

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

VALIDATION SIGNATURE PAGE

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

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

Gita Pokhrel, Laboratory Supervisor

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

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

1/pranica felk

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.

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ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

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ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

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	INVOICE TO:			REPORT TO	ö			H		PROJ	PROJECT INFORMATION	ATION:		Laboratory Use Only:	Jse Only:	_
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Tel (905) 567-6	(905) 567-6100 Ext: 1167 Fax (403) 299-5606	Tel	(403) 299-5600 Fax)0 300 dor 00	Fax			Site #							Carmen McKay	
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Bureau Veritas Canada (2019) Inc.

Project Name Proj	BURETAU ACHITAS	4000 19st N E. Calgary, Alberta Canada T2E 6P8 Tet(403) 291-3077 Toll-free 800-563-6286 Fax(403) 291-9468 www.bvlabs.com INVOICE TO:	'2E 6P8 Tel:(403) 28	91-3077 Toll-free:800	-563-6266 Fax(403)	3) 291-9468	ww.bvlabs.co	E			PPO JECT INEODMATION.	N W W W W W W W W W W W W W W W W W W W	ž	CHAIN	CHAIN OF CUSTODY RECORD	,	
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	•	7 5000	-	(403) 299	- 5600				- Project Nar	те:					COC ##	Project Manager:	
Propriety Choice: Prop		ableinvoices@golder.com		abellavar	ce@golder.cor				Site #:	5					C#644511-72-01	Carmen McKay	
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					PROJ	PROJECT INFORMATION:	ATION:		Laboratory Use Only	se Only:
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	2800, 700 -2nd Street SW	>		Project:	203	20368099-6000-1001	0-1001		(10)	644511
	CALGARY AB T2P 2W2			Project Name:	ne:				COC #:	Project Manager:
	(403) 299-5600 abellavance@golder.com	Fax:		Site #.					M	Carmen McKay
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-	- un	חוממ אוני		84/8	1111	2			Temperature (**) on Receipt	Custody Seal Intact on Cooler?

Bureau Veritas Canada (2019) Inc.

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Bursen Bursen Kannas	Bureau Veritas Laboratories 4000 19st N.E. Calgary, Alberta Canada T2E 6PB Tel (403) 291-3077 Toll-free 800-563-6266 Fax (403) 291-9468 www.bvlabs.com	: 6P8 Tel:(403) 29	11-3077 Toll-free:800-5	63-6266 Fax:(40	3) 291-946	www.bvlabs,	E CO						ΰ	CHAIN OF CUSTODY RECORD	S Hade for	
INVOICE TO:	ö			REPORT TO:	:0.					PROJEC	PROJECT INFORMATION:	ATION:		Laboratory Use Only:	Only:	_
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		Attention:	Aurelie Bel	avance				# Od		20368	20368099-7000-1001	0-1001		110011		1
Address. 2800, 700 -2nd Street SW	A	Address:	2800, 700	2nd Street S	8			Project		20368	20368099-6000-1001	0-1001		5/9/5	044541	
CALGARY AB T2P 2W2			CALGARY	AB T2P 2W2				Project Mamo	Nomo.					#300	Project Manager	1
Tel: (905) 567-6100 Ext: 1167	7 Fax: (403) 299-5606	Tel:	(403) 299-6	9009	Fax			Dafo #	Nalle						- Idea margan	
Email: canadaaccountspayableinvoices@golder.com	invoices@golder.com	Email:	abellavance@golder.com	e@golder.co				Sampled By	d By:					C#644511-77-01	Carmen McKay	
Regulatory Criteria:		Sp	Special Instructions				ANAL	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)	STED (PLEA	SE BE SPEC	IFIC)		-	Turnaround Time (TAT) Required:	equired:	_
ATI					S	1					(1.		Sizion	Please provide advance notice for rush projects	rush projects	1000
a was						ioS i		nois	(TA\3			Regular (Standard) TAT: (will be applied if Rush TAT is not specified):	×	
						F4 ir	si	n∃ 6	muir		CWI	SW/C	. 0) (Standard TAT = 5-7 Working days for most tests.		
Other					red ?	FI-I	isyls lios	et gnisu	is8 s		D) al	y ec		Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for details	contact your Project Manager for	
						pue	nA <u>=</u> ni (8	nitrat ICP i	True	ter		et p		Job Specific Rush TAT (if applies to entire submission)	ion)	1
SAMPLES MIST BE KEDT COOK!	SWITH THE STATE OF ST					ХЭТ	SALE +F3) uoi	sW e	l bət bəvi	tsVV	San	Date Reduil ed. Rush Confirmation Number:		
CONTINUE ON THE DELIVERY TO BY LABOR TIME OF SAMPLING UNTIL DELIVERY TO BY LABS	A 10-C) FROM TIME OF SAMPLING	ON IIL DELIVER	Y TO BV LABS			aja) J. B.	7±7		NE			ni h			(call lab for #)	
ode Labei	Sample (Lucation) Identification	Date Sampled	Time Sampled	Matrix		TA siV)	(F2	_	CCI	Wat		⊣AЧ		# of Bottles	s	_
I MA Ton	TP21-129-03	Si Aug 2021	14:03	729	X	×		×					100	3 TREA		_
1	00p QU	,—	80:41			×										_
1	1021-129-05		14:13		×	×		×					6	2 - Ke 8		-
102	TP21-130-02		14:25			×							3	Received in Yellowknife	llowknife	_
102	TP21-130-04		14:28			×								By: J.Me.	Merekan	_
3	DUP VV		14:23			×			-					SED 10	1001	
7	TP21-130-06		14:35			X									Acm	_
72	1/21-131-01		04:41			×								3 Temp:		
127	- 131 - 03	/	14:41	,		×							H	87		
Jet V 1821	-131-0	>	14:52	5		×								8		_
KELINGUISHED BY: (Signature/Print)	Date	-		RECEIVED BY: (Signature/Print)	Y: (Signatu	re/Print)		Date: ()	Date: (YY/MM/DD)	Time		# jars used and		Laboratory Use Only		_
	12010	5/ 17:	2:00	オルギ	HICIA	Niv.		60/1202	11/6	04:40		submitted	Time Sensitive	F	Custody Seal Intact on Cooler?	
· UNLESS OTHERWISE AGREED TO IN WRITING, WORK SU	JBMITTED ON THIS CHAIN OF CUSTODY	IS SUBJECT TO BV	LABS: STANDARD TERMS	AND CONDITIONS	SIGNING	Tule Cualing	TO DIETONA				-			SEE ACTR	Yes	
WWWB/LABS/COM/TERIS/AND-COOMERT TO SHOW THE CHAIN OF CUSTODY RECORD, AN INCOMPLETE CHAIN OF CLISTODY MAY RESULT IN ANALYTICAL TAT DELAYS.	NSURE THE ACCURACY OF THE CHAIN O	NF CUSTODY RECOF	ID. AN INCOMPLETE CHA	IN OF CUSTOBY M	AY RESULT	N ANALYTICAL	TAT DELAYS	OCCUMENT IS	ACKNOWLED	GMENI AND A	CCEPTANCE	OF OUR TER	MS WHICH AF		White: BV Labs Yellow: Client	

Page 33 of 86

#254 GOLDER ASSOCIATES LTD. Autrelia Belavance Autrelia Belavance Autrelia Belavance Autrelia Belavance Autrelia Belavance 2800, 700 -2nd Street SW CALCONTY AB T2P 2002 CALCONTY AB T2P 2002 CALCONTY AB T2P 2003 CALCONTY AB T2P 2004 CALCONTY AB T2P 200

Bureau Veritas Canada (2015' 1nc.

GOLDER ASSOCIATES LTD.

