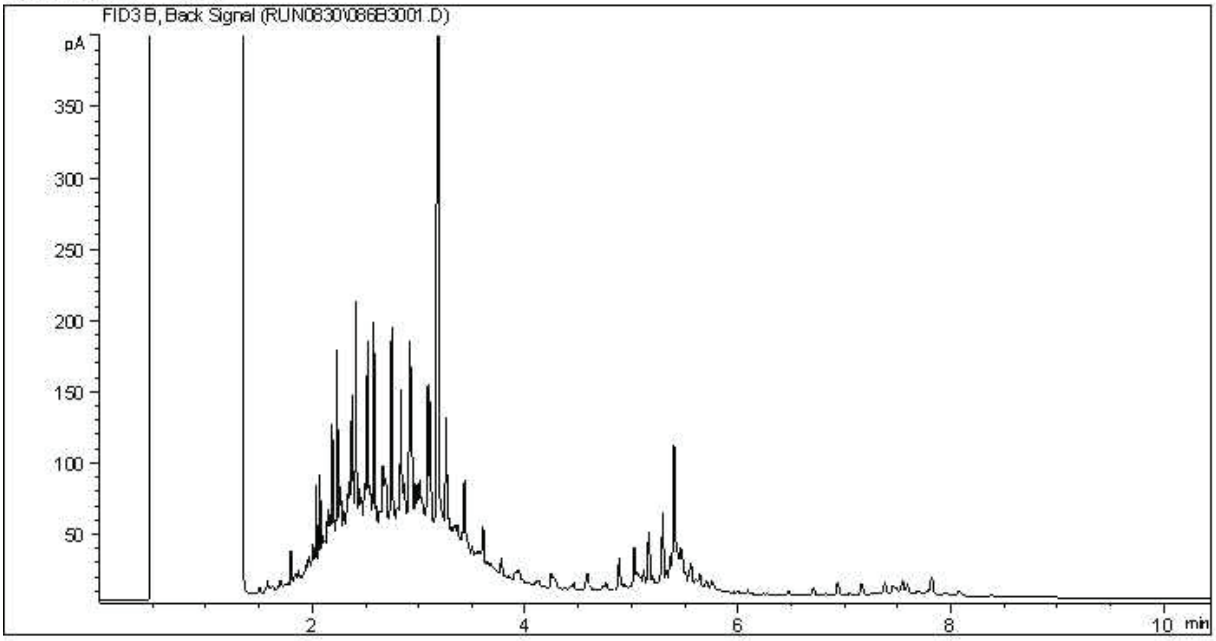
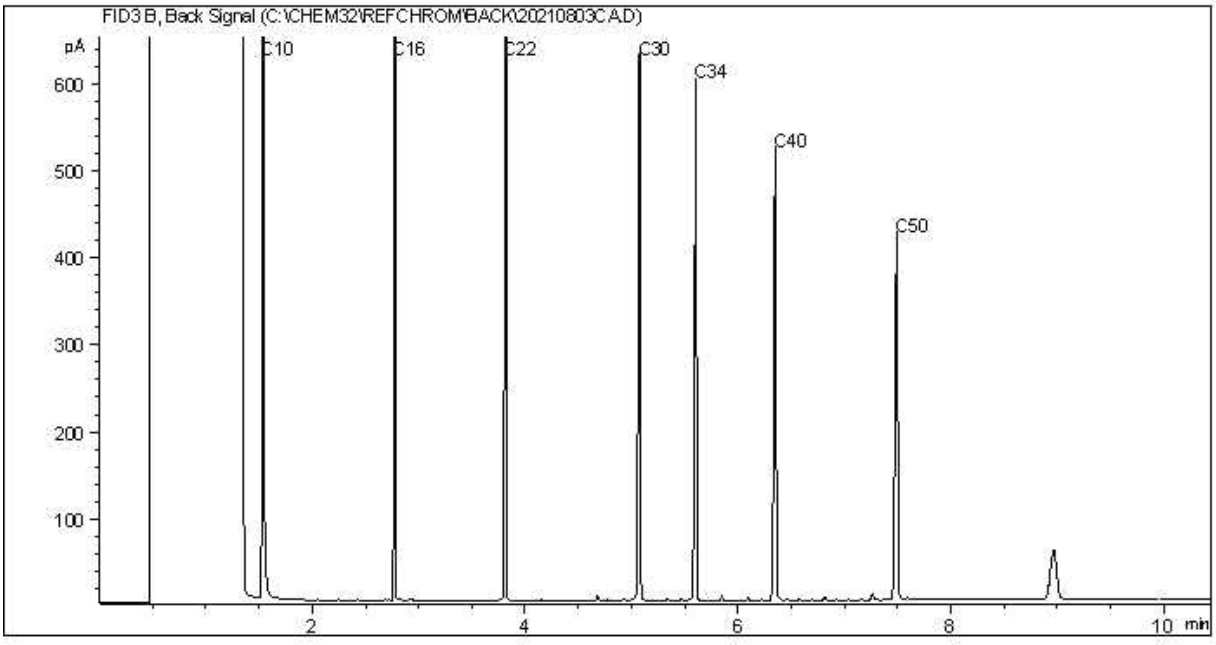
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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
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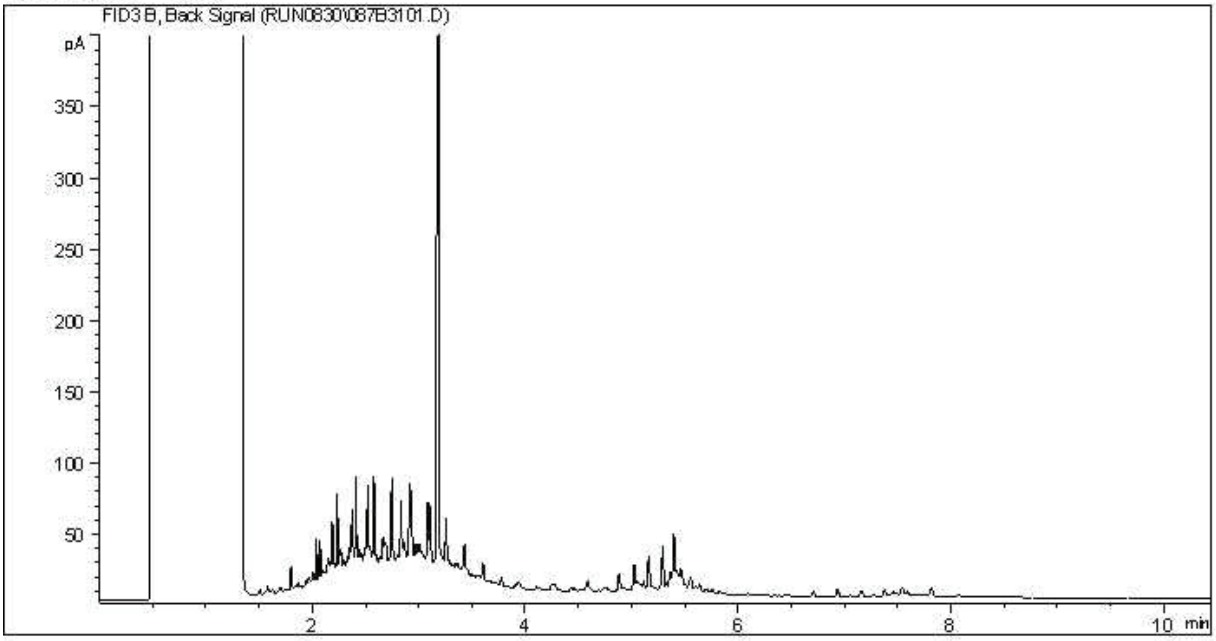
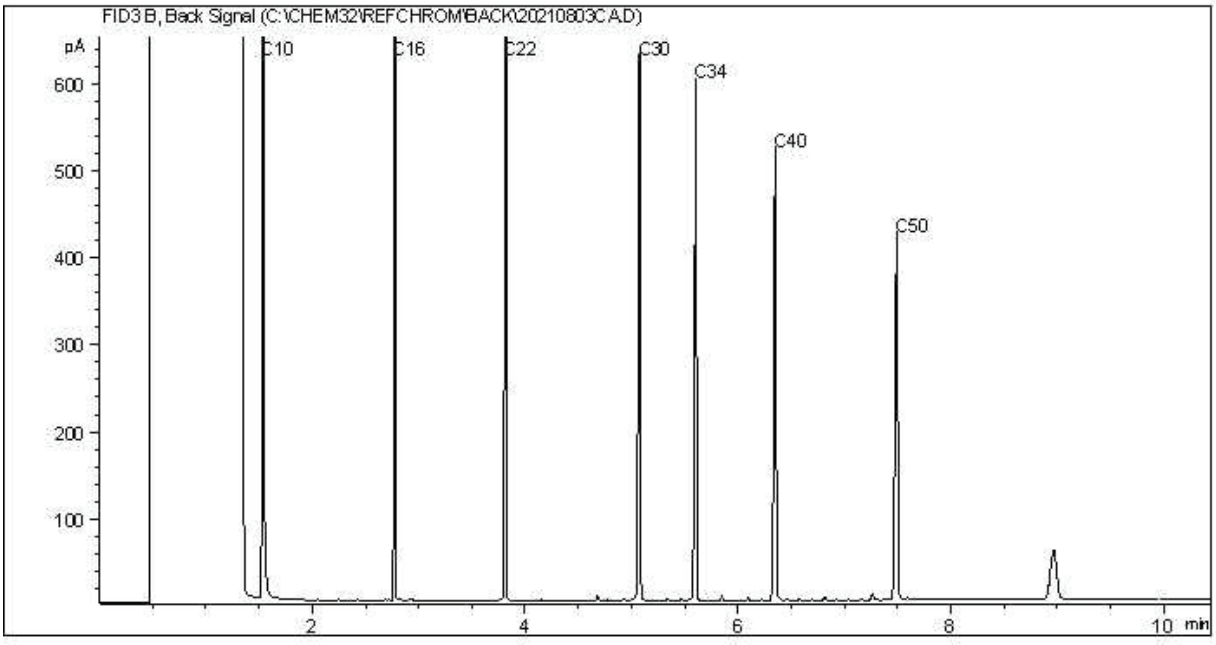
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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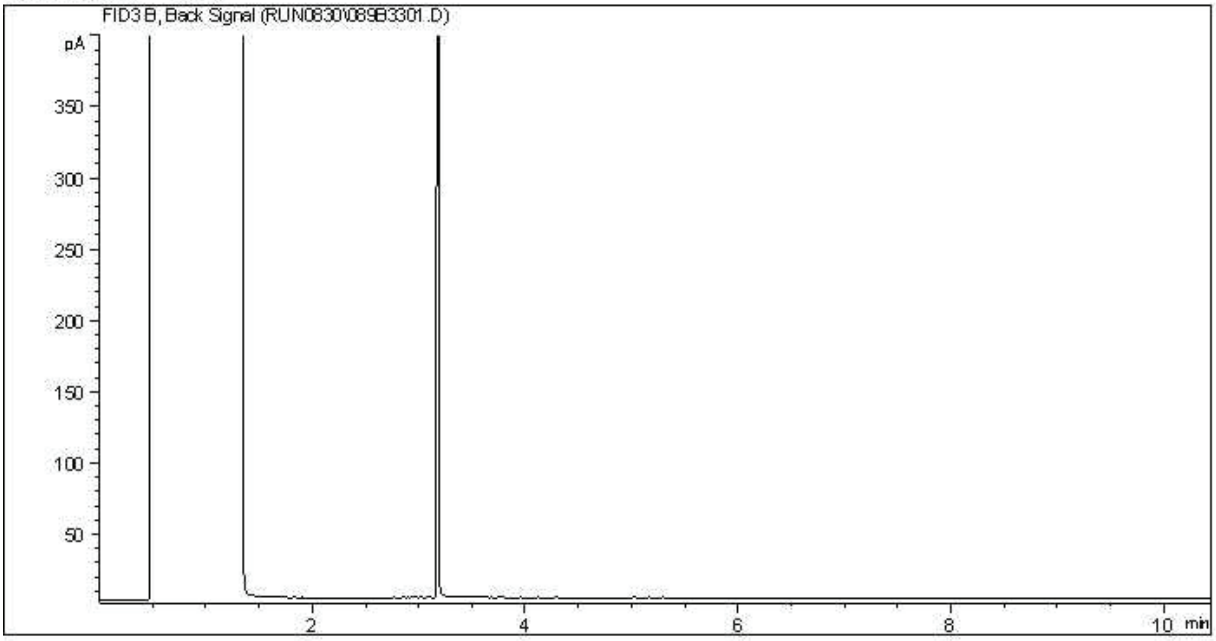
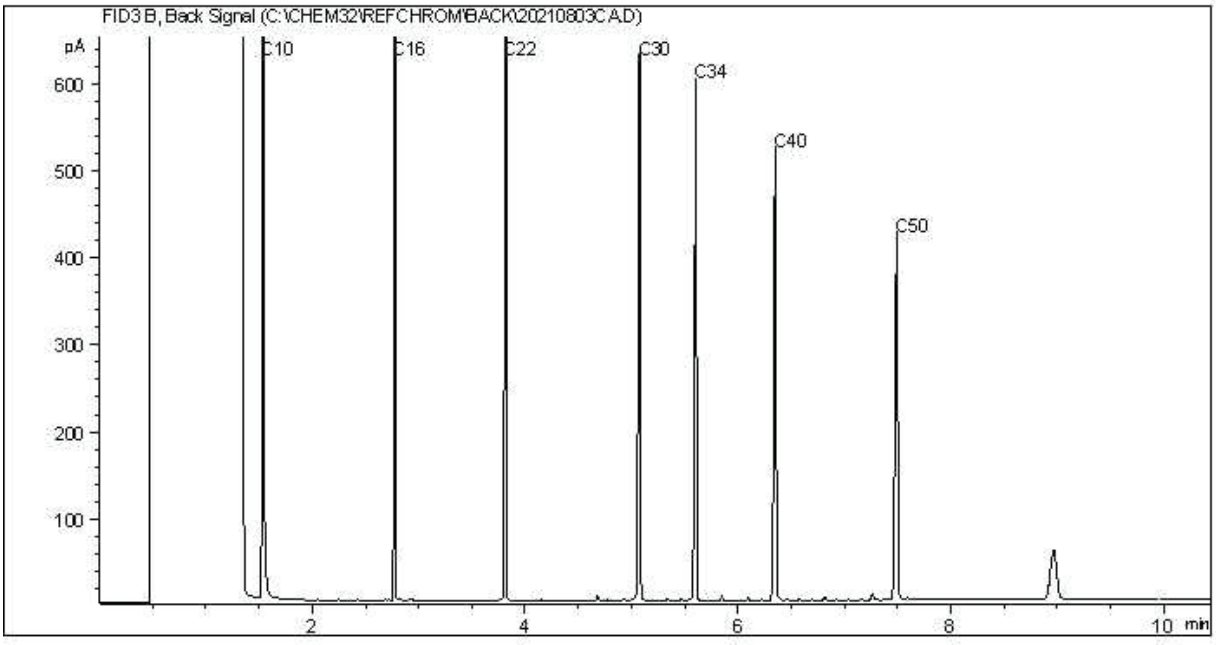
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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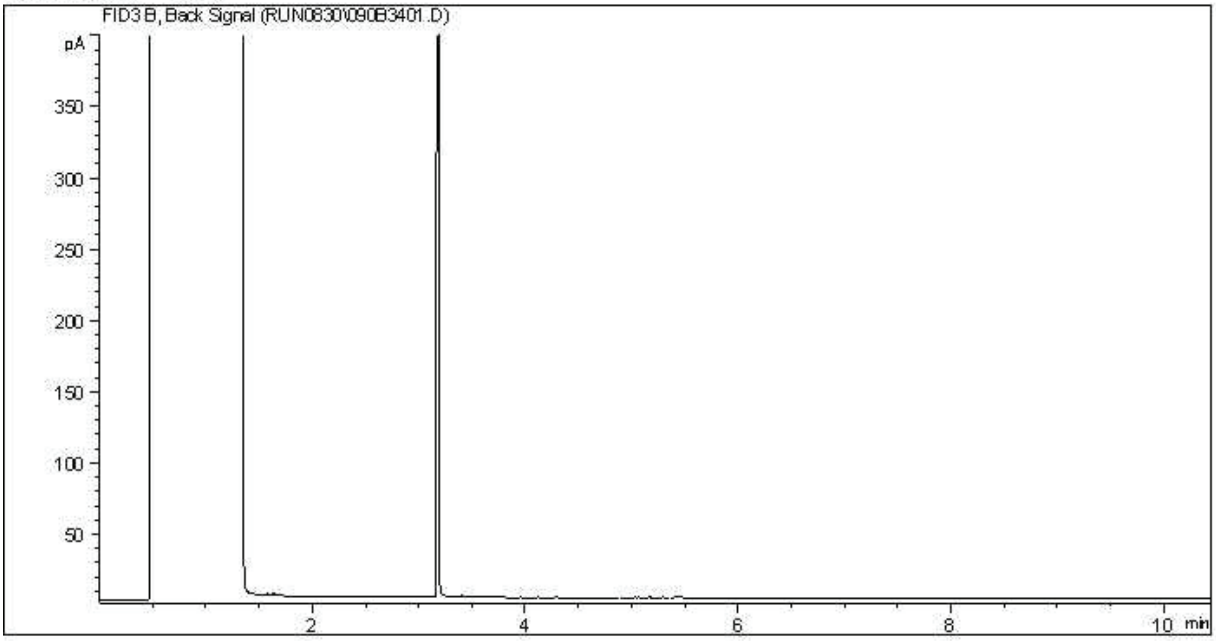
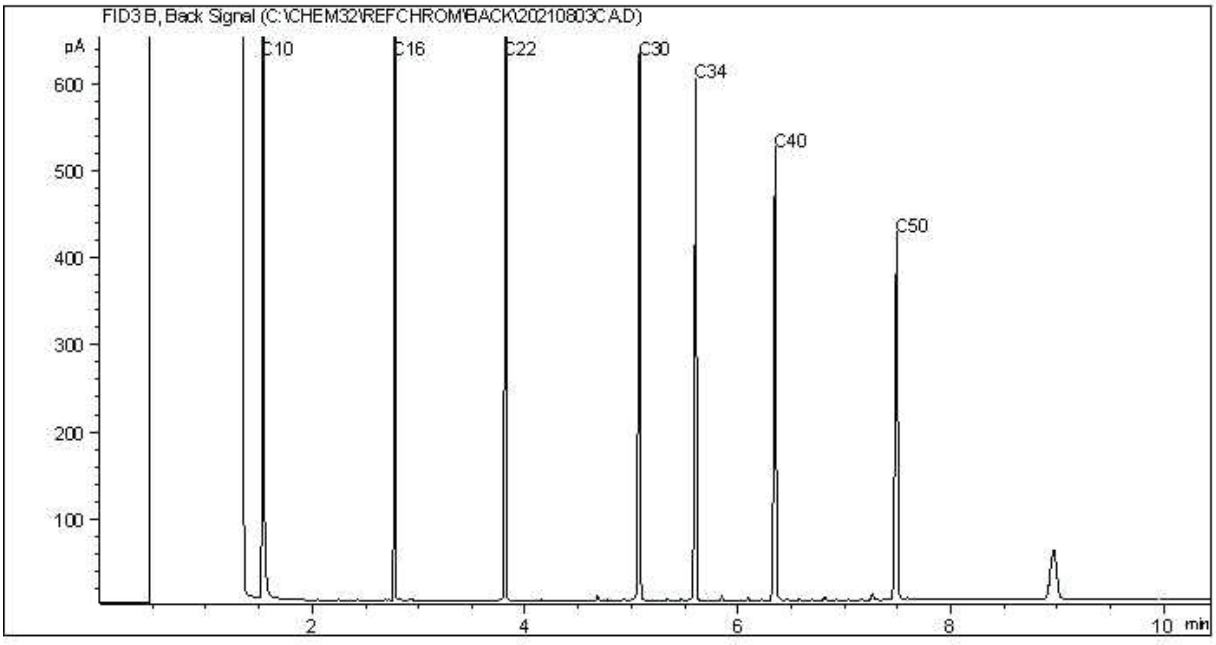
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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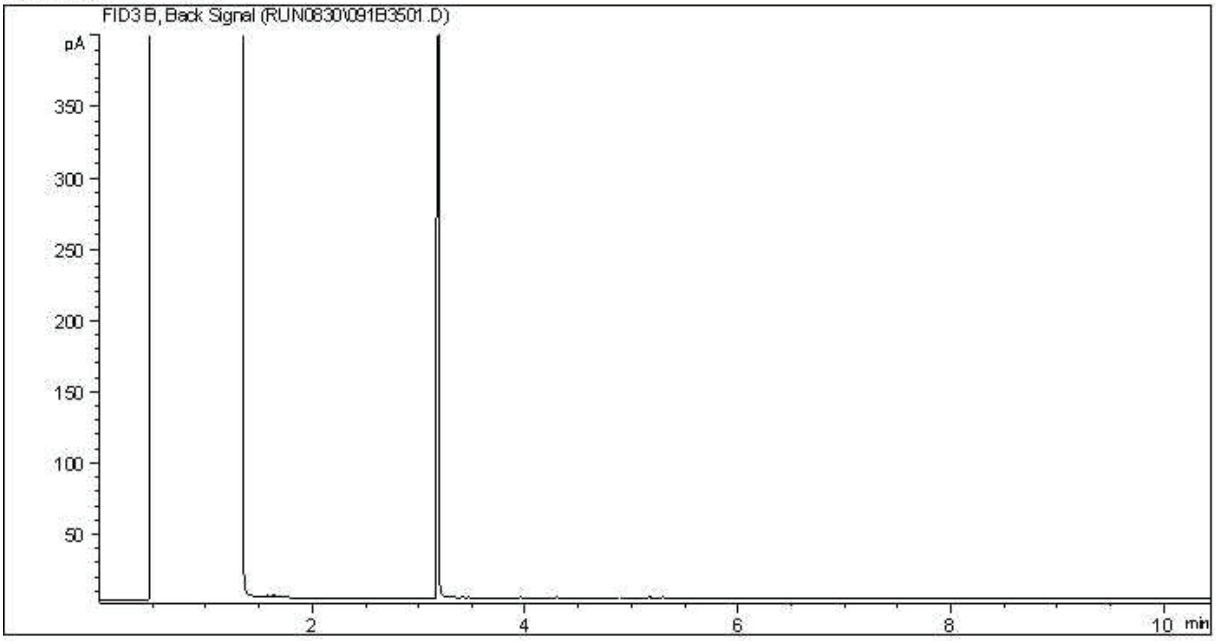
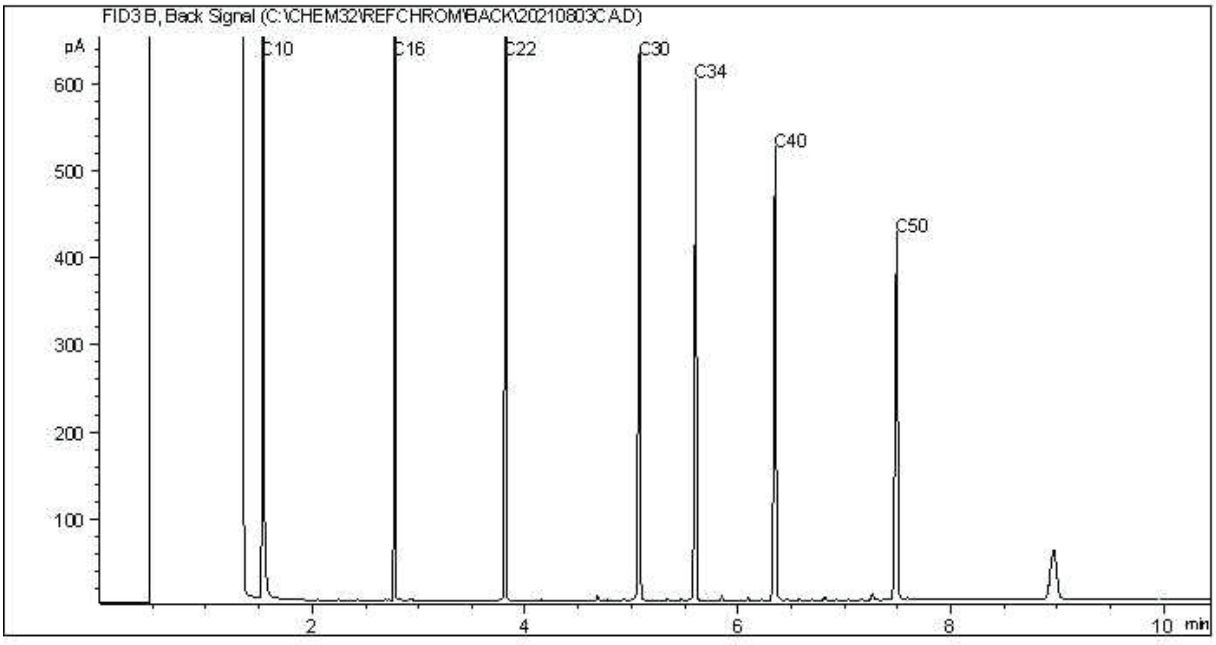
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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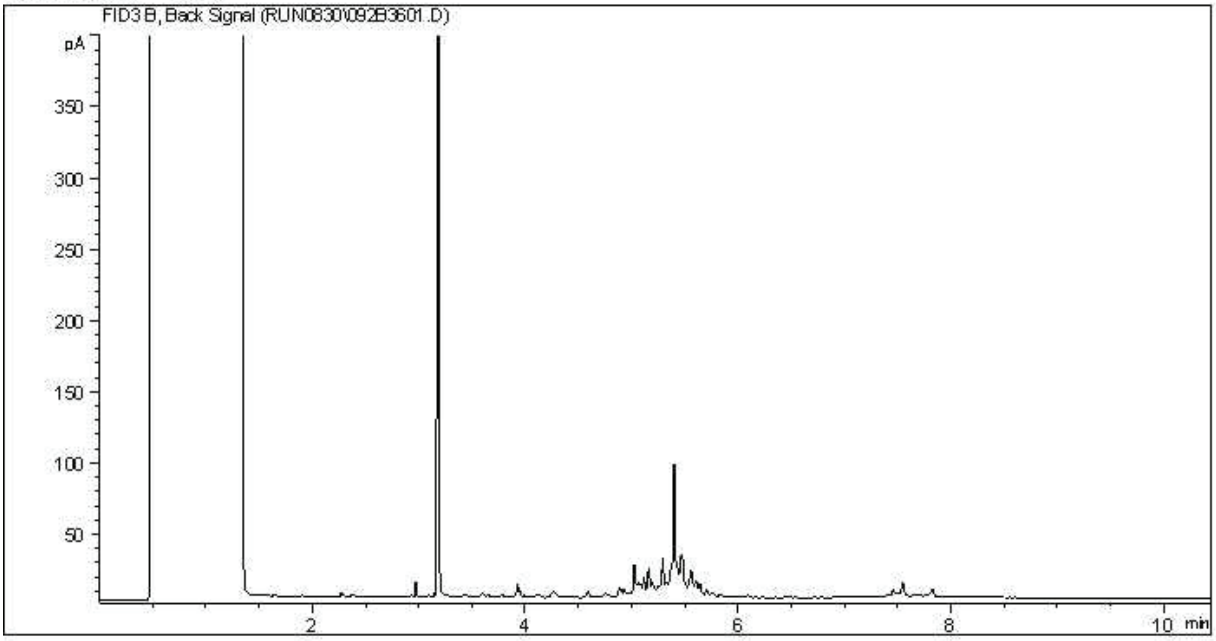
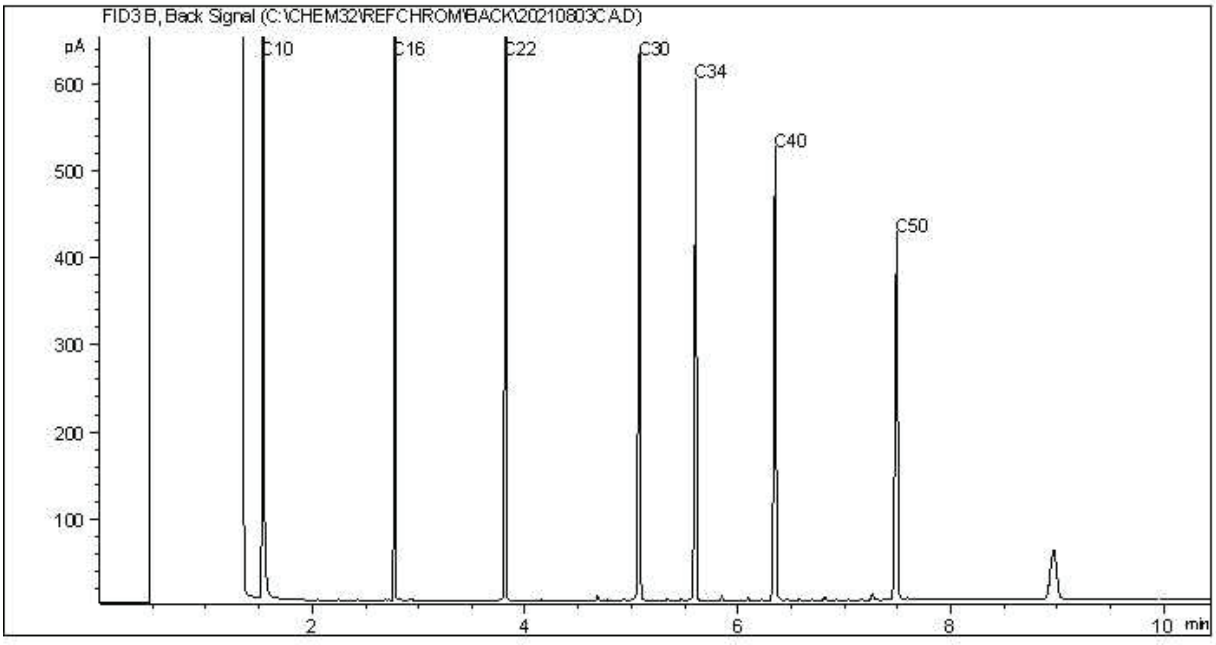
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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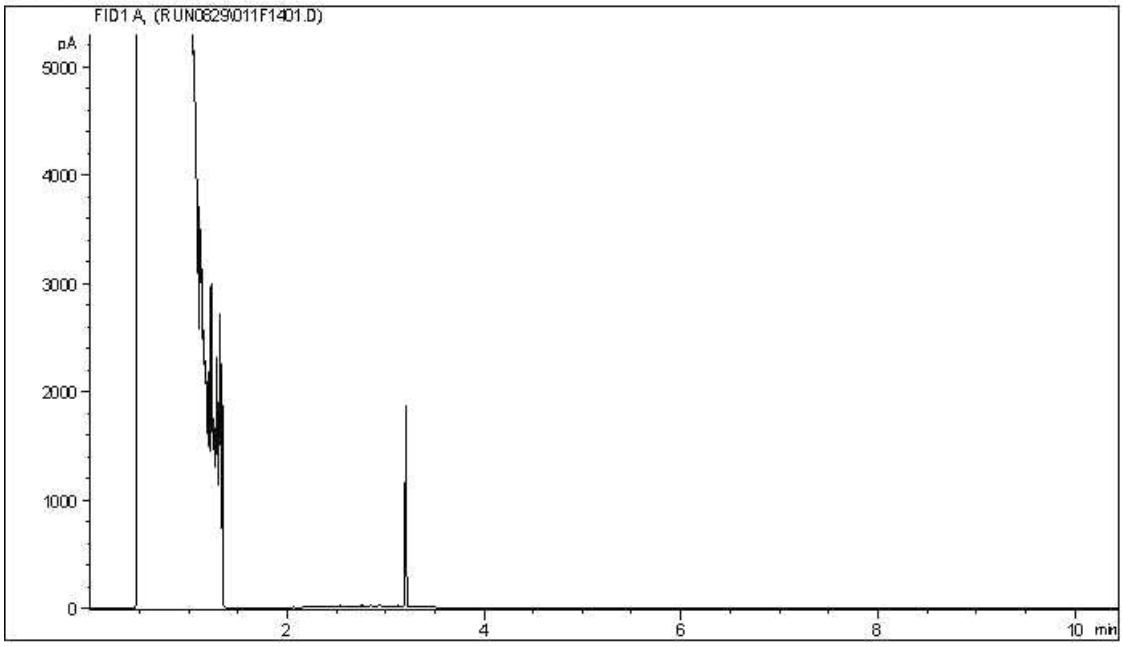
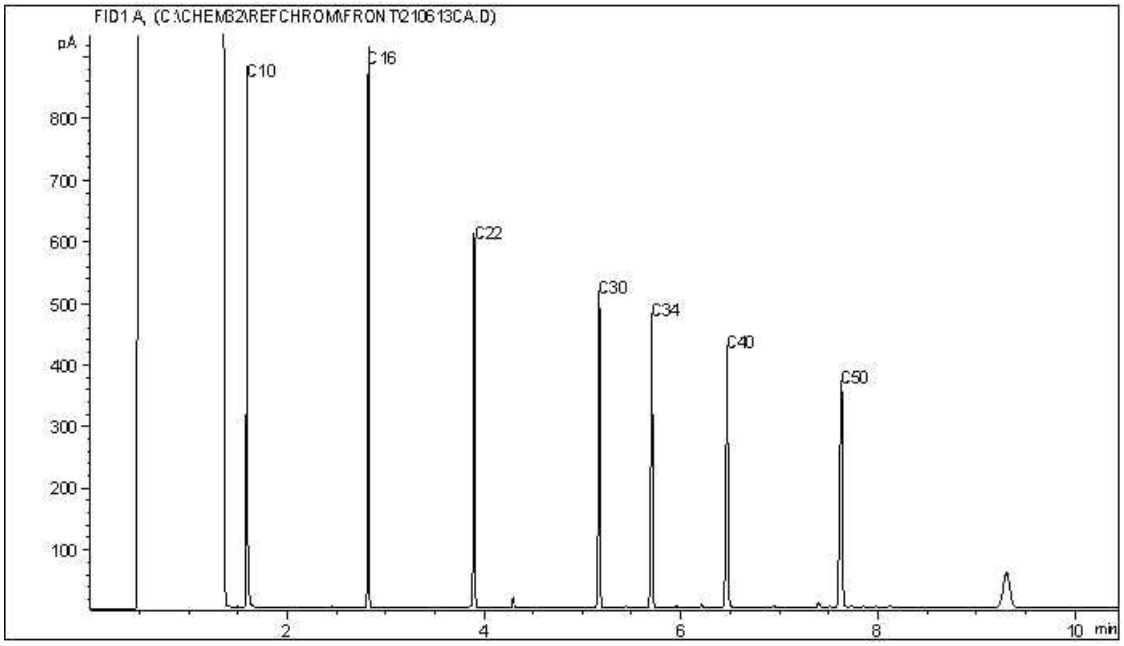
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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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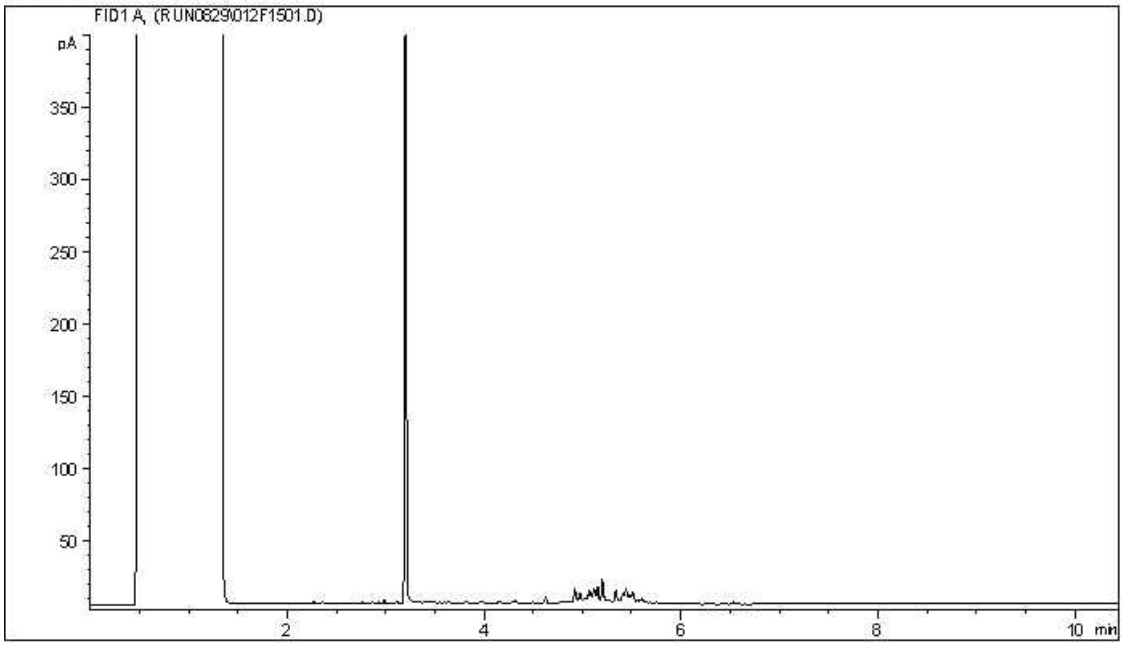
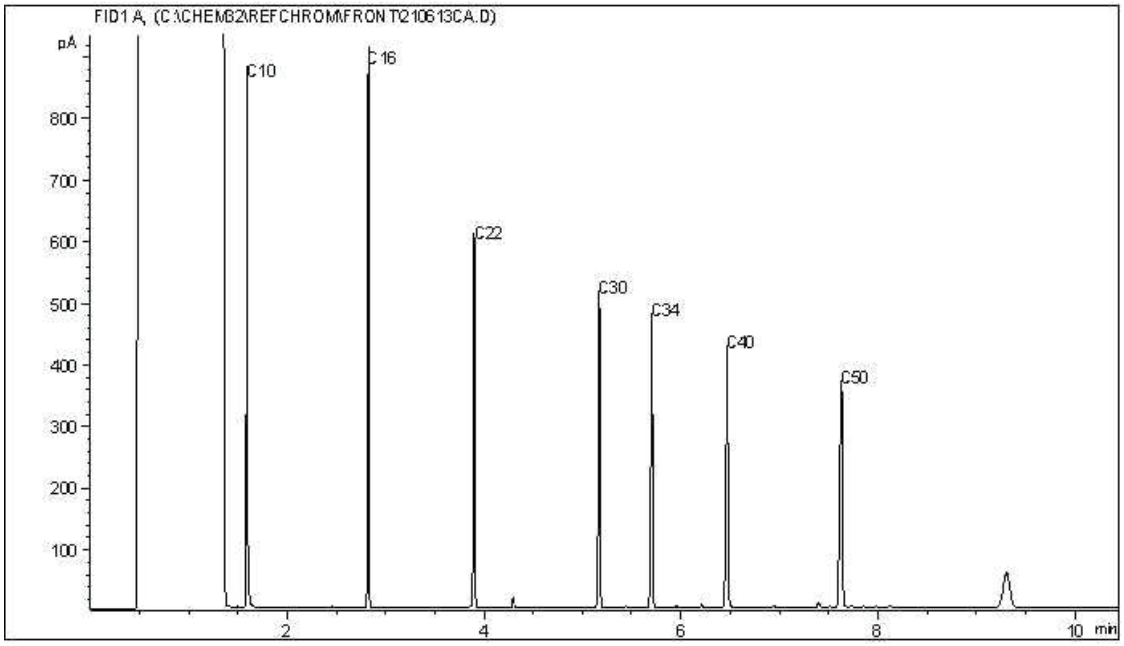
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10