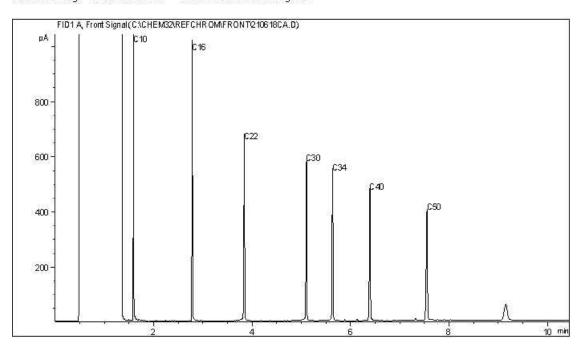
Client Project #: 20368099-6000-1001

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

Client ID: TP21-104-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-104-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

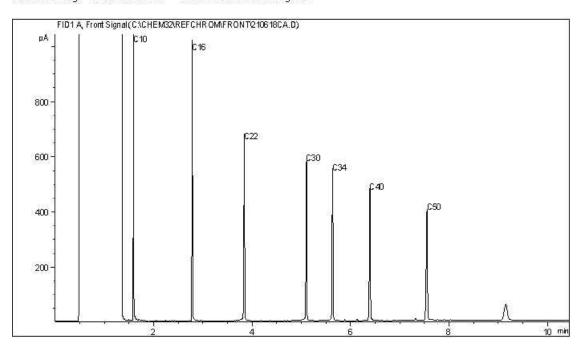
Instrument: GC13

FID1A Front Signal (RUN0916043F4301.D)

pA

350
250
150
100
50-

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

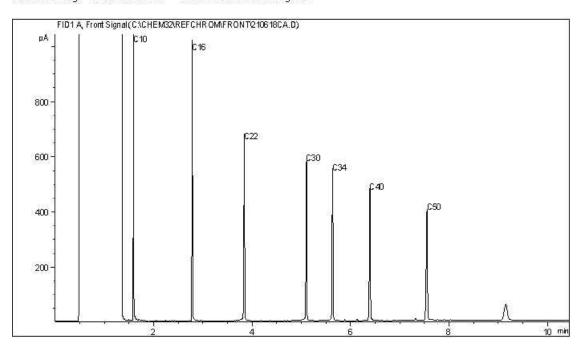
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

10 min

Client ID: TP21-104-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: DUP NN

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

BV Labs Job #: C167913

Report Date: 2021/09/22

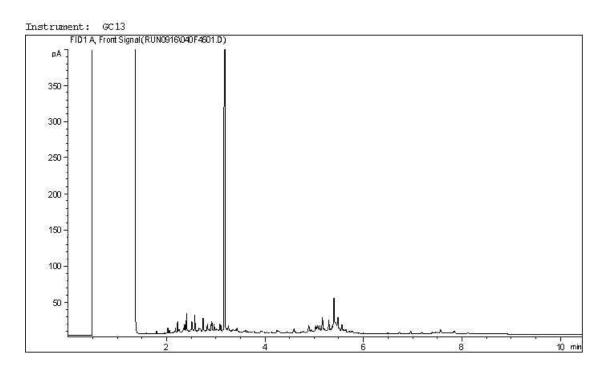
BV Labs Sample: AFU724 Lab-Dup

GOLDER ASSOCIATES LTD. Client Project #: 20368099-6000-1001

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

Client ID: DUP NN

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	: +	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-117-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-117-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13

FID1 A, Front Signal (RUN0916046F5101.D)
pA
330
290
100
50
20 4 6 8 10 min

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

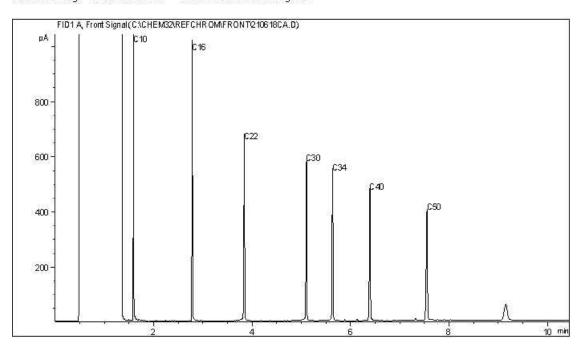
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

10 min

Client ID: TP21-117-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: DUP 00

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13

FID1 A, Front Signal (RUN0916048F5301.D)

pA

330

250

150

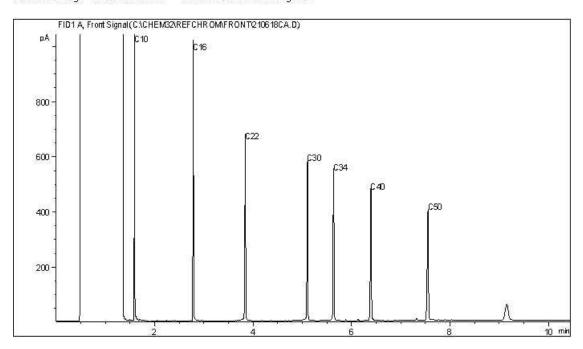
100

50

100

2 4 6 8 10 min

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-118-02

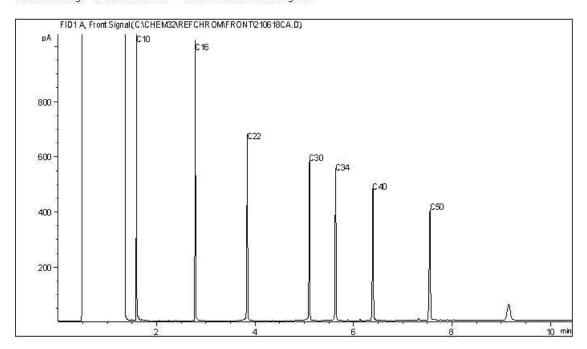
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13

FID1 A Front Signal (RUN0918080F5501.D)

pA 30025015010050-

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+

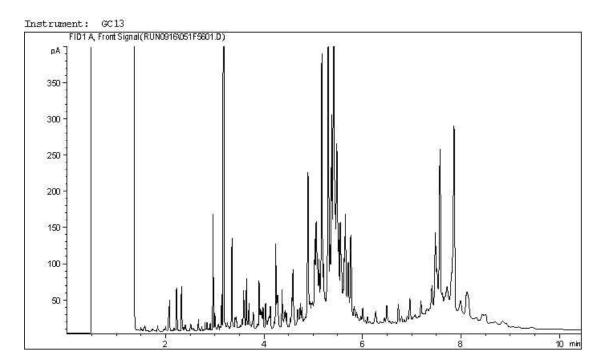
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

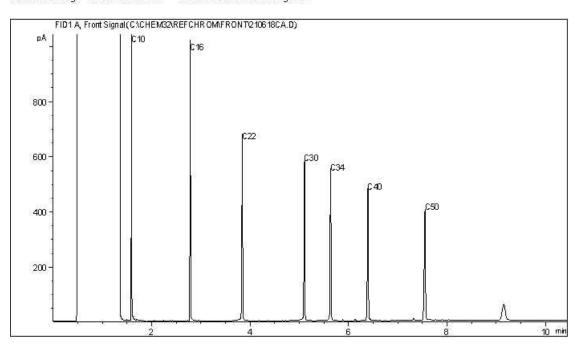
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-118-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

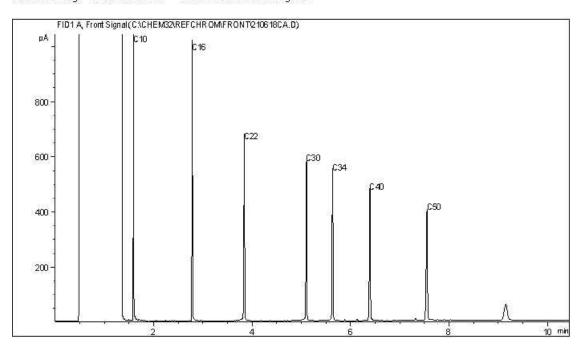
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