Carbon Range Distribution - Reference Chromatogram



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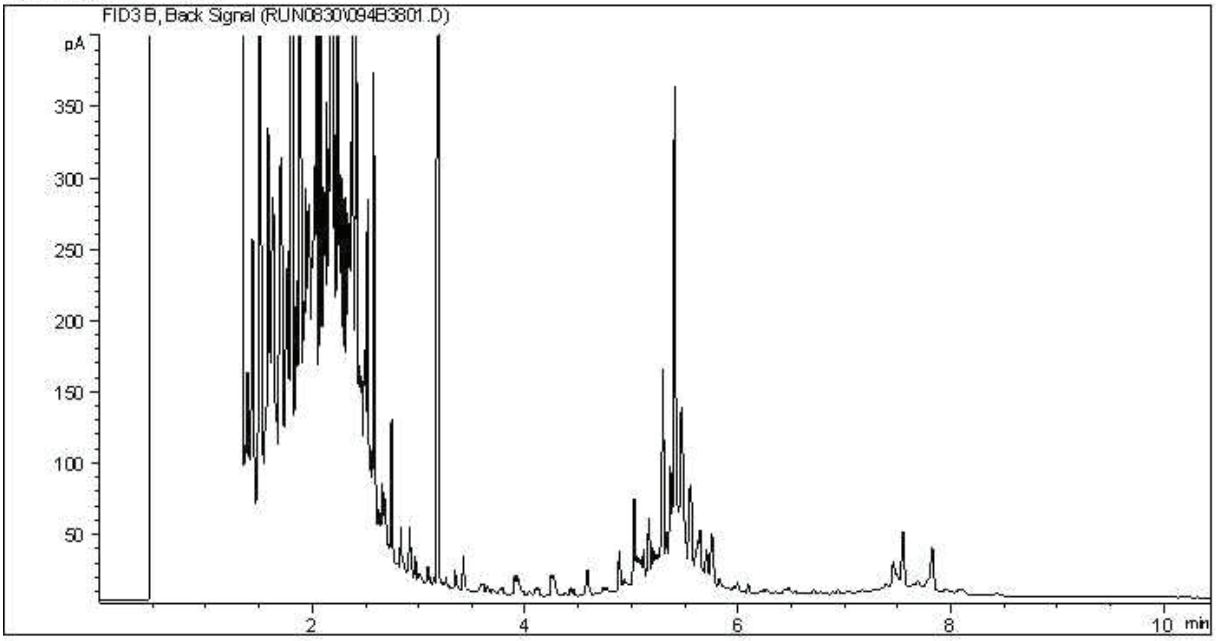
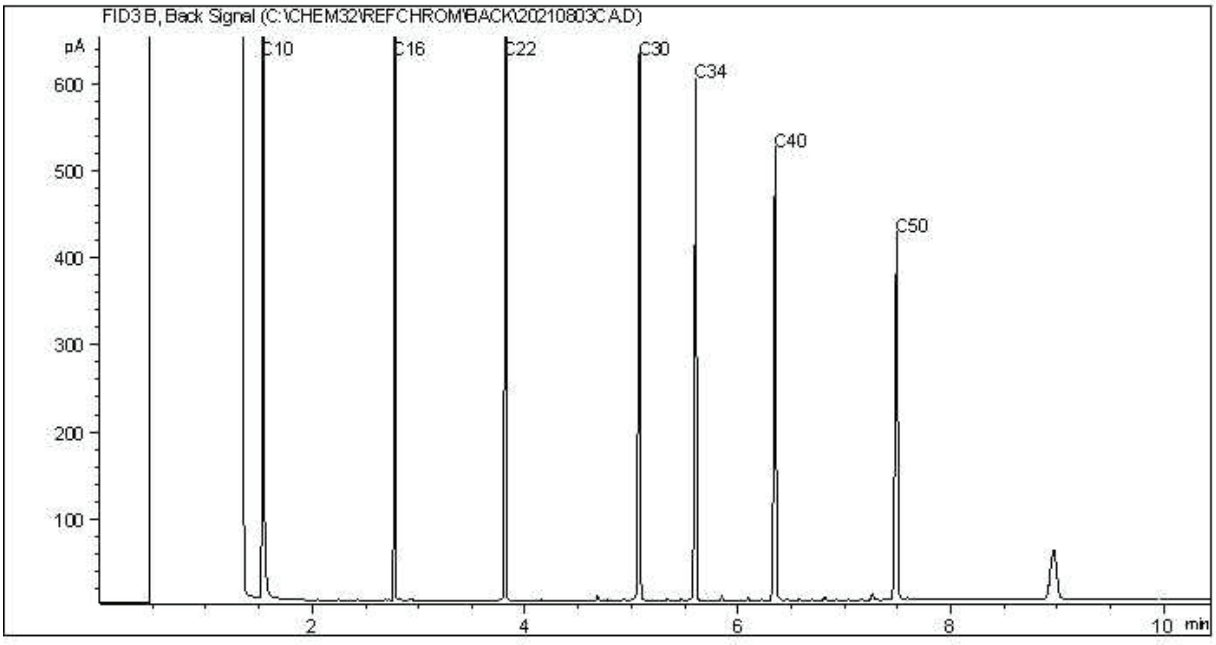
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell

Sampling Date: August 22, 2021

Golder Project Number: 20368099-6000-1001

Laboratory: Bureau Veritas Edmonton

Lab Submission Number: C162661

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

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

	Yes	No	NA	Comments
Surrogate Recovery	X			All laboratory QC results are within
Method Blank Concentration	X			acceptance criteria.
Laboratory Duplicate RPD	X			
Matrix Spike Recovery	X			
Blank Spike Recovery	X			

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

	Yes	No	NA	Comments
Field Blank Concentration			X	Samples TP21-63-03 and DUP U exceed the alert limit
Trip Blank Concentration			X	for F2 (97%).
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 for details

Data Reviewed by (Print): Anita Colbert

Data Reviewed by (Signature): Anita Colbert

Date: September 28, 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. #: 644511-29-01, 644511-30-01, 644511-31-01, 644511-32-01

Report Date: 2021/12/24
Report #: R3113756
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C162662
Received: 2021/08/24, 09:45

Sample Matrix: Soil
Samples Received: 31

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	20	N/A	2021/08/31	AB SOP-00039	CCME CWS/EPA 8260d m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	11	N/A	2021/09/01	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	20	N/A	2021/08/31		Auto Calc
F1-BTEX (1)	11	N/A	2021/09/01		Auto Calc
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 3)	3	2021/08/30	2021/08/31	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	29	2021/08/30	2021/08/31	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 5)	2	N/A	2021/08/31		Auto Calc
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 5)	1	N/A	2021/12/23		Auto Calc
CCME Hydrocarbons (F4G in soil) (1, 4)	4	2021/08/30	2021/09/01	AB SOP-00036 AB SOP-00040	CCME PHC-CWS m
Moisture (1)	10	N/A	2021/08/30	AB SOP-00002	CCME PHC-CWS m
Moisture (1)	21	N/A	2021/08/31	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.

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. #: 644511-29-01, 644511-30-01, 644511-31-01, 644511-32-01

Report Date: 2021/12/24
Report #: R3113756
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C162662
Received: 2021/08/24, 09:45

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) 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

Bureau Veritas
24 Dec 2021 12:51:40

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 Job #: C162662
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		AEP038	AEP038		AEP039	AEP039		AEP040		
Sampling Date		2021/08/20 14:24	2021/08/20 14:24		2021/08/20 14:26	2021/08/20 14:26		2021/08/20 14:25		
COC Number		644511-29-01	644511-29-01		644511-29-01	644511-29-01		644511-29-01		
	UNITS	TP21-165-02	TP21-165-02 Lab-Dup	RDL	TP21-165-04	TP21-165-04 Lab-Dup	RDL	TP21-165-03	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	39	N/A	10	140 (1)	N/A	26	N/A	26	A336179
F3 (C16-C34 Hydrocarbons)	mg/kg	790	N/A	50	2900 (1)	N/A	130	N/A	130	A336179
F4 (C34-C50 Hydrocarbons)	mg/kg	280	N/A	50	1100 (1)	N/A	130	N/A	130	A336179
Reached Baseline at C50	mg/kg	Yes	N/A	N/A	No	N/A	N/A	N/A	N/A	A336179
Physical Properties										
Moisture	%	30	N/A	0.30	62	64	0.30	45	0.30	A336620
Volatiles										
Xylenes (Total)	mg/kg	<0.098	N/A	0.098	<0.14	N/A	0.14	<0.10	0.10	A334339
F1 (C6-C10) - BTEX	mg/kg	<22	N/A	22	<31	N/A	31	<23	23	A334339
Field Preserved Volatiles										
Benzene	mg/kg	<0.0068 (2)	<0.0068	0.0068	<0.0068 (2)	N/A	0.0068	<0.0068 (2)	0.0068	A335208
Toluene	mg/kg	<0.050 (2)	<0.050	0.050	0.32 (3)	N/A	0.16	<0.050 (2)	0.050	A335208
Ethylbenzene	mg/kg	<0.018 (2)	0.022	0.018	<0.018 (2)	N/A	0.018	<0.018 (2)	0.018	A335208
m & p-Xylene	mg/kg	<0.087 (3)	<0.087	0.087	<0.12 (3)	N/A	0.12	<0.090 (3)	0.090	A335208
o-Xylene	mg/kg	<0.044 (3)	<0.044	0.044	<0.062 (3)	N/A	0.062	<0.045 (3)	0.045	A335208
F1 (C6-C10)	mg/kg	<22 (3)	<22	22	<31 (3)	N/A	31	<23 (3)	23	A335208
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	93	96	N/A	97	N/A	N/A	95	N/A	A335208
4-Bromofluorobenzene (sur.)	%	101	102	N/A	102	N/A	N/A	102	N/A	A335208
D10-o-Xylene (sur.)	%	104	105	N/A	128	N/A	N/A	123	N/A	A335208
D4-1,2-Dichloroethane (sur.)	%	102	106	N/A	105	N/A	N/A	105	N/A	A335208
O-TERPHENYL (sur.)	%	104	N/A	N/A	117	N/A	N/A	N/A	N/A	A336179

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 MDL and sample weight used for analysis.
(3) Detection limits raised based on sample weight used for analysis.