10 min

Client ID: TP21-118-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

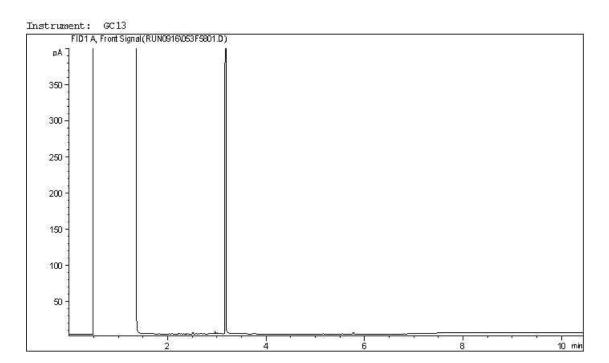
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: DUP PP

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	: +	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-119-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13

FID1 A Front Signal(RUN0916054F5901.D)

pA

300
250
150
100
50-

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-119-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

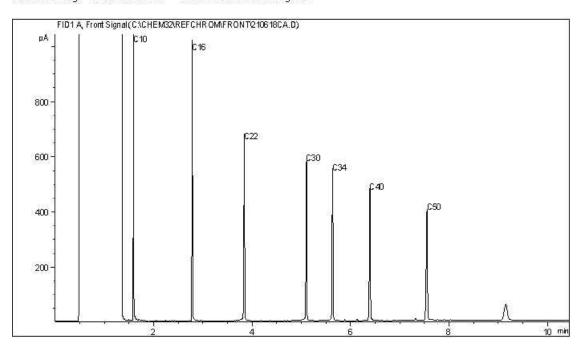
Instrument: GC13

FID1A Front Signal(RUN0916055F6001.D)

pA

350
250
150
100
50-

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+

GOLDER ASSOCIATES LTD.

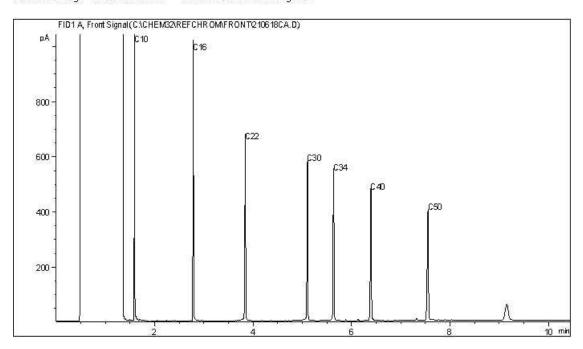
Client Project #: 20368099-6000-1001

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

Client ID: DUP QQ

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-119-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13

FID1A, Front Signal(RUN0916068F6301.D)

pA

3002501501005020 4 6 8 10 min

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+

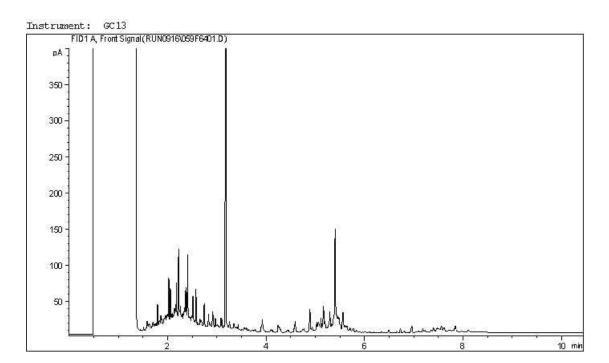
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

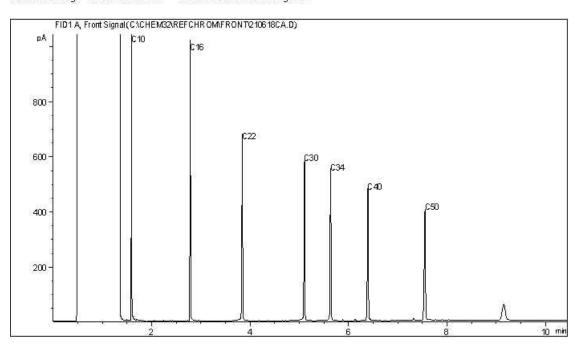
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-120-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

50

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-120-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

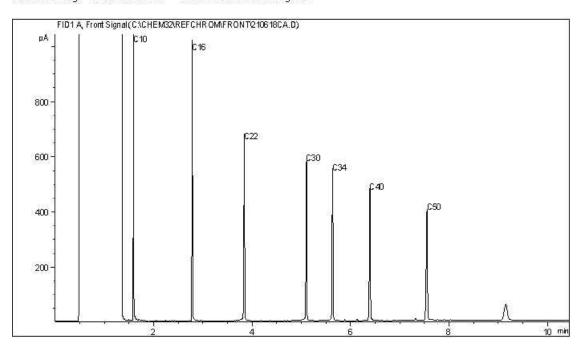
Instrument: GC13

FID1 A Front Signal (RUN0916060F6501.D)

pA

350250150100-

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: DUP RR

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

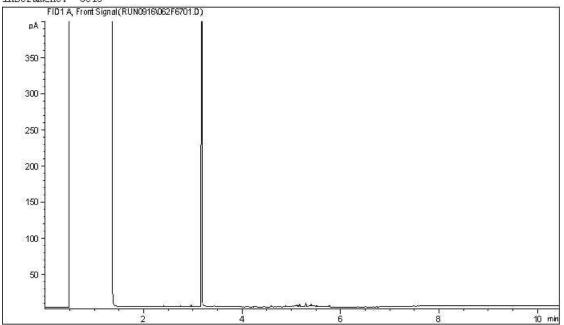
Client Project #: 20368099-6000-1001

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

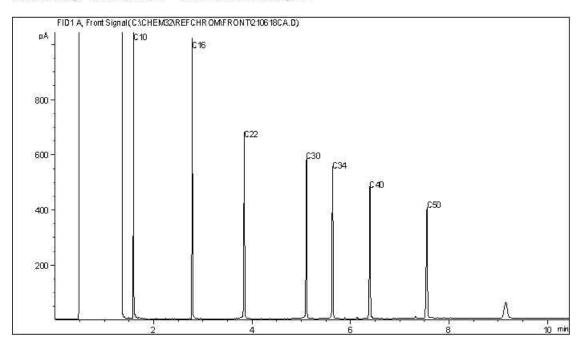
Client ID: TP21-120-06

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 Lubricating Oils: Varsol: c8 - c12 c20 - c40 c7 - c16 c3 - c60+ Kerosene: Crude Oils:

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

14 min

Client ID: TP21-104-05

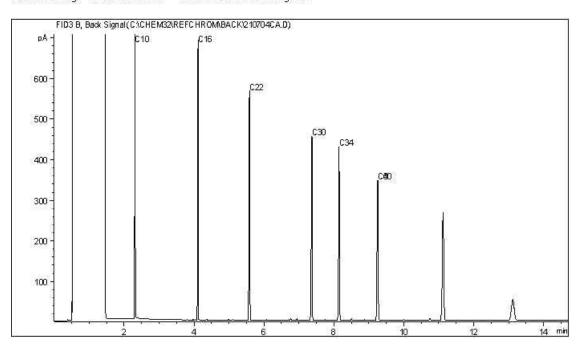
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Tinstrument: GC19

FID3 B, Back Signal(RUN0915046BA801.0)

aA
40003500250015001500500-

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+

GOLDER ASSOCIATES LTD.