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

Bureau Veritas Job #: C162662
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		AEP041			AEP042		AEP043		AEP044		
Sampling Date		2021/08/20 10:41			2021/08/20 10:42		2021/08/20 11:02		2021/08/20 11:04		
COC Number		644511-29-01			644511-29-01		644511-29-01		644511-29-01		
	UNITS	**TP21-164-02**	**RDL**	**QC Batch**	**TP21-164-03**	**RDL**	**TP21-139-01**	**RDL**	**TP21-139-03**	**RDL**	**QC Batch**
Ext. Pet. Hydrocarbon											
F2 (C10-C16 Hydrocarbons)	mg/kg	57	10	A336179	270 (1)	22	N/A	22	16	10	A336179
F3 (C16-C34 Hydrocarbons)	mg/kg	870	50	A336179	5100 (1)	110	N/A	110	150	50	A336179
F4 (C34-C50 Hydrocarbons)	mg/kg	380	50	A336179	2200 (1)	110	N/A	110	66	50	A336179
Reached Baseline at C50	mg/kg	No	N/A	A336179	No	N/A	N/A	N/A	Yes	N/A	A336179
Physical Properties											
Moisture	%	18	0.30	A336620	54	0.30	8.5	0.30	11	0.30	A336205
Volatiles											
Xylenes (Total)	mg/kg	<0.045	0.045	A334339	0.11	0.10	<0.045	0.045	<0.045	0.045	A334339
F1 (C6-C10) - BTEX	mg/kg	<10	10	A334339	<23	23	<10	10	<10	10	A334339
Field Preserved Volatiles											
Benzene	mg/kg	<0.0050	0.0050	A335208	0.076 (2)	0.012	<0.0050	0.0050	<0.0050	0.0050	A335208
Toluene	mg/kg	<0.050	0.050	A335208	<0.12 (2)	0.12	<0.050	0.050	<0.050	0.050	A335208
Ethylbenzene	mg/kg	<0.010	0.010	A335208	0.053 (2)	0.023	<0.010	0.010	<0.010	0.010	A335208
m & p-Xylene	mg/kg	<0.040	0.040	A335208	0.11 (2)	0.093	<0.040	0.040	<0.040	0.040	A335208
o-Xylene	mg/kg	<0.020	0.020	A335208	<0.047 (2)	0.047	<0.020	0.020	<0.020	0.020	A335208
F1 (C6-C10)	mg/kg	<10	10	A335208	<23 (2)	23	<10	10	<10	10	A335208
Surrogate Recovery (%)											
1,4-Difluorobenzene (sur.)	%	95	N/A	A335208	97	N/A	95	N/A	95	N/A	A335208
4-Bromofluorobenzene (sur.)	%	101	N/A	A335208	104	N/A	100	N/A	102	N/A	A335208
D10-o-Xylene (sur.)	%	129	N/A	A335208	124	N/A	100	N/A	123	N/A	A335208
D4-1,2-Dichloroethane (sur.)	%	102	N/A	A335208	105	N/A	105	N/A	104	N/A	A335208
O-TERPHENYL (sur.)	%	113	N/A	A336179	115	N/A	N/A	N/A	106	N/A	A336179

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.

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

Bureau Veritas Job #: C162662
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		AEP045	AEP046	AEP047	AEP048	AEP049	AEP050		
Sampling Date		2021/08/20 11:09	2021/08/20 11:09	2021/08/20 11:16	2021/08/20 11:26	2021/08/20 11:29	2021/08/20 14:05		
COC Number		644511-29-01	644511-29-01	644511-29-01	644511-30-01	644511-30-01	644511-30-01		
	UNITS	TP21-139-05	DUP M	TP21-140-02	TP21-140-04	TP21-140-06	TP21-141-02	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	16	11	20	<10	19	26	10	A336179
F3 (C16-C34 Hydrocarbons)	mg/kg	72	66	110	<50	120	140	50	A336179
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	50	A336179
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A336179
Physical Properties									
Moisture	%	16	9.6	13	3.4	12	12	0.30	A336205
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	0.045	A334339
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	<10	<10	10	A334339
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A335208
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A335208
Ethylbenzene	mg/kg	<0.010	0.024	<0.010	<0.010	<0.010	<0.010	0.010	A335208
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	A335208
o-Xylene	mg/kg	<0.020	0.027	<0.020	<0.020	<0.020	<0.020	0.020	A335208
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	<10	<10	10	A335208
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	96	95	94	97	95	73	N/A	A335208
4-Bromofluorobenzene (sur.)	%	100	104	105	106	102	80	N/A	A335208
D10-o-Xylene (sur.)	%	116	131	119	126	133	100	N/A	A335208
D4-1,2-Dichloroethane (sur.)	%	107	105	103	108	109	83	N/A	A335208
O-TERPHENYL (sur.)	%	107	105	95	112	119	102	N/A	A336179

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Job #: C162662
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		AEP051	AEP052	AEP052	AEP053	AEP054	AEP055		
Sampling Date		2021/08/20 13:23	2021/08/20 13:38	2021/08/20 13:38	2021/08/20 13:38	2021/08/20 14:02	2021/08/20 13:58		
COC Number		644511-30-01	644511-30-01	644511-30-01	644511-30-01	644511-30-01	644511-30-01		
	UNITS	TP21-141-04	TP21-141-06	TP21-141-06 Lab-Dup	DUP N	TP21-143-02	TP21-143-01	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	11	18	13	19	<10	<10	10	A336179
F3 (C16-C34 Hydrocarbons)	mg/kg	89	130	120	99	92	77	50	A336179
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	50	A336179
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A336179
Physical Properties									
Moisture	%	9.5	12	N/A	9.4	2.9	3.2	0.30	A336205
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	N/A	<0.045	<0.045	<0.045	0.045	A334339
F1 (C6-C10) - BTEX	mg/kg	<10	<10	N/A	<10	<10	<10	10	A334339
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	N/A	<0.0050	<0.0050	<0.0050	0.0050	A335208
Toluene	mg/kg	<0.050	<0.050	N/A	<0.050	<0.050	<0.050	0.050	A335208
Ethylbenzene	mg/kg	<0.010	<0.010	N/A	<0.010	<0.010	<0.010	0.010	A335208
m & p-Xylene	mg/kg	<0.040	<0.040	N/A	<0.040	<0.040	<0.040	0.040	A335208
o-Xylene	mg/kg	<0.020	<0.020	N/A	<0.020	<0.020	<0.020	0.020	A335208
F1 (C6-C10)	mg/kg	<10	<10	N/A	<10	<10	<10	10	A335208
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	94	95	N/A	100	100	99	N/A	A335208
4-Bromofluorobenzene (sur.)	%	103	103	N/A	102	101	100	N/A	A335208
D10-o-Xylene (sur.)	%	133	137	N/A	111	106	133	N/A	A335208
D4-1,2-Dichloroethane (sur.)	%	109	108	N/A	102	103	101	N/A	A335208
O-TERPHENYL (sur.)	%	104	104	108	103	95	99	N/A	A336179

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

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

Bureau Veritas Job #: C162662
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		AEP056	AEP057		AEP058		AEP059		
Sampling Date		2021/08/20 14:03	2021/08/20 14:08		2021/08/20 14:09		2021/08/20 14:10		
COC Number		644511-30-01	644511-30-01		644511-31-01		644511-31-01		
	UNITS	TP21-143-04	TP21-144-02	QC Batch	TP21-144-04	QC Batch	TP21-144-05	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	11	<10	A336179	92	A336179	27	10	A336324
F3 (C16-C34 Hydrocarbons)	mg/kg	200	<50	A336179	<50	A336179	110	50	A336324
F4 (C34-C50 Hydrocarbons)	mg/kg	57	<50	A336179	<50	A336179	<50	50	A336324
Reached Baseline at C50	mg/kg	Yes	Yes	A336179	Yes	A336179	Yes	N/A	A336324
Physical Properties									
Moisture	%	26	5.5	A336205	3.5	A336205	31	0.30	A336241
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	A334549	<0.045	A334549	<0.045	0.045	A334549
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A334549	<10	A334549	<10	10	A334549
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	<0.0050	A335208	<0.0050	A338476	<0.0050	0.0050	A338476
Toluene	mg/kg	<0.050	<0.050	A335208	<0.050	A338476	<0.050	0.050	A338476
Ethylbenzene	mg/kg	<0.010	<0.010	A335208	<0.010	A338476	<0.010	0.010	A338476
m & p-Xylene	mg/kg	<0.040	<0.040	A335208	<0.040	A338476	<0.040	0.040	A338476
o-Xylene	mg/kg	<0.020	<0.020	A335208	<0.020	A338476	<0.020	0.020	A338476
F1 (C6-C10)	mg/kg	<10	<10	A335208	<10	A338476	<10	10	A338476
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	99	99	A335208	102	A338476	104	N/A	A338476
4-Bromofluorobenzene (sur.)	%	100	101	A335208	99	A338476	100	N/A	A338476
D10-o-Xylene (sur.)	%	103	104	A335208	138	A338476	121	N/A	A338476
D4-1,2-Dichloroethane (sur.)	%	101	101	A335208	103	A338476	104	N/A	A338476
O-TERPHENYL (sur.)	%	109	102	A336179	100	A336179	96	N/A	A336324

RDL = Reportable Detection Limit
N/A = Not Applicable

Bureau Veritas Job #: C162662
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		AEP060	AEP061	AEP062		AEP063		AEP064		
Sampling Date		2021/08/20 14:25	2021/08/20 14:26	2021/08/20 14:27		2021/08/20 14:50		2021/08/20 14:51		
COC Number		644511-31-01	644511-31-01	644511-31-01		644511-31-01		644511-31-01		
	UNITS	TP21-145-02	TP21-145-03	TP21-145-06	RDL	TP21-128-02	RDL	TP21-128-04	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	10	25	10	<10	10	A336324
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	50	450	50	<50	50	A336324
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	50	110	50	<50	50	A336324
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	N/A	Yes	N/A	Yes	N/A	A336324
Physical Properties										
Moisture	%	3.7	13	12	0.30	45	0.30	6.3	0.30	A336241
Volatiles										
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	0.045	<0.090	0.090	<0.045	0.045	A334549
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	10	<20	20	<10	10	A334549
Field Preserved Volatiles										
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	<0.0067 (1)	0.0067	<0.0050	0.0050	A338476
Toluene	mg/kg	<0.050	<0.050	<0.050	0.050	0.41 (2)	0.10	<0.050	0.050	A338476
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	0.010	<0.010 (1)	0.010	<0.010	0.010	A338476
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	0.040	<0.081 (2)	0.081	<0.040	0.040	A338476
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	<0.040 (2)	0.040	<0.020	0.020	A338476
F1 (C6-C10)	mg/kg	<10	<10	<10	10	<20 (2)	20	<10	10	A338476
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	104	103	102	N/A	102	N/A	101	N/A	A338476
4-Bromofluorobenzene (sur.)	%	100	99	101	N/A	101	N/A	100	N/A	A338476
D10-o-Xylene (sur.)	%	107	122	129	N/A	127	N/A	125	N/A	A338476
D4-1,2-Dichloroethane (sur.)	%	102	102	104	N/A	104	N/A	104	N/A	A338476
O-TERPHENYL (sur.)	%	101	106	106	N/A	101	N/A	103	N/A	A336324

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

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

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		AEP065	AEP066	AEP067	AEP068		
Sampling Date		2021/08/20 14:52	2021/08/20 15:08	2021/08/20 15:09	2021/08/20 15:10		
COC Number		644511-31-01	644511-31-01	644511-31-01	644511-32-01		
	UNITS	TP21-128-06	TP21-127-02	TP21-127-04	TP21-127-05	RDL	QC Batch
Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	36	<10	<10	10	A336324
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	570	59	<50	50	A336324
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	200	<50	<50	50	A336324
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	N/A	A336324
Physical Properties							
Moisture	%	16	27	4.5	5.9	0.30	A336241
Volatiles							
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	0.045	A334549
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	10	A334549
Field Preserved Volatiles							
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A338476
Toluene	mg/kg	<0.050	0.083	<0.050	<0.050	0.050	A338476
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	0.010	A338476
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	0.040	A338476
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.020	A338476
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	10	A338476
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	102	101	101	101	N/A	A338476
4-Bromofluorobenzene (sur.)	%	99	100	100	100	N/A	A338476
D10-o-Xylene (sur.)	%	125	134	118	129	N/A	A338476
D4-1,2-Dichloroethane (sur.)	%	103	103	103	103	N/A	A338476
O-TERPHENYL (sur.)	%	104	101	108	107	N/A	A336324

RDL = Reportable Detection Limit
N/A = Not Applicable

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PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		AEP039		AEP040	AEP041		AEP042		
Sampling Date		2021/08/20 14:26		2021/08/20 14:25	2021/08/20 10:41		2021/08/20 10:42		
COC Number		644511-29-01		644511-29-01	644511-29-01		644511-29-01		
	UNITS	TP21-165-04	RDL	TP21-165-03	TP21-164-02	RDL	TP21-164-03	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	10	92	N/A	10	N/A	10	A335211
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	71	1400	N/A	71	N/A	71	A334552
F3A (C16-C22)	mg/kg	N/A	50	160	N/A	50	N/A	50	A335211
F3B (C22-C34)	mg/kg	N/A	50	1200	N/A	50	N/A	50	A335211
F2% (BIC)	mg/kg	N/A	N/A	7.0	N/A	N/A	N/A	N/A	A334552
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	50	580	N/A	50	N/A	50	A335211
Reached Baseline at C50	mg/kg	N/A	N/A	No	N/A	N/A	N/A	N/A	A335211
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	2500 (1)	1300	2100	1200	500	3200 (1)	1100	A339367
Surrogate Recovery (%)									
O-TERPHENYL (sur.)	%	N/A	N/A	90	N/A	N/A	N/A	N/A	A335211

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

Bureau Veritas ID		AEP043		AEP063		
Sampling Date		2021/08/20 11:02		2021/08/20 14:50		
COC Number		644511-29-01		644511-31-01		
	UNITS	TP21-139-01	QC Batch	TP21-128-02	RDL	QC Batch
Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	30	A335211	N/A	10	A335211
F3 (C16-C34 Hydrocarbons)	mg/kg	130	A334554	450	71	A454259
F3A (C16-C22)	mg/kg	<50	A335211	56	50	A457151
F3B (C22-C34)	mg/kg	130	A335211	390	50	A457151
F2% (BIC)	mg/kg	NC	A334554	6.0	N/A	A454259
F4 (C34-C50 Hydrocarbons)	mg/kg	65	A335211	N/A	50	N/A
Reached Baseline at C50	mg/kg	Yes	A335211	N/A	N/A	N/A
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	90	A335211	101	N/A	A457151

RDL = Reportable Detection Limit
N/A = Not Applicable

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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

Version #2: Report reissued to include results for F3A/F3B/Chromatogram on sample TP21-128-02/AEP063 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 AEP063 [TP21-128-02] : 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
A335208	RSU	Matrix Spike [AEP038-02]	1,4-Difluorobenzene (sur.)	2021/08/31		93	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		100	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		104	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		106	%	50 - 140
			Benzene	2021/08/31		102	%	50 - 140
			Toluene	2021/08/31		103	%	50 - 140
			Ethylbenzene	2021/08/31		111	%	50 - 140
			m & p-Xylene	2021/08/31		107	%	50 - 140
			o-Xylene	2021/08/31		112	%	50 - 140
			F1 (C6-C10)	2021/08/31		108	%	60 - 140
A335208	RSU	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/08/31		95	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		103	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		117	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		112	%	50 - 140
			Benzene	2021/08/31		96	%	60 - 130
			Toluene	2021/08/31		101	%	60 - 130
			Ethylbenzene	2021/08/31		104	%	60 - 130
			m & p-Xylene	2021/08/31		103	%	60 - 130
			o-Xylene	2021/08/31		99	%	60 - 130
			F1 (C6-C10)	2021/08/31		72	%	60 - 140
A335208	RSU	Method Blank	1,4-Difluorobenzene (sur.)	2021/08/31		97	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/08/31		104	%	50 - 140
			D10-o-Xylene (sur.)	2021/08/31		114	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/08/31		105	%	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	
			o-Xylene	2021/08/31	<0.020		mg/kg	
			F1 (C6-C10)	2021/08/31	<10		mg/kg	
A335208	RSU	RPD [AEP038-02]	Benzene	2021/08/31	NC		%	50
			Toluene	2021/08/31	NC		%	50
			Ethylbenzene	2021/08/31	20		%	50
			m & p-Xylene	2021/08/31	NC		%	50
			o-Xylene	2021/08/31	NC		%	50
			F1 (C6-C10)	2021/08/31	NC		%	30
A335211	GG3	Matrix Spike	O-TERPHENYL (sur.)	2021/08/30		93	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		86	%	60 - 140
			F3A (C16-C22)	2021/08/30		89	%	60 - 140
			F3B (C22-C34)	2021/08/30		88	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		89	%	60 - 140
A335211	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/30		97	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30		92	%	60 - 140
			F3A (C16-C22)	2021/08/30		95	%	60 - 140
			F3B (C22-C34)	2021/08/30		93	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/30		94	%	60 - 140
A335211	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/30		102	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/30	<10		mg/kg	
			F3A (C16-C22)	2021/08/30	<50		mg/kg	
			F3B (C22-C34)	2021/08/30	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/30	<50		mg/kg	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A335211	GG3	RPD	F3A (C16-C22)	2021/08/30	NC		%	40
			F3B (C22-C34)	2021/08/30	NC		%	40
A336179	GG3	Matrix Spike [AEP052-01]	O-TERPHENYL (sur.)	2021/08/31		110	%	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		96	%	60 - 140
A336179	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/08/31		106	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		96	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		99	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		91	%	60 - 140
A336179	GG3	Method Blank	O-TERPHENYL (sur.)	2021/08/31		104	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/31	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/31	<50		mg/kg	
A336179	GG3	RPD [AEP052-01]	F2 (C10-C16 Hydrocarbons)	2021/08/31	33		%	40
			F3 (C16-C34 Hydrocarbons)	2021/08/31	8.3		%	40
			F4 (C34-C50 Hydrocarbons)	2021/08/31	NC		%	40
A336205	KLG	Method Blank	Moisture	2021/08/31	<0.30		%	
A336205	KLG	RPD	Moisture	2021/08/31	1.5		%	20
A336241	WLE	Method Blank	Moisture	2021/08/30	<0.30		%	
A336241	WLE	RPD	Moisture	2021/08/30	7.8		%	20
A336324	EC0	Matrix Spike	O-TERPHENYL (sur.)	2021/08/31		93	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		90	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		89	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		94	%	60 - 140
A336324	EC0	Spiked Blank	O-TERPHENYL (sur.)	2021/08/31		106	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31		102	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/08/31		103	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/08/31		109	%	60 - 140
A336324	EC0	Method Blank	O-TERPHENYL (sur.)	2021/08/31		102	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/08/31	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/08/31	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/08/31	<50		mg/kg	
A336324	EC0	RPD	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
A336620	KLG	Method Blank	Moisture	2021/08/31	<0.30		%	
A336620	KLG	RPD [AEP039-01]	Moisture	2021/08/31	3.0		%	20
A338476	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/01		94	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/01		99	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/01		125	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/01		100	%	50 - 140
			Benzene	2021/09/01		98	%	50 - 140
			Toluene	2021/09/01		93	%	50 - 140
			Ethylbenzene	2021/09/01		100	%	50 - 140
			m & p-Xylene	2021/09/01		93	%	50 - 140
			o-Xylene	2021/09/01		97	%	50 - 140
			F1 (C6-C10)	2021/09/01		91	%	60 - 140
A338476	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/01		89	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/01		89	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/01		100	%	50 - 140

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			D4-1,2-Dichloroethane (sur.)	2021/09/01		99	%	50 - 140
			Benzene	2021/09/01		91	%	60 - 130
			Toluene	2021/09/01		94	%	60 - 130
			Ethylbenzene	2021/09/01		95	%	60 - 130
			m & p-Xylene	2021/09/01		93	%	60 - 130
			o-Xylene	2021/09/01		84	%	60 - 130
			F1 (C6-C10)	2021/09/01		94	%	60 - 140
A338476	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/01		100	%	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		104	%	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	
A338476	DO1	RPD	Benzene	2021/09/01	12		%	50
			Toluene	2021/09/01	NC		%	50
			Ethylbenzene	2021/09/01	1.8		%	50
			m & p-Xylene	2021/09/01	NC		%	50
			o-Xylene	2021/09/01	NC		%	50
			F1 (C6-C10)	2021/09/01	NC		%	30
A339367	JLJ	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/01		105	%	60 - 140
A339367	JLJ	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/01	<500		mg/kg	
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.

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

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

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

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

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

Bureau Veritas Job #: C162662
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

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

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A Bureau Veritas Group Company

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

Page	CHAIN OF CUSTODY #
1 of 4	644511-29-01
2 of 4	644511-30-01
3 of 4	644511-31-01
4 of 4	644511-32-01
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___ of ___	
___ of ___	
___ of ___	

COOLER OBSERVATIONS:

MAXXAM JOB#: C162662

Cooler	Custody seal present	Custody seal intact	Ice present	Cooler ID	Temp 1	Temp 2	Temp 3
1	YES ✓	YES ✓	YES ✓		2	4	8
2	YES ✓	YES ✓	YES ✓		1	3	6
3	YES ✓	YES ✓	YES ✓		3	1	2
4	YES ✓	YES ✓	YES ✓		1	0	3
5	YES ✓	YES ✓	YES ✓		3	3	3
6–20							

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
Jose Mercado	[signature]	2021/08/24	9:45 Am

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MCAL

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY #	
Page 1 of 4	644511-29-01
Page 2 of 4	644511-30-01
Page 3 of 4	644511-31-01
Page 4 of 4	644511-32-01
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Page ___ of ___	
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Page ___ of ___	
Page ___ of ___	
Page ___ of ___	

COOLER OBSERVATIONS:

MAXXAM JOB#: C162662

Cooler	Custody seal present	Custody seal intact	Ice present	Cooler ID	Temp 1	Temp 2	Temp 3
1	YES ✓	YES ✓	YES ✓		5	7	7
2	YES ✓	YES ✓	YES ✓	-	6	6	6
3	YES ✓	YES ✓	YES ✓		3	2	5
4	YES ✓	YES ✓	YES ✓		8	2	2
5	YES ✓	YES ✓	YES ✓		5	5	5
6	YES ✓	YES ✓	YES ✓		6	5	7
7							
8							
9							
10							
11–20 (right column)							

RECEIVED BY (SIGN & PRINT)		DATE (YYYY/MM/DD)	TIME (HH:MM)
NATASHA MUKUCHA	[signature]	2021/08/25	16:20

MCAL

Bureau Veritas Laboratories
4000 19st 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

Page 1 of 4

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 #:	Bottle Order #:
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001	C162662	644511
Address:	2800, 700 -2nd Street SW	Address:	2800, 700 -2nd Street SW	Project:	20368099-6000-1001	COC #:	Project Manager:
	CALGARY AB T2P 2W2		CALGARY AB T2P 2W2	Project Name:		C#644511-29-01	Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Site #:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Sampled By:			

Regulatory Criteria:

- [ ] AT1
- [x] CCME
- [ ] Other

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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:
(call lab for #)

	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	N/A	TP21-165-02	20AUG/21	1424	SOIL			✓								✓	3	
2		TP21-165-04		1426				✓									3	
3		TP21-165-03		1425				✓	✓								3	
4		TP21-164-02		1041				✓									3	Received in Yellowknife By: J. Mercado @9:45 AUG 24 2021
5		TP21-164-03		1042				✓									3	
6		TP21-139-01		11:02				✓	✓								3	
7		TP21-139 03		11:04				✓									3	
8		TP21-139 05		11:09				✓									3	pls. see ACTR Temp:
9		DUPM		11:09				✓									3	
10		TP21-140-02		11:16				✓									3	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Time Sensitive	Laboratory Use Only: Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/20	16:00	NATASHA MUKUCHA	2021/08/25	16:20		[ ]	ACTR	[x] 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.
* 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

White: BV Labs Yellow: Client

ice : yes

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st 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

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 #: C162662	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW	Address:	2800, 700 -2nd Street SW	Project:	20368099-6000-1001	COC #: C#644511-30-01	Project Manager: Carmen McKay
	CALGARY AB T2P 2W2		CALGARY AB T2P 2W2	Project Name:			
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Site #:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y / N)	ATI Regulated Metals - Soils	ATI 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	N/A	TP21-140-04	20AUG/21	1126	SOIL			V									3	
2		TP21-140-06		1129				V									3	
3		TP21-141-02		1405				V									3	
4		TP21-141-04		1334				V									3	Received in Yellowknife
5		TP21-141-06		1338				V									3	By: J. MERCADO @ 9:45
6		DUP N		1338				V									3	AUG 24 2021
7		TP21-143-02		1402				V									3	SEE ACTR
8		TP21-143-01		1358				V									3	Temp: / /
9		TP21-143-04		1403				V									3	
10		TP21-144-02		1408				V									3	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [x]
(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: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/20	16:00	NATASHA MUKUCHA	2021/08/25	16:20		[ ]	ACTR	[x] 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.
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** ALL SAMPLES ARE HELD FOR 60 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER

White: BV Labs Yellow: Client

ice: yes

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
4000 19st 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

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 #: C162662	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW	Address:	2800, 700 -2nd Street SW	Project:	20368099-6000-1001		
	CALGARY AB T2P 2W2		CALGARY AB T2P 2W2	Project Name:		COC #: C#644511-31-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Site #:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Sampled By:			

Regulatory Criteria: [ ] ATI [X] CCME [ ] Other

Special Instructions:

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	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	N/A	TP21-144-04	20AUG21	1409	SOIL			✓									3	
2		TP21-144-05		1410	"			✓									3	
3		TP21-145-02		1425				✓									3	
4		TP21-145-03		1426				✓									3	Received in Yellowknife
5		TP21-145-06		1427				✓									3	By: J. MCLEOD @ 9:45
6		TP21-128-02		1450				✓									3	AUG 24 2021
7		TP21-128-04		1451				✓									3	See ACTR
8		TP21-128-06		1452				✓									3	Temp: / /
9		TP21-127-02		1508				✓									3	
10		TP21-127-04		1509				✓									3	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: [X]
(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: *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/20	16:00	NATASHA MUKUCHA	2021/08/25	16:20		[ ]	ACTR	[✓] Yes [ ] No

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/TERMS-AND-CONDITIONS.
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White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Laboratories
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CHAIN OF CUSTODY RECORD

Page 4 of 4

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 #: C162662	Bottle Order #: 644511
Attention:	ACCOUNTS PAYABLE	Attention:	Aurelie Belavance	P.O. #:	20368099-7000-1001		
Address:	2800, 700 -2nd Street SW	Address:	2800, 700 -2nd Street SW	Project:	20368099-6000-1001		
	CALGARY AB T2P 2W2		CALGARY AB T2P 2W2	Project Name:		COC #: C#644511-32-01	Project Manager: Carmen McKay
Tel:	(905) 567-6100 Ext: 1167 Fax: (403) 299-5606	Tel:	(403) 299-5600 Fax:	Site #:			
Email:	canadaaccountspayableinvoices@golder.com	Email:	abellavance@golder.com	Sampled By:			

Regulatory Criteria:
- [ ] ATI
- [x] CCME
- [ ] Other

Special Instructions:

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ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	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	TP21-127-05	20AUG21	1510	SOIL			✓									3	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

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(will be applied if Rush TAT is not specified):
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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: *(call lab for #)*

Received in Yellowknife
By: J MCRAE @ 9:45
AUG 24 2021
see temp

Temp:

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
PETER TAN	21/08/20	16:00	NATASHA MUKUCHA	2021/08/25	16:21		[ ]	ALTR	[ ] 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.
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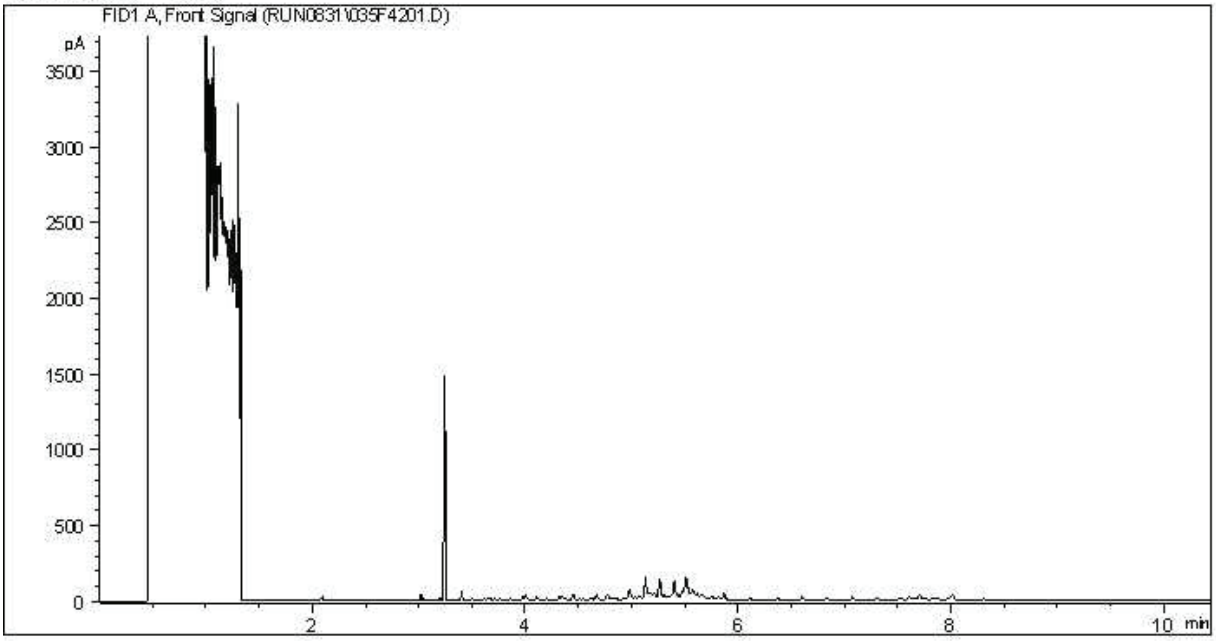
White: BV Labs Yellow: Client

ice : yes

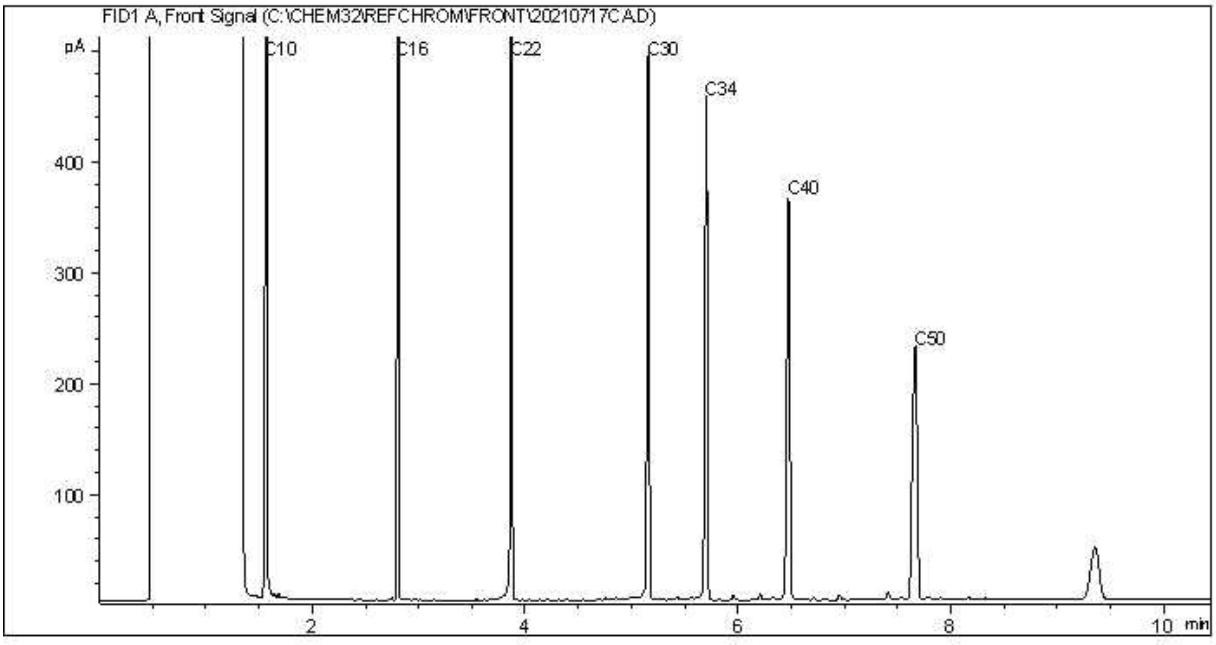
Bureau Veritas Canada (2019) Inc.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