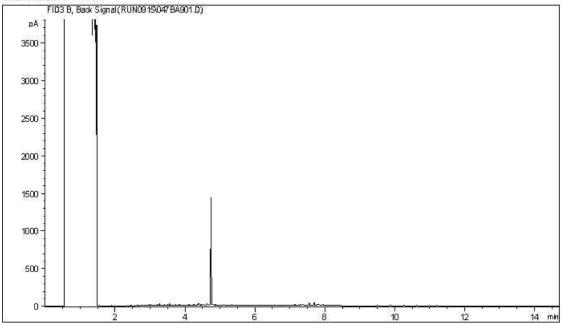
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Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

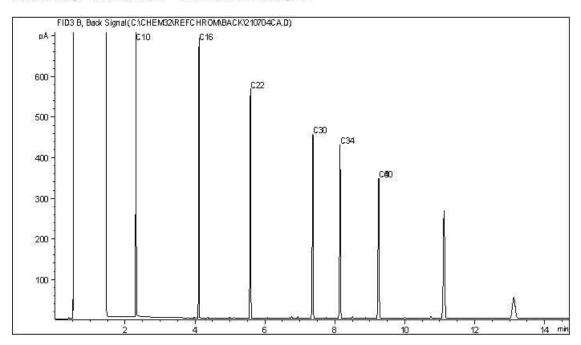
Client ID: TP21-121-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

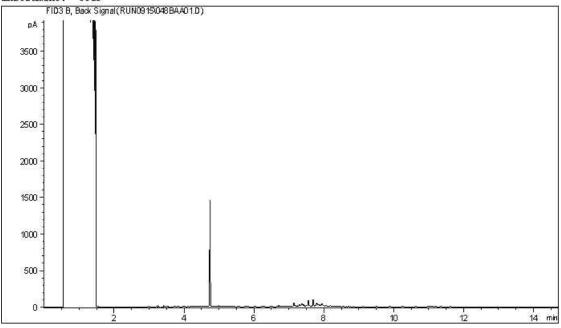
Client Project #: 20368099-6000-1001

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

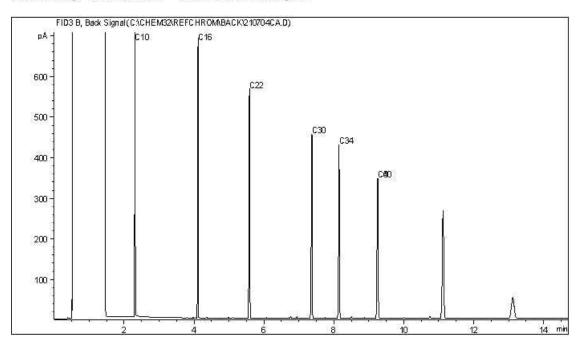
Client ID: TP21-121-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

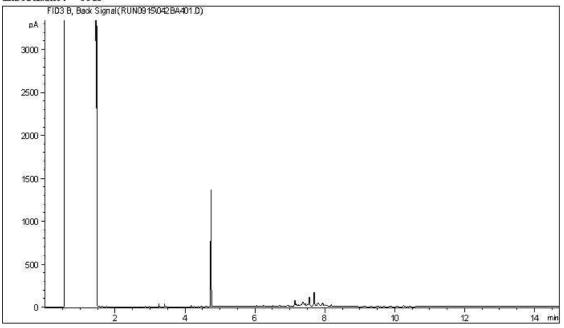
Client Project #: 20368099-6000-1001

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

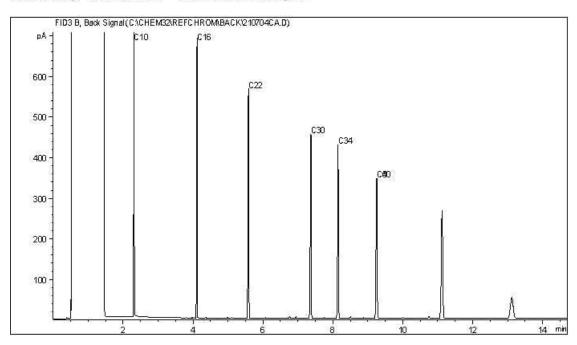
Client ID: TP21-121-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

BV Labs Job #: C167913 Report Date: 2021/09/22

BV Labs Sample: AFU744 Lab-Dup

GOLDER ASSOCIATES LTD.

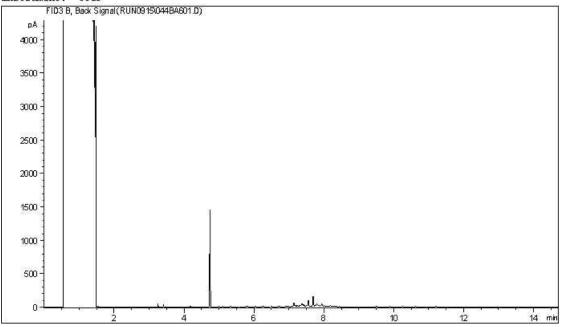
Client Project #: 20368099-6000-1001

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

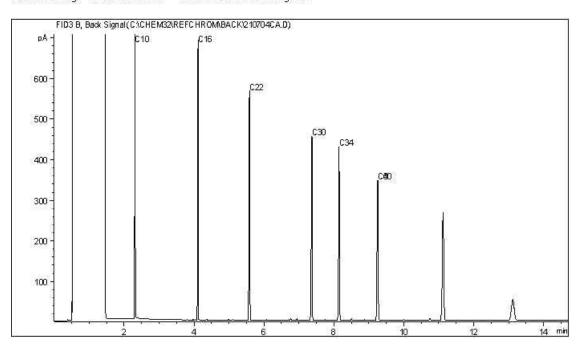
Client ID: TP21-121-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

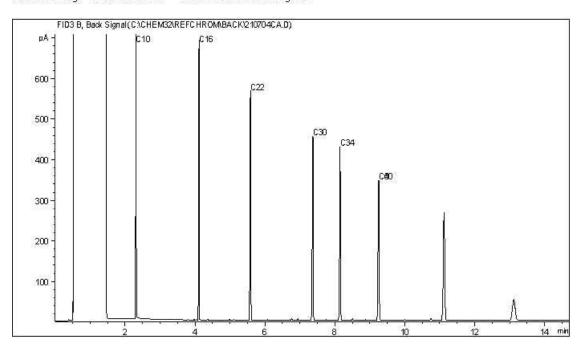
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

14 min

Client ID: DUP SS

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-122-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2B, (RUN09160638B3801.D)

pA

330

250

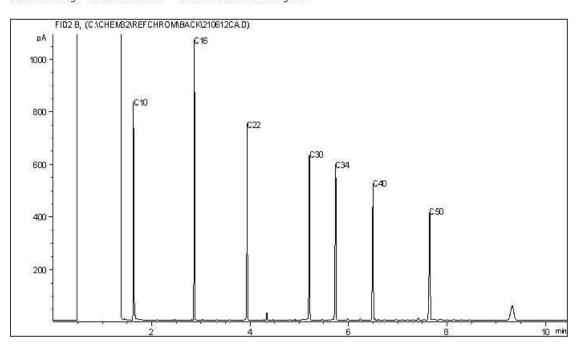
150

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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+

GOLDER ASSOCIATES LTD.

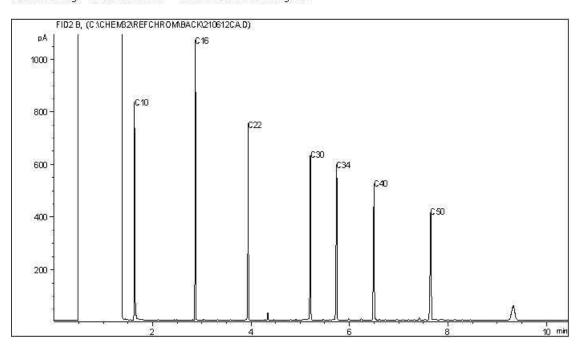
Client Project #: 20368099-6000-1001

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

Client ID: TP21-122-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-122-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

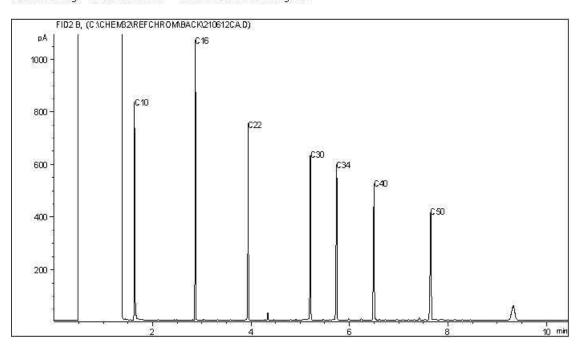
Instrument: GC10

FID2 B, (RUN0915036884101.0)

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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+

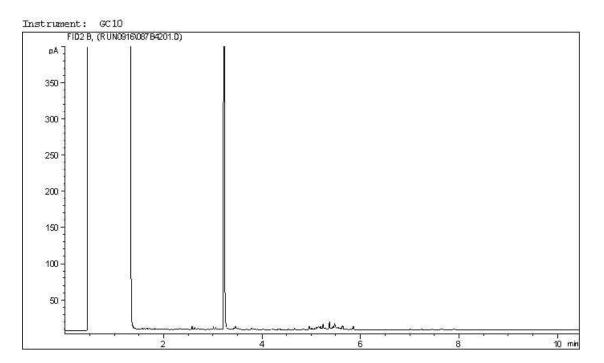
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Client Project #: 20368099-6000-1001

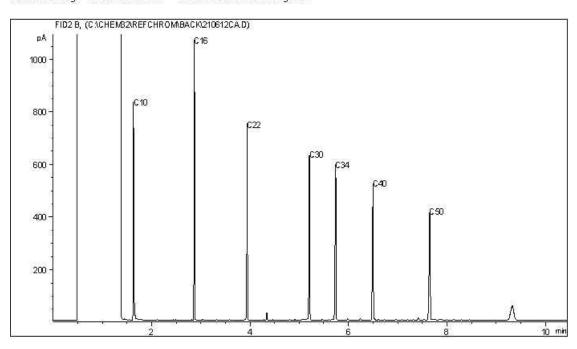
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP TT

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-129-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2 B, (RUN0916088B4301.0)

pA

350

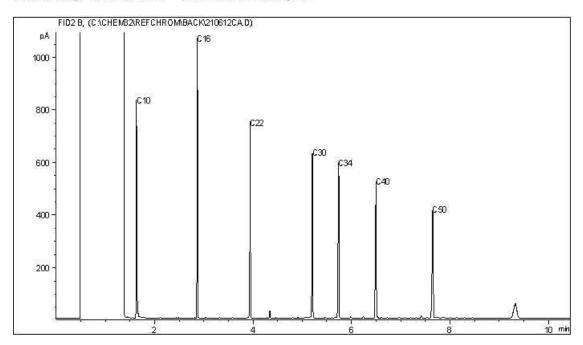
250

150

100

50

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-129-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2 B, (RUN091608984401.0)

pA

300

250

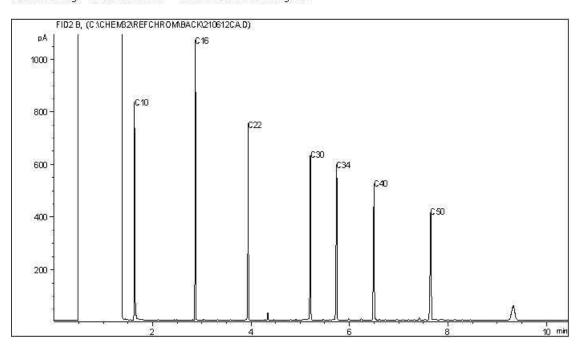
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2 4 6 8 10 min

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+

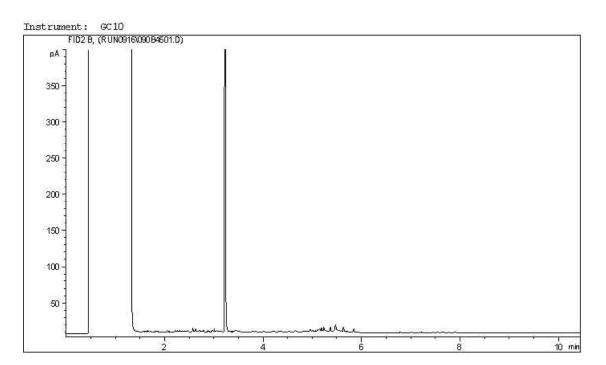
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

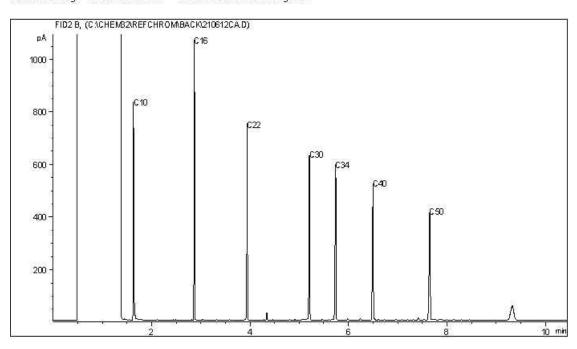
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP UU

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

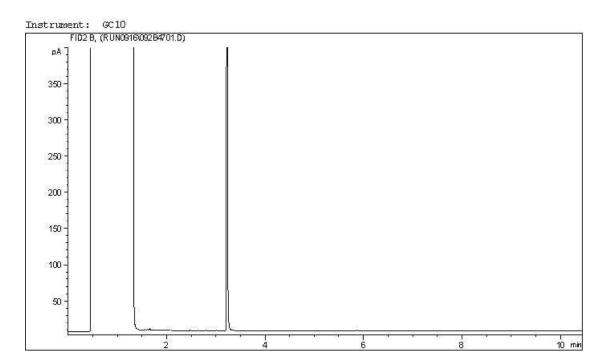
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Client Project #: 20368099-6000-1001

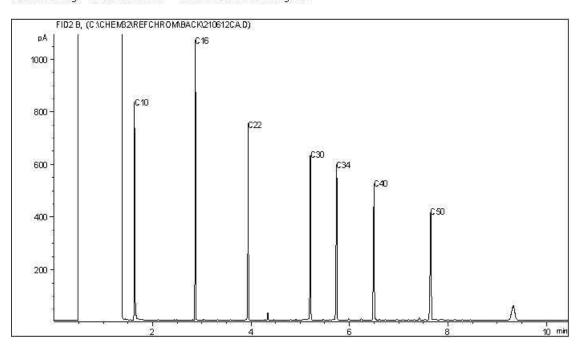
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-129-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-130-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2 B, (RUN091809384801.0)

pA

390

290

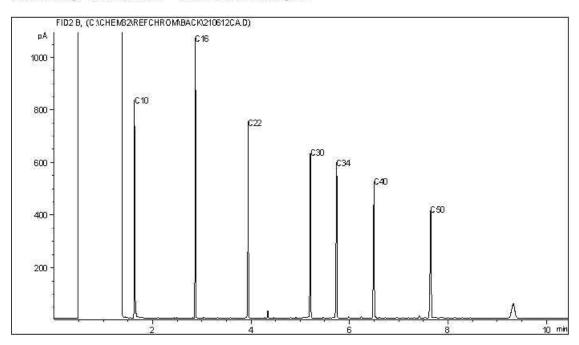
100

100

50

10 ph

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+

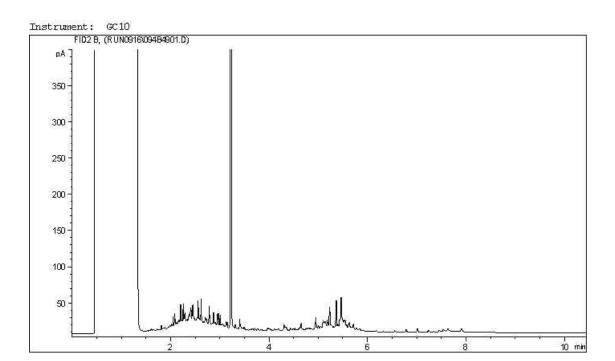
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