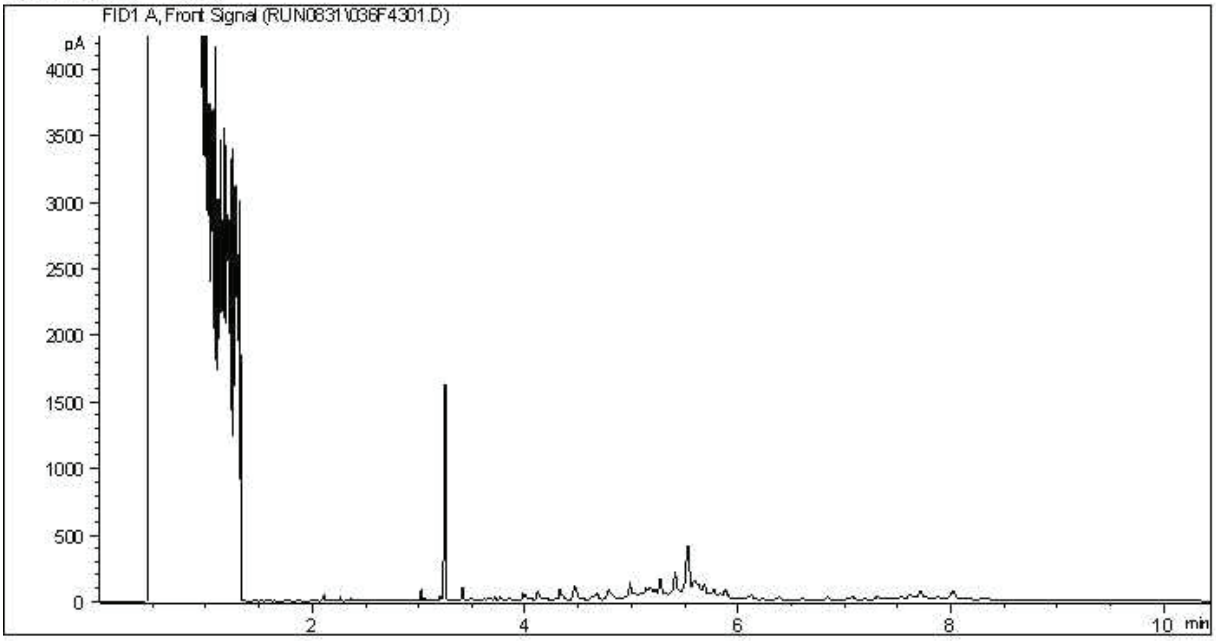
TYPICAL PRODUCT CARBON NUMBER RANGES

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

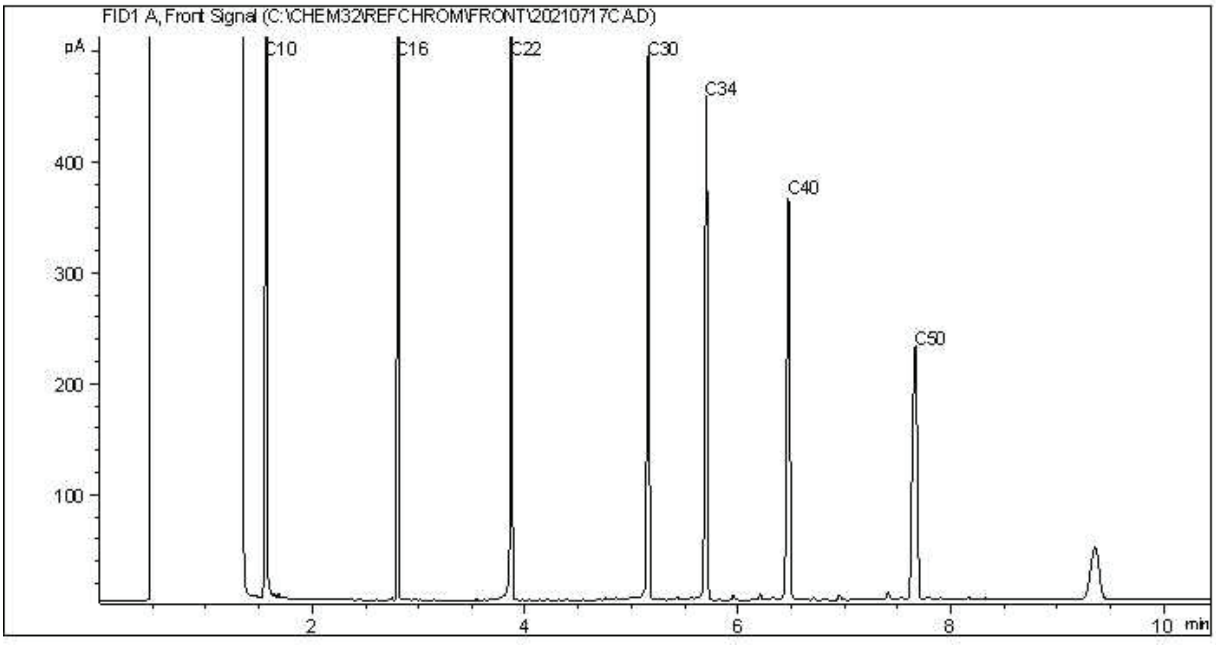
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



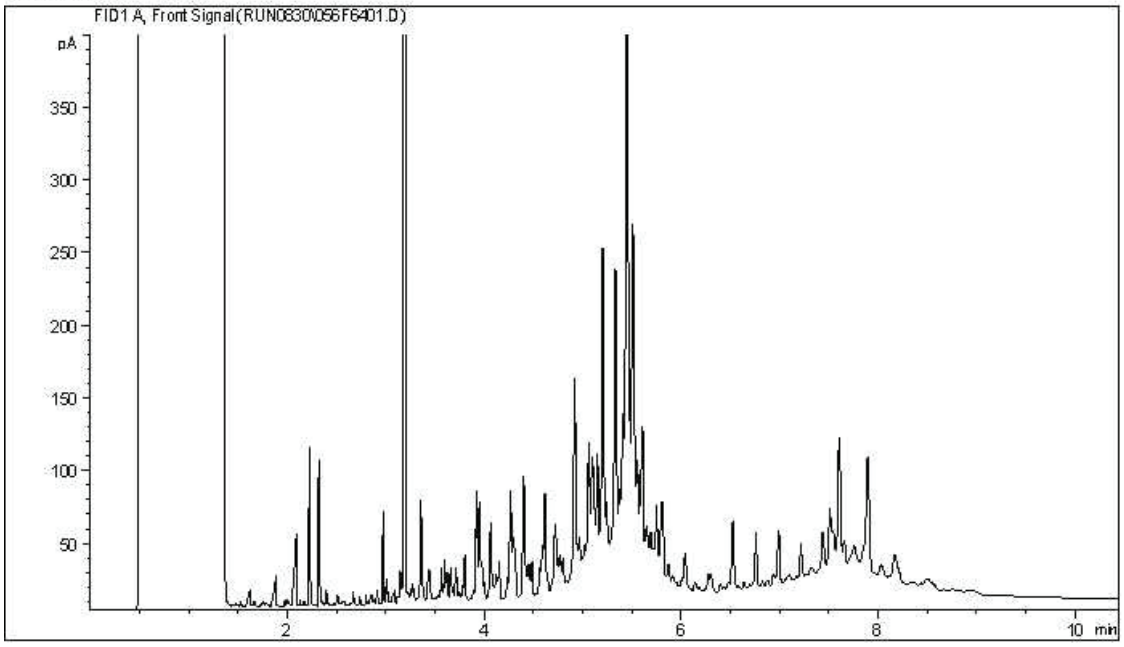
TYPICAL PRODUCT CARBON NUMBER RANGES

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

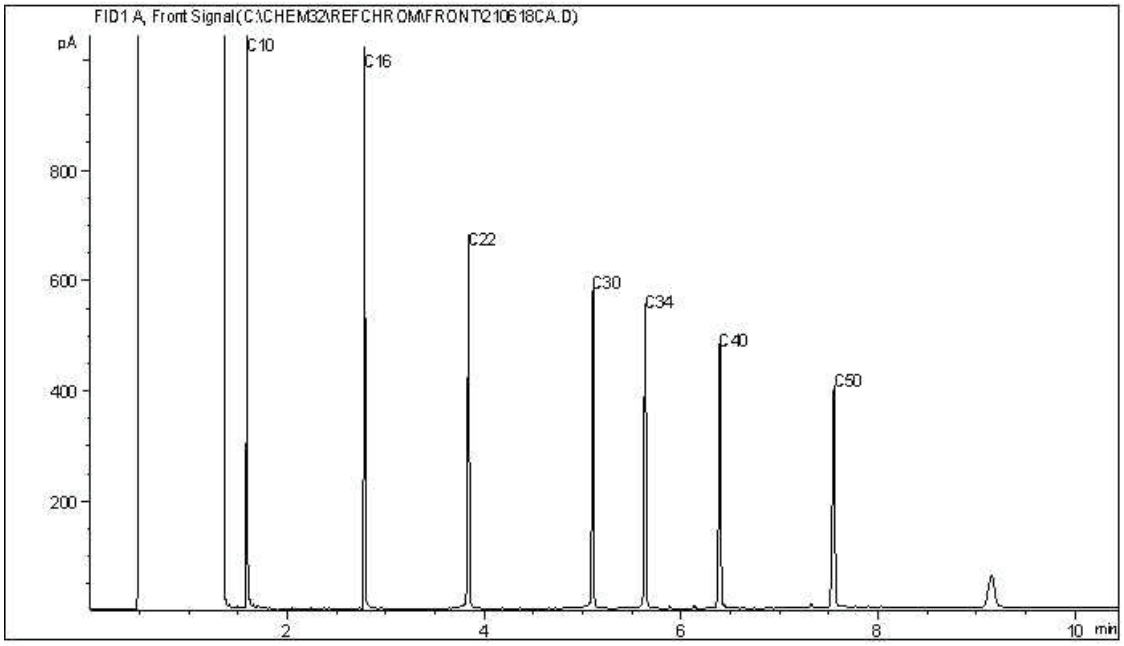
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



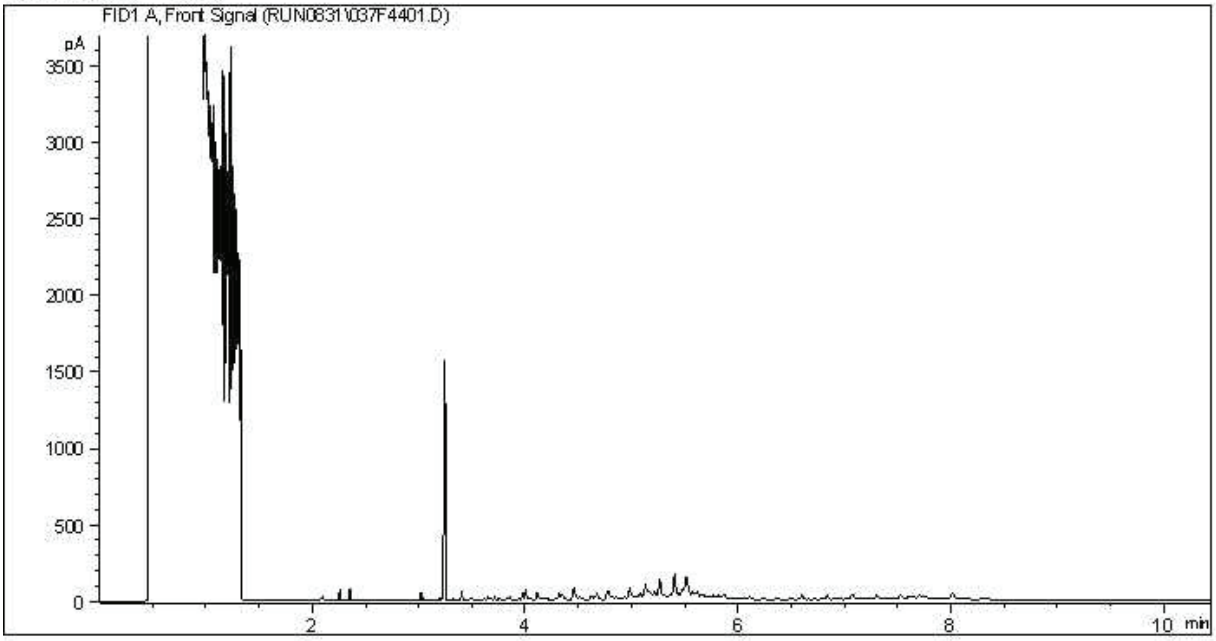
TYPICAL PRODUCT CARBON NUMBER RANGES

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

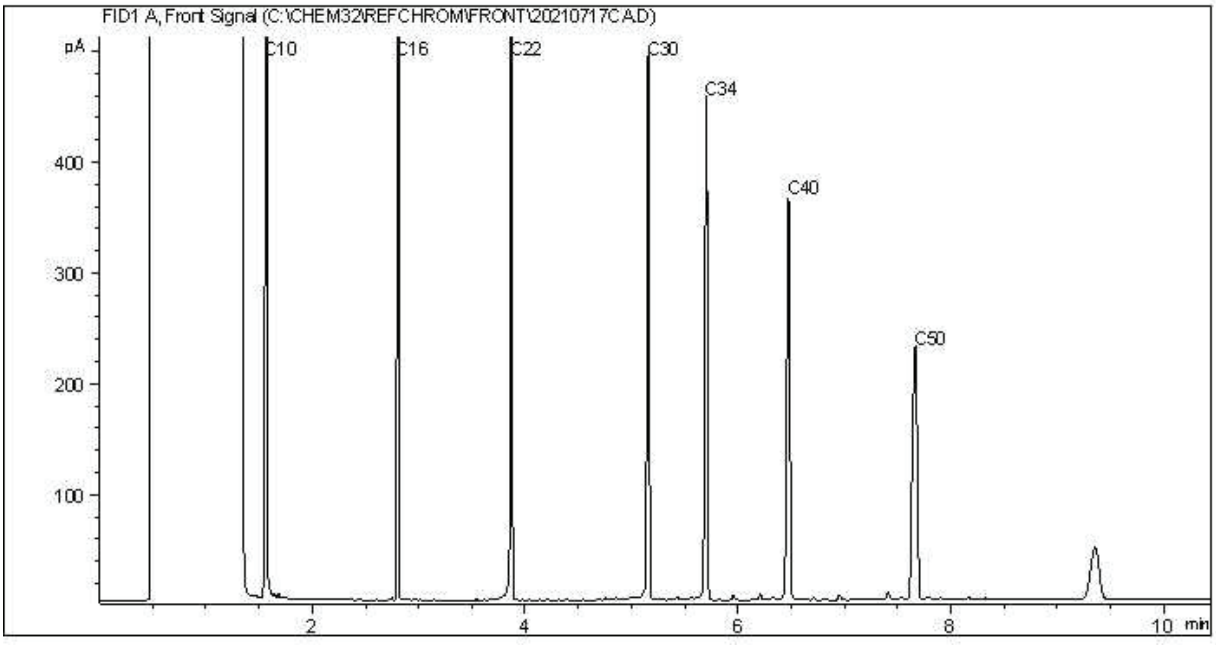
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

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+

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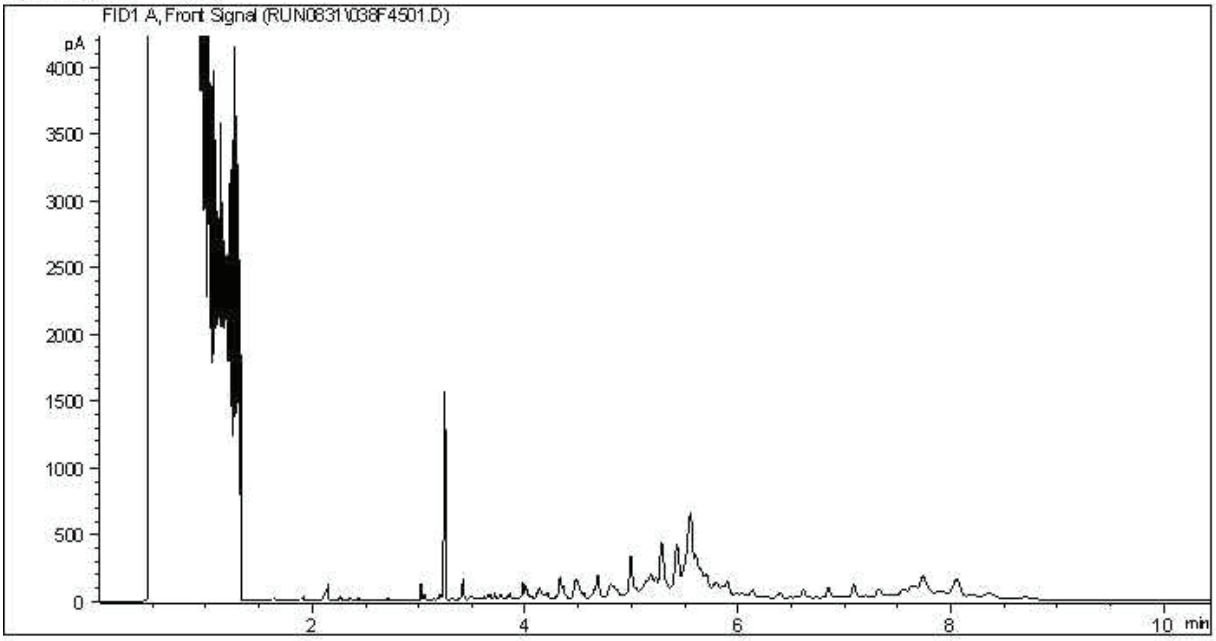
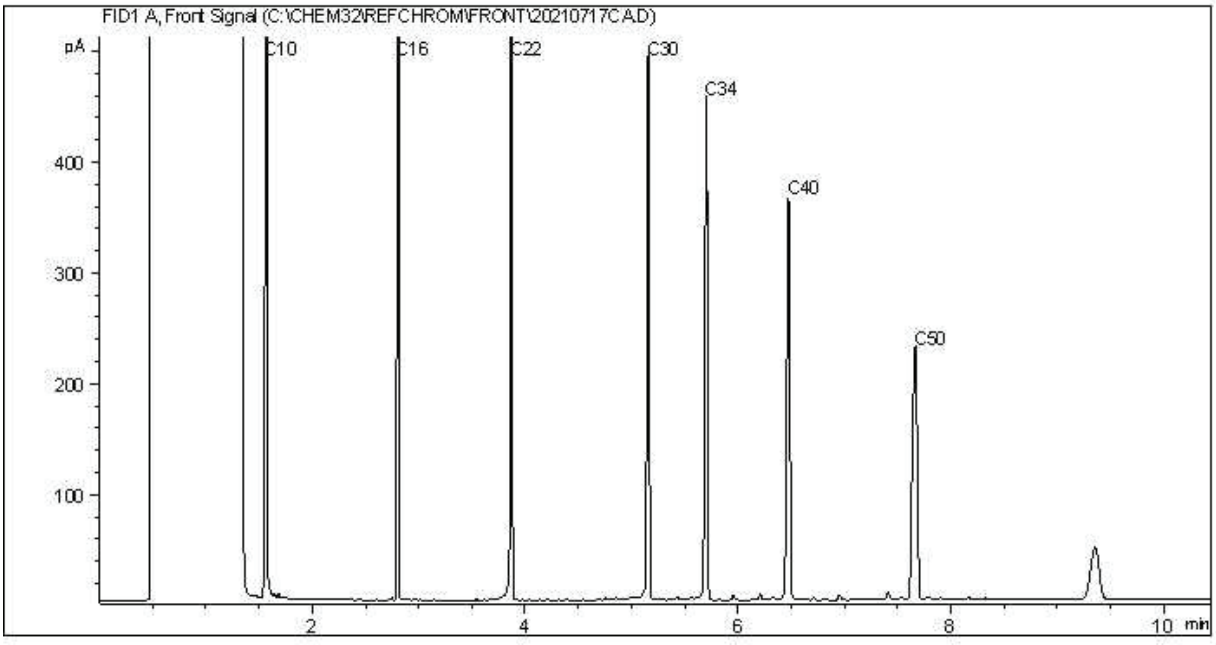
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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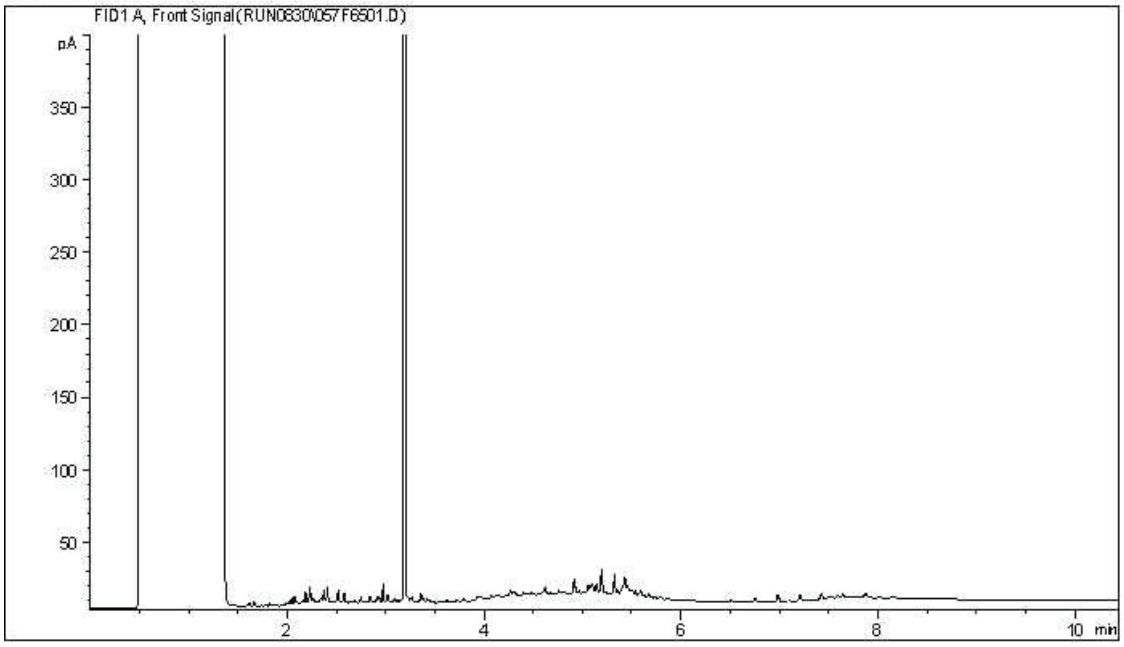
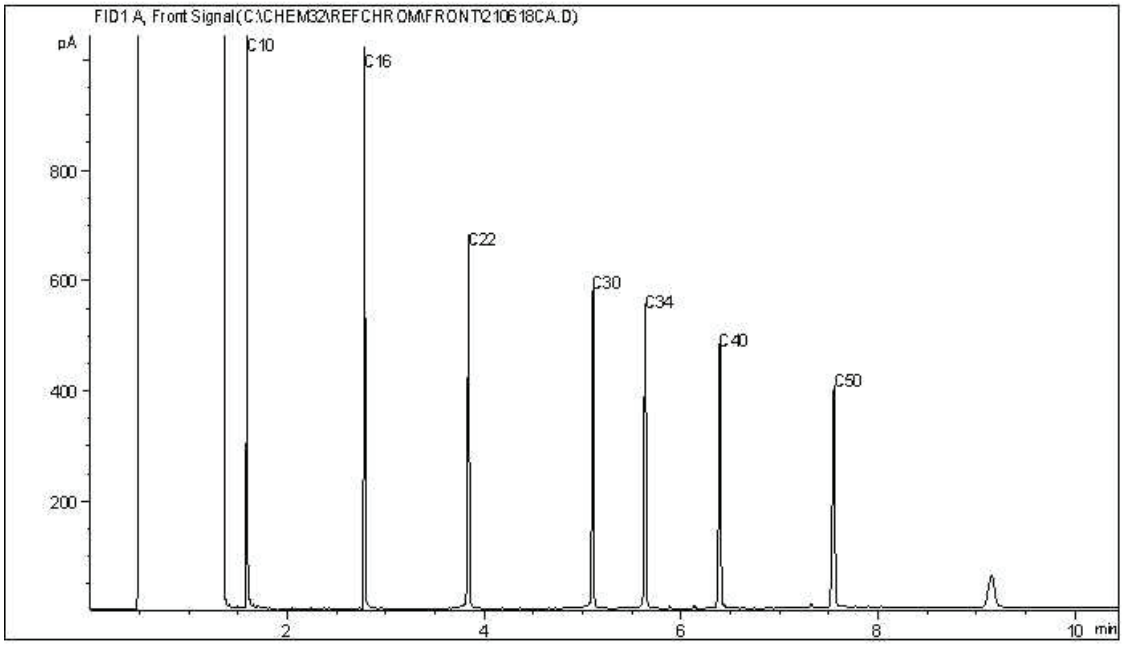
CCME Hydrocarbons (F2-F4)+F3A/B in soil Chromatogram

Instrument: GC13



Carbon Range Distribution - Reference Chromatogram



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

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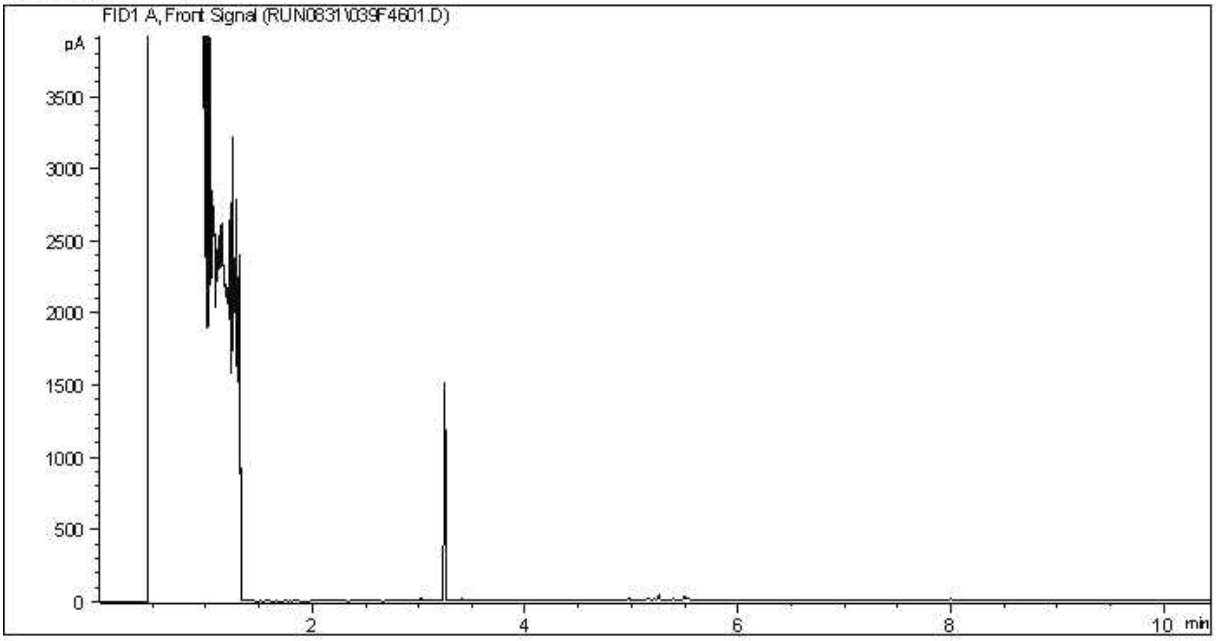
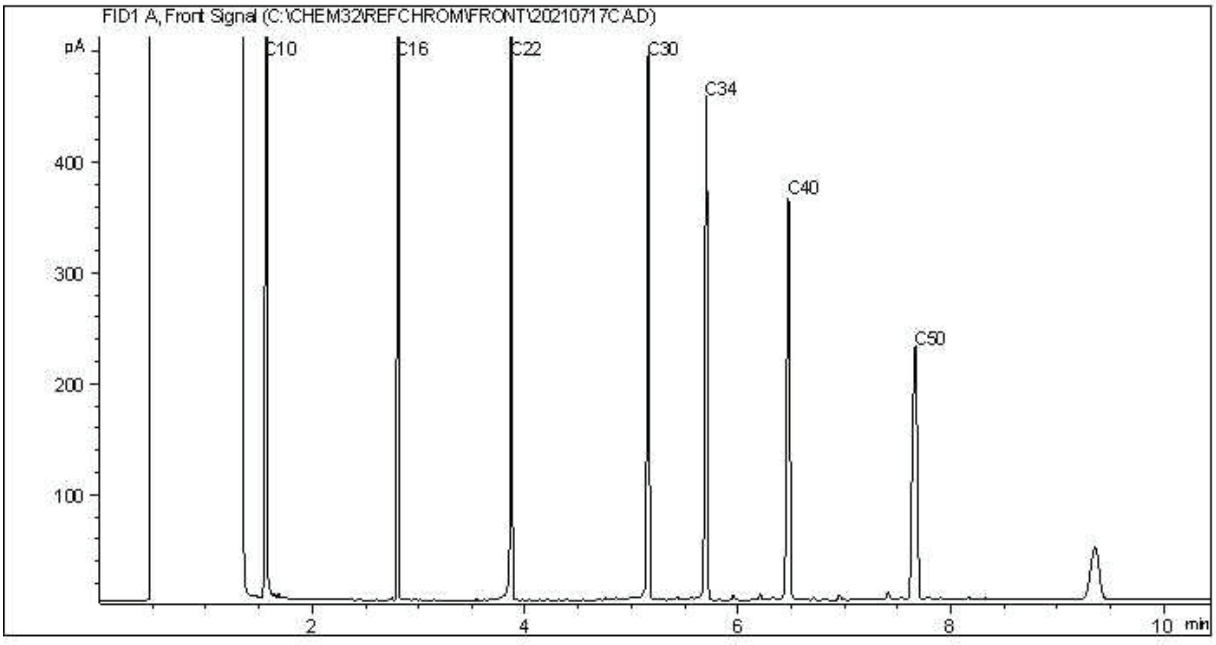
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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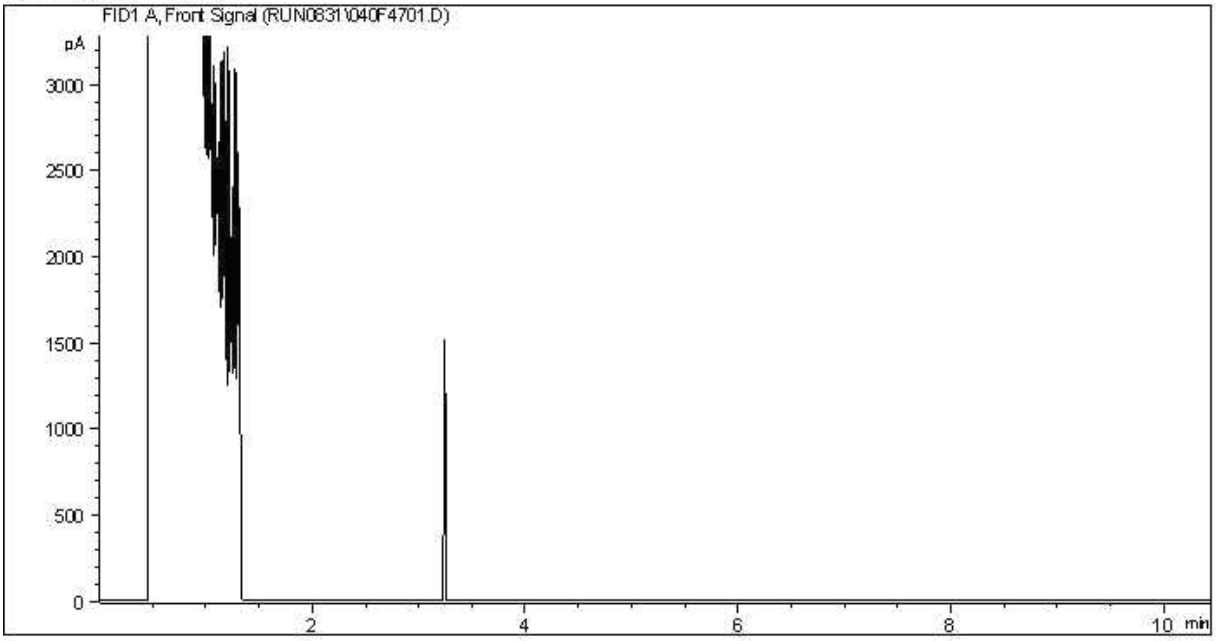
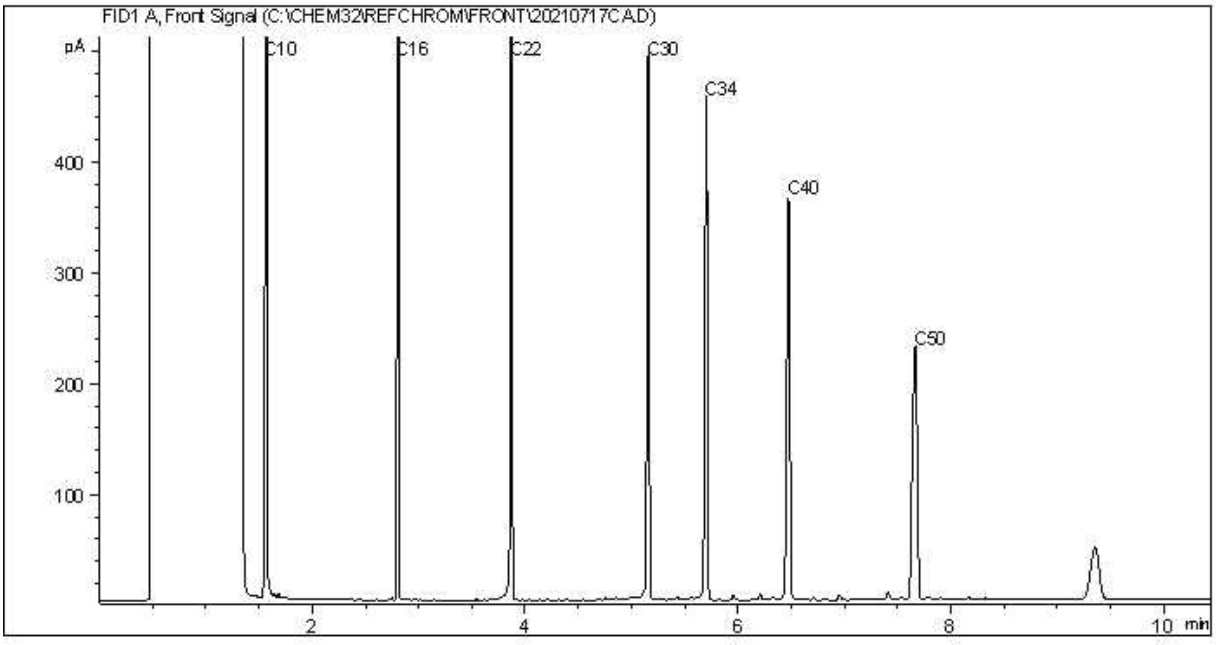
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC20