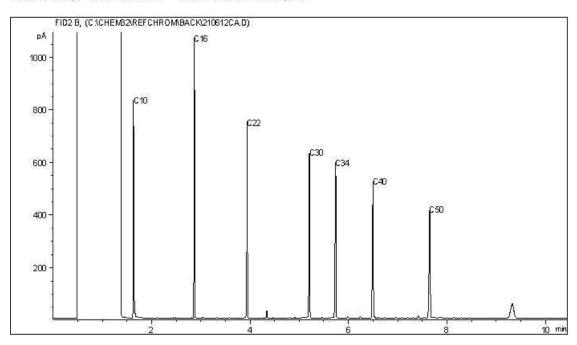
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-130-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

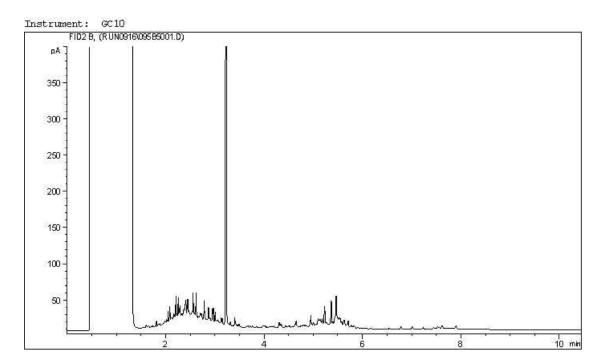
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

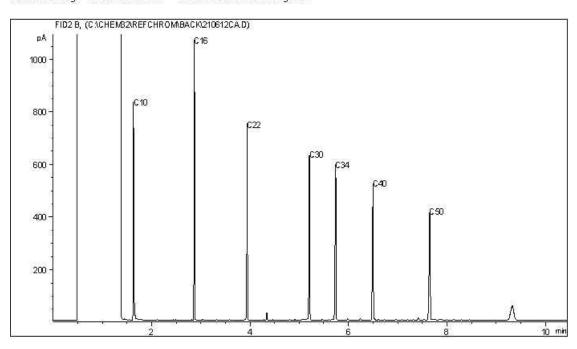
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP VV

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

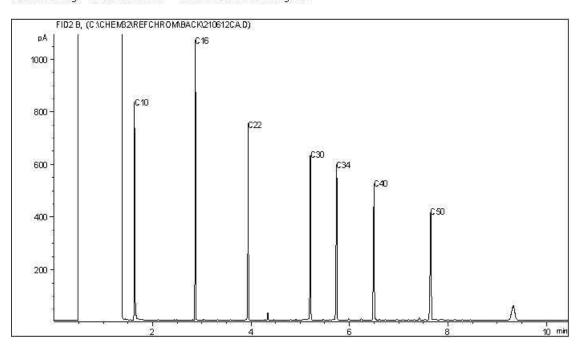
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-130-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10
FID2B, (RUN0916096B5101.D)
pA
330
250
150
10050

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+

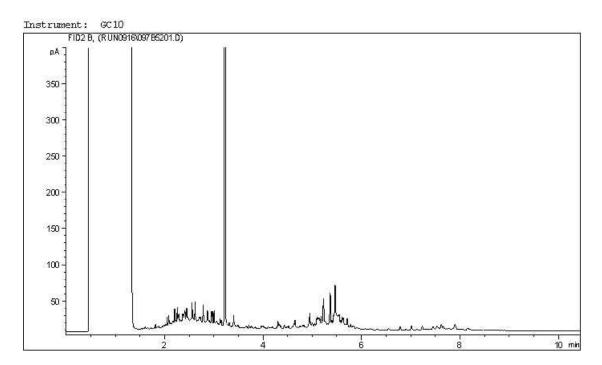
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

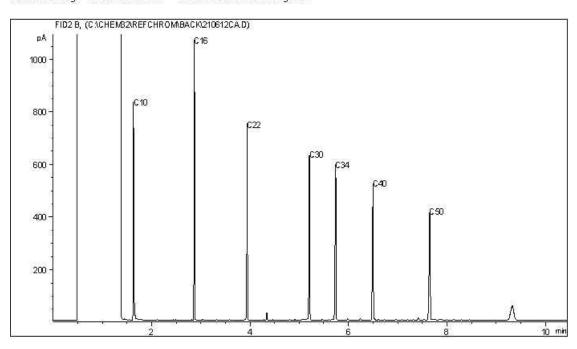
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-131-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

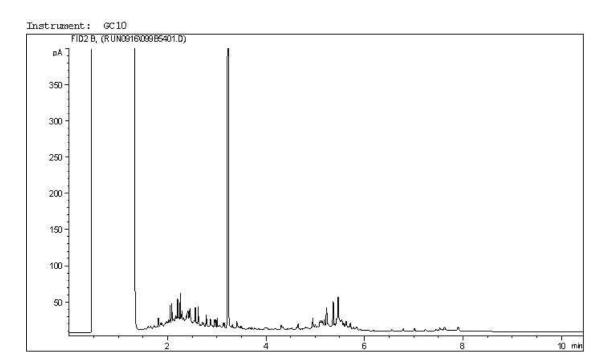
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

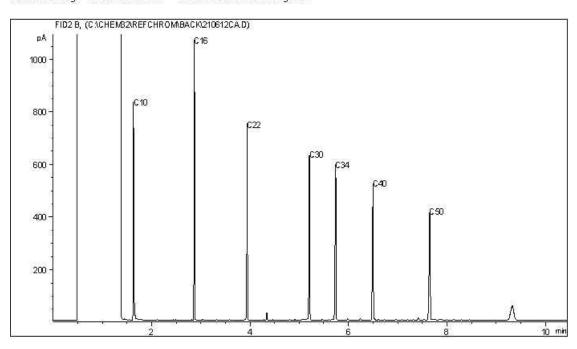
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-131-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	1	C12	Diesel:	c8	100	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

GOLDER ASSOCIATES LTD.

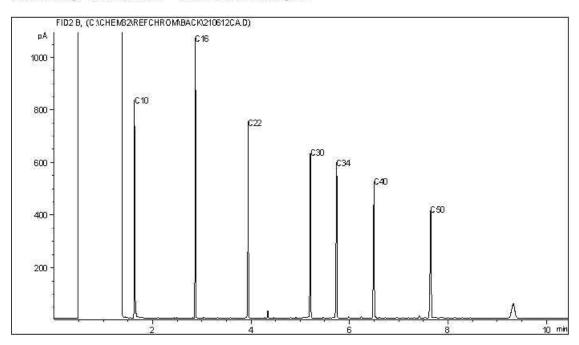
Client Project #: 20368099-6000-1001

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

Client ID: TP21-131-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

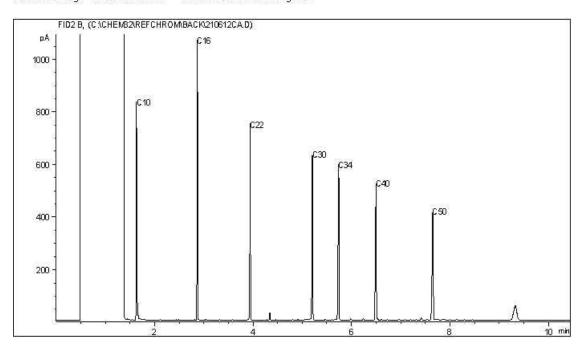
Client Project #: 20368099-6000-1001

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

Client ID: TP21-132-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

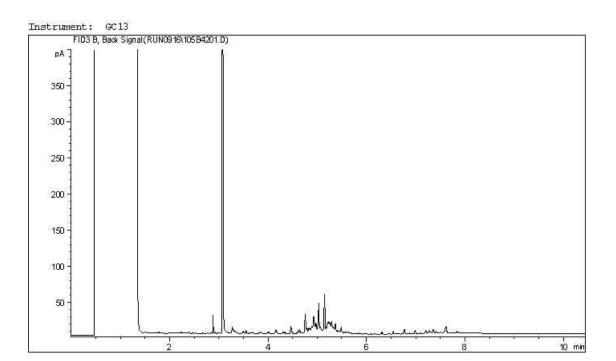
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

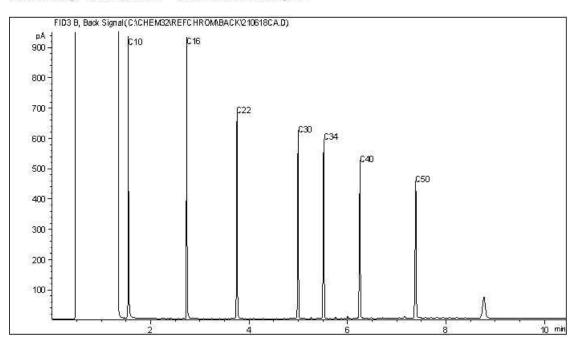
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-132-04

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

BV Labs Job #: C167913

Report Date: 2021/09/22

BV Labs Sample: AFU762 Lab-Dup

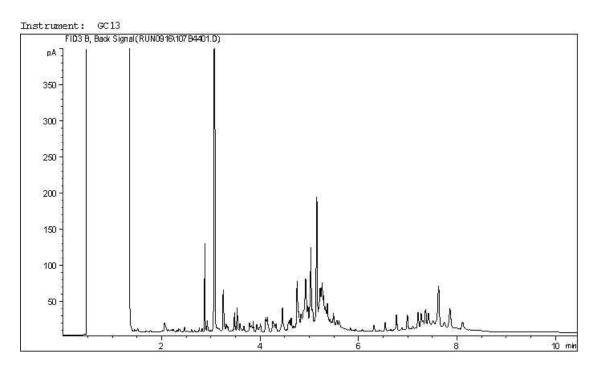
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

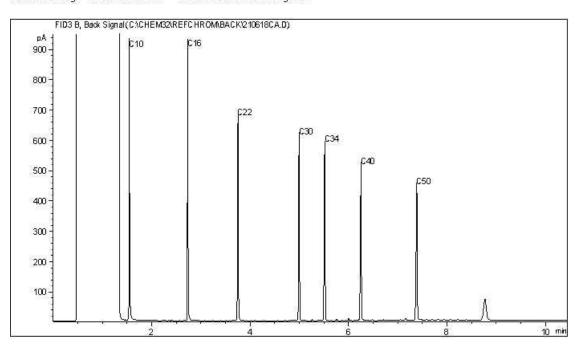
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-132-04

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	1	C12	Diesel:	c8	100	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

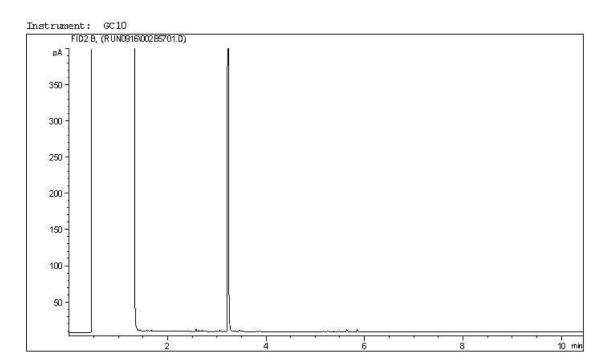
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

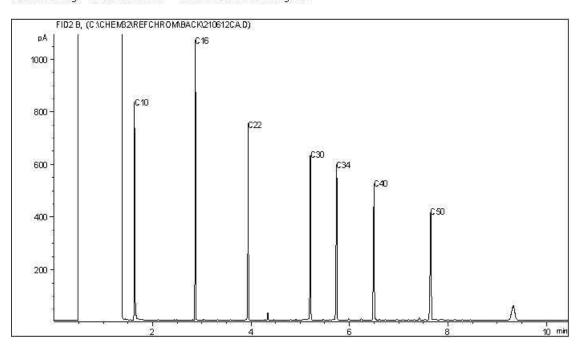
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-132-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-133-02

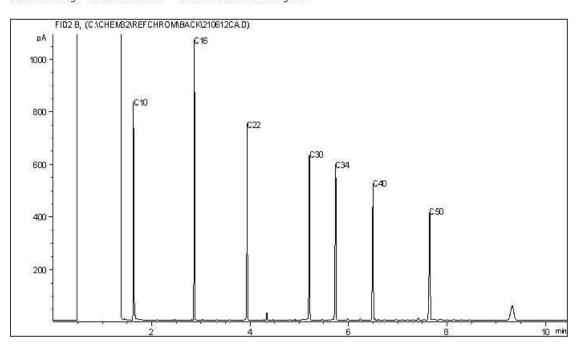
CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2B, (RUN0916080B3S01.D)

1000
800
400
200
200
2 4 6 8 8 10 min

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+

BV Labs Job #: C167913 Report Date: 2021/09/22

BV Labs Sample: AFU764 Lab-Dup

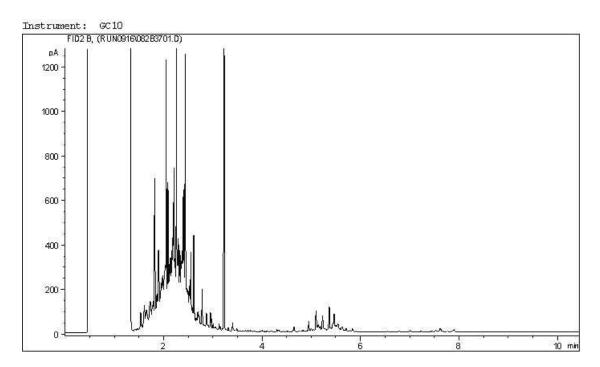
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

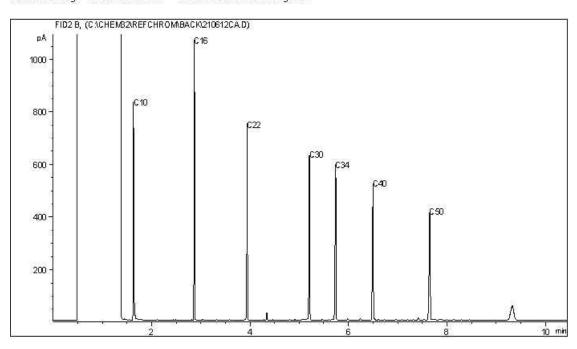
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-133-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4 -	C12	Diesel:	c8 -	C22
Varsol:	c8 -	C12	Lubricating Oils:	C20 -	C40
Kerosene:	c7 -	C16	Crude Oils:	c3 -	C60+

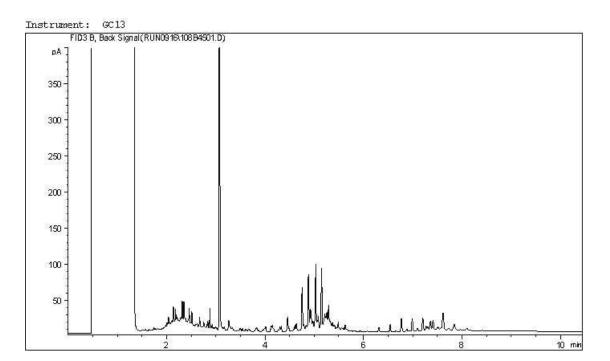
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

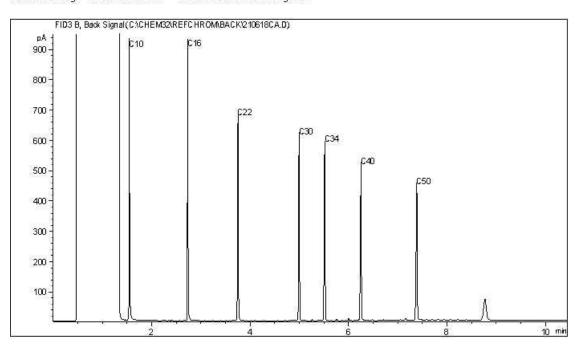
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-133-03

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	1	C12	Diesel:	c8	100	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

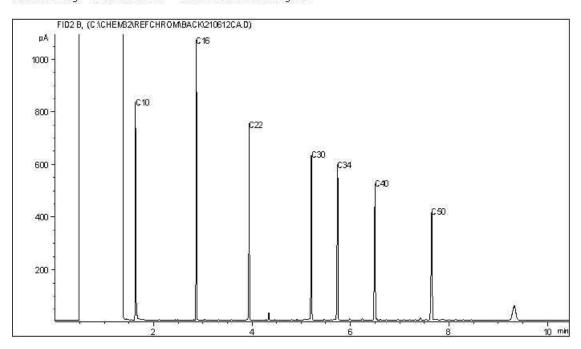
Client ID: TP21-133-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10
FID2B, (RUN0916003B5801.D)

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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+

GOLDER ASSOCIATES LTD.

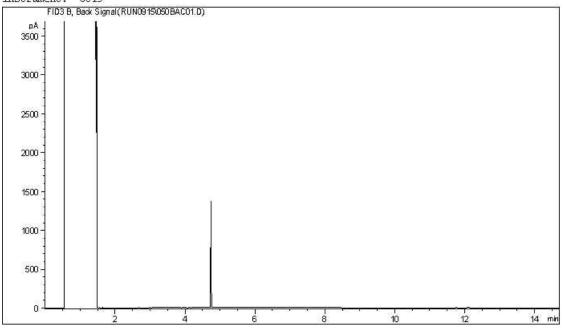
Client Project #: 20368099-6000-1001

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

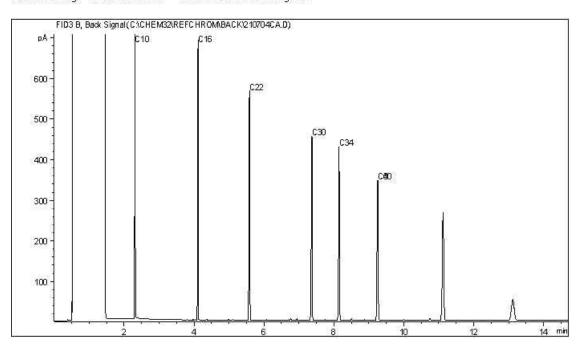
Client ID: TP21-131-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

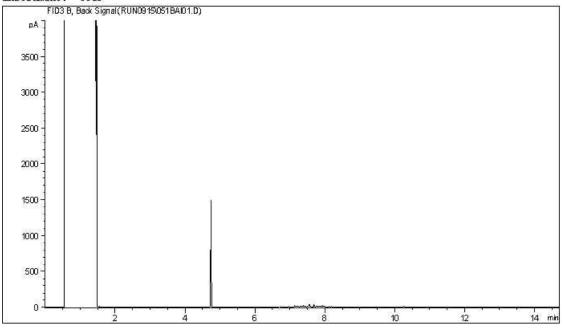
Client Project #: 20368099-6000-1001

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

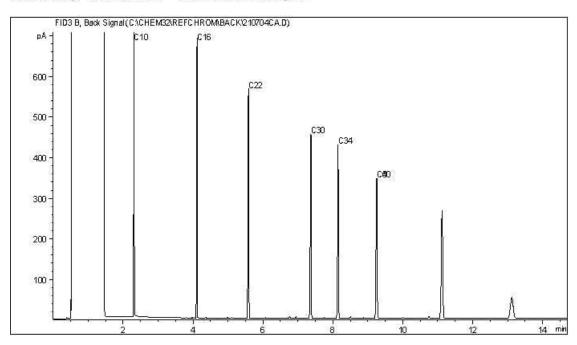
Client ID: TP21-133-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC19



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-132-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2 B, (RUN091600485901.0)

pA

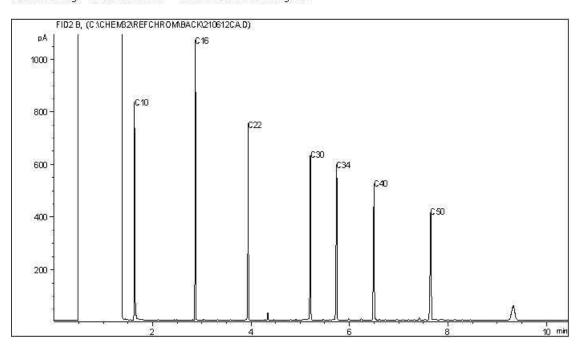
350

250

100

50

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+

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell				Sampling Date: August 31, 2021					
Golder Project Number: 203	368099-600	00-1001	[Laboratory: Bureau Veritas Edmonton					
Lab Submission Number: C10	67913								
Was the Cooler Received at the lab un Was proper chain of custody of the sa Were sample temperatures acceptable Were all samples analyzed and extract Has lab warranted all tests were in sta Was sufficient sample provided for th Has lab warranted all samples were an	amples doc when they eted within atistical cor he requested	umented reached hold tire trol in the damaly.	d and keped lab?: mes?: CoA?: sis?	Yes Yes Yes Yes Yes Yes Yes Yes					
Are All Laboratory QC Within Accep	otance Crite	eria (Ye	es, No, N	ot Applicable)?					
Surrogate Recovery Method Blank Concentration Laboratory Duplicate RPD Matrix Spike Recovery Blank Spike Recovery	Yes X X X X X	No X	NA	Comments Laboratory duplicte RPD recovery for F3B (C22-C34) (102%) exceeded the acceptance criteria of (40%). All remaining laboratory QC results are within acceptance criteria.					
Are All Field QC Samples Within Ald	ert Limits (Yes, No	o, Not A _l	oplicable)?					
,	Yes	No	NA	Comments					
Field Blank Concentration			X	All field QC samples are within					
Trip Blank Concentration Field Duplicate RPD	X		X	alert limits.					
Is data considered reliable (Yes/No/S If answer is "No" or "Suspect", descri		ovide ra	tionale:	Yes					
Data Reviewed by (Print): Ani	ita Colbert			Data Reviewed by (Signature):					
Date: Sep	ptember 21	, 2021							



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

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

Territories

Your C.O.C. #: 644511-87-01, 644511-89-01

Attention: Aurelie Belavance

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

CANADA T2P 2W2

> Report Date: 2021/09/28 Report #: R3077660

Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C167916 Received: 2021/09/10, 09:00

Sample Matrix: Soil # Samples Received: 16

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Barium on ICP using Fusion Extraction (1)	8	2021/09/20	2021/09/21	AB SOP-00044 / AB SOP-00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	16	N/A	2021/09/16	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	16	N/A	2021/09/17		Auto Calc
Hexavalent Chromium (1, 3)	10	2021/09/17	2021/09/17	AB SOP-00063	SM 23 3500-Cr B m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	9	2021/09/16	2021/09/17	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 4)	7	2021/09/16	2021/09/18	AB SOP-00036	CCME PHC