Carbon Range Distribution - Reference Chromatogram



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CCME Hydrocarbons (F2-F4 in soil) Chromatogram

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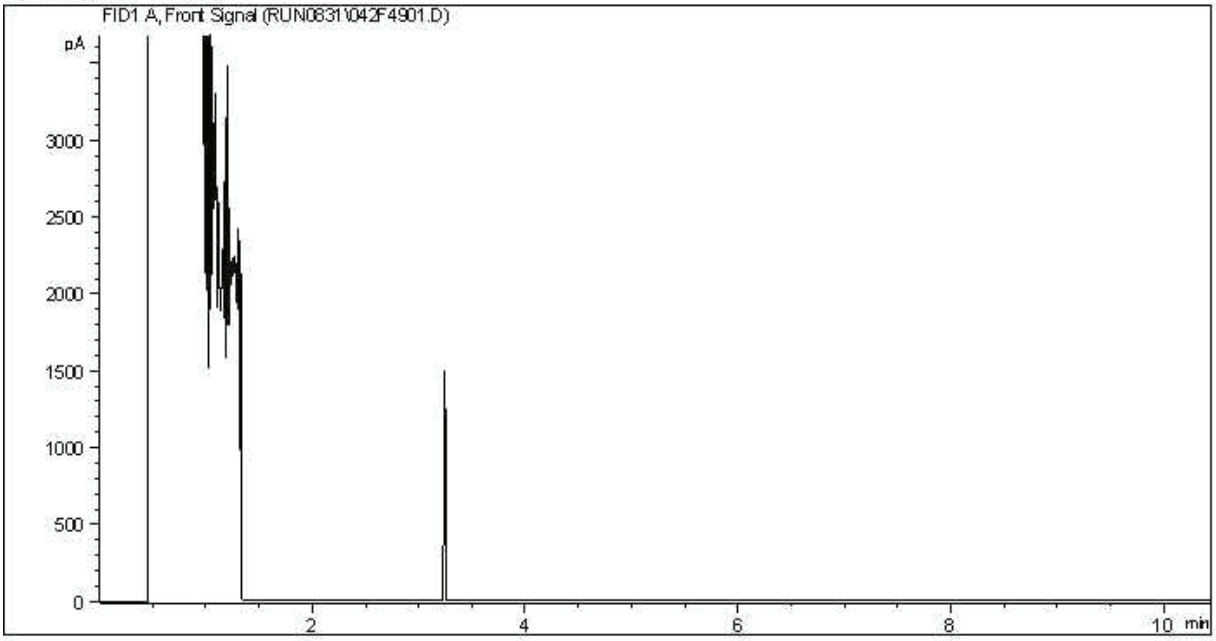
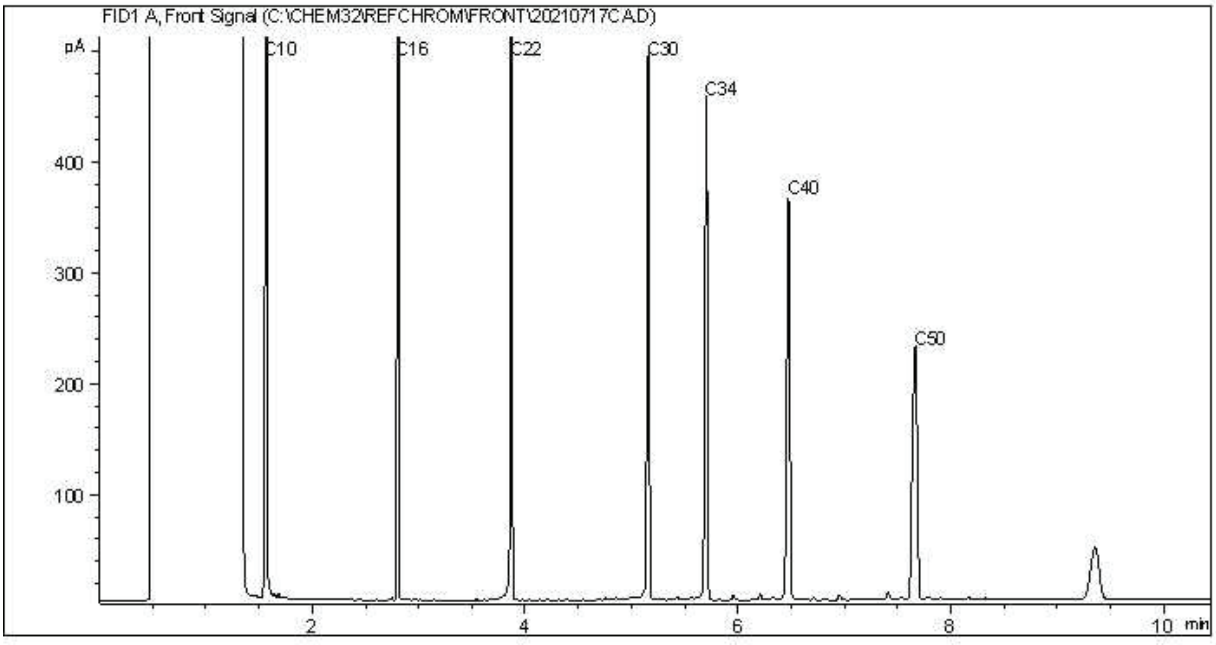


Carbon Range Distribution - Reference Chromatogram



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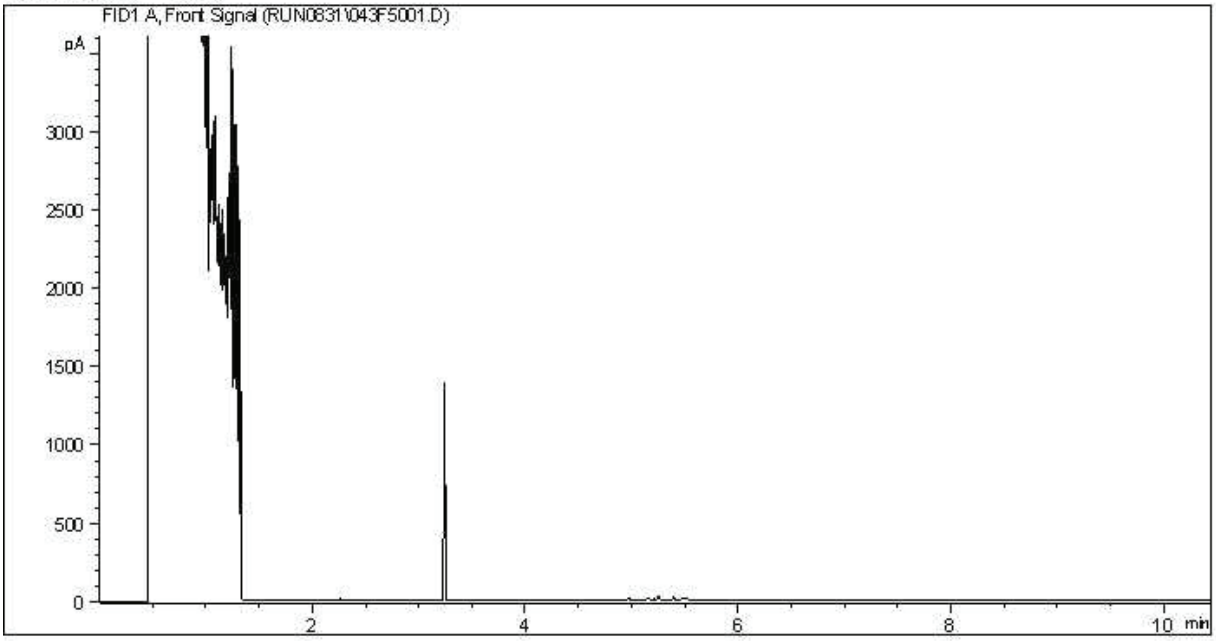
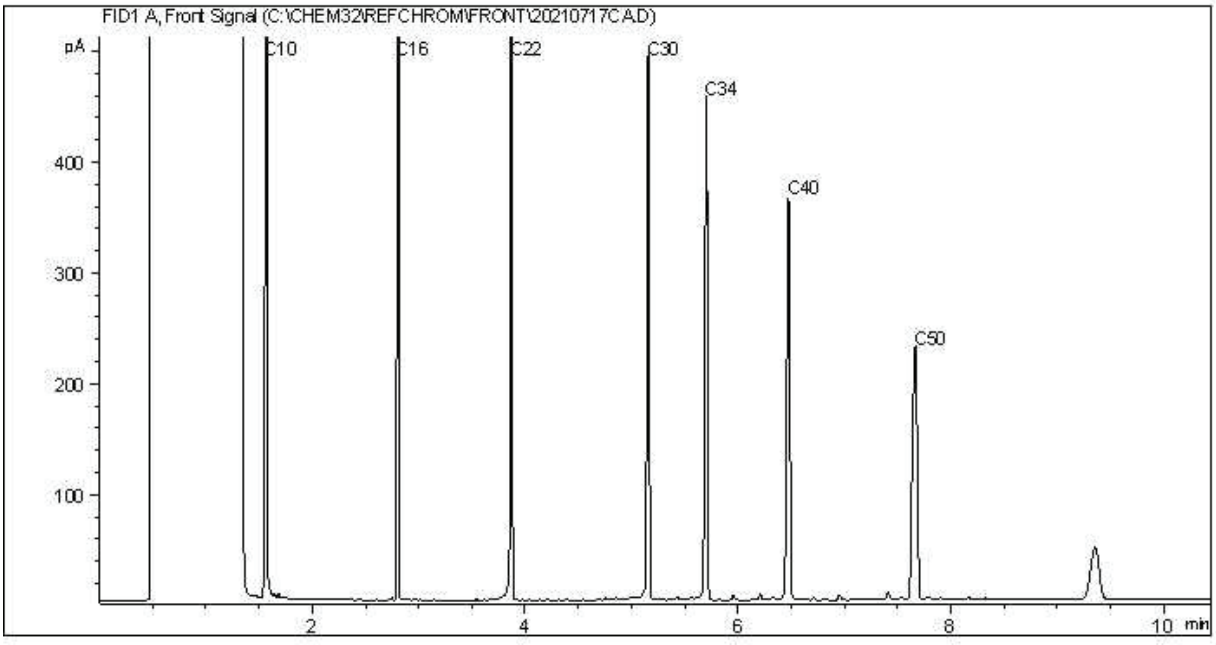


Carbon Range Distribution - Reference Chromatogram



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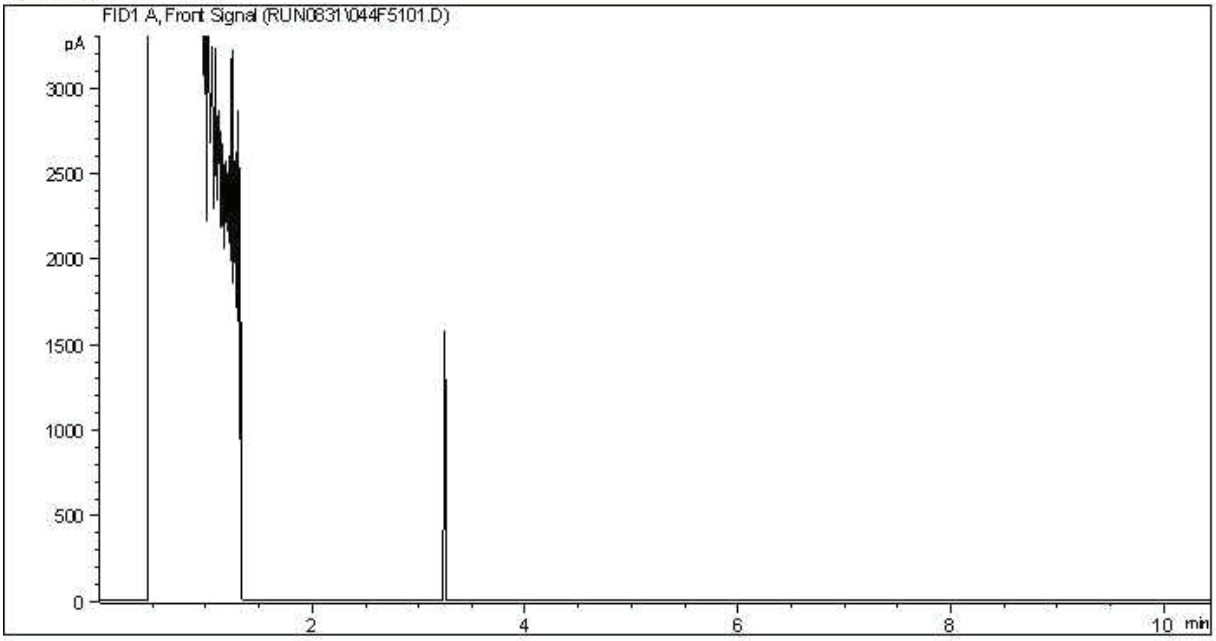
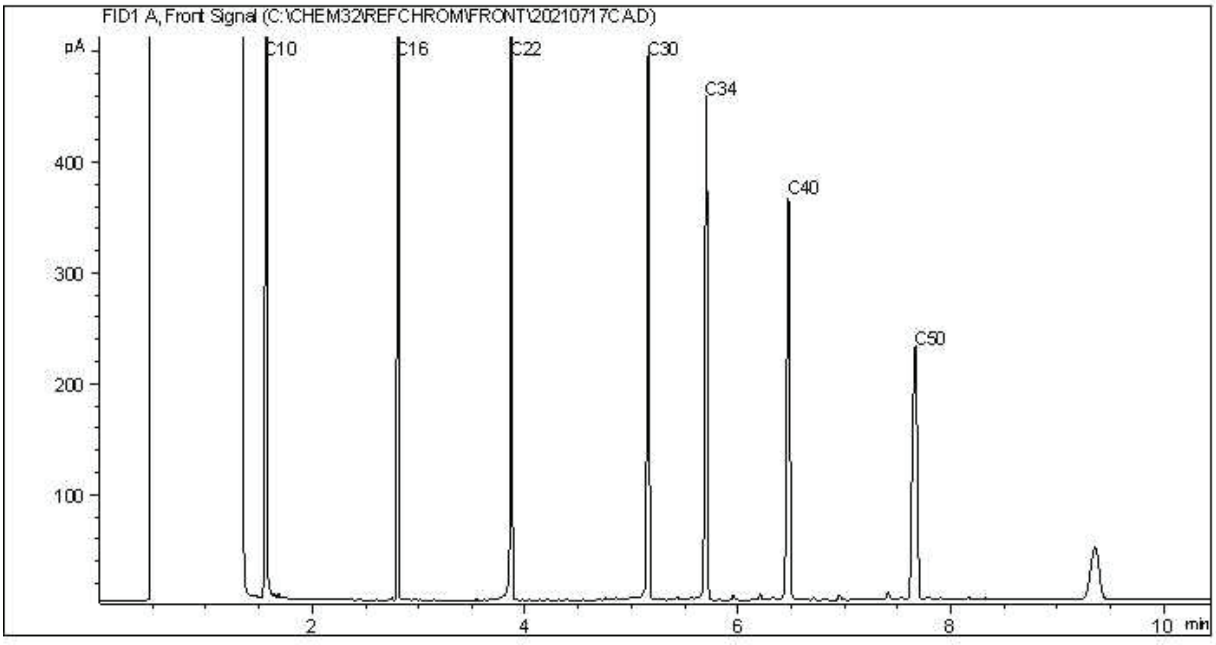


Carbon Range Distribution - Reference Chromatogram



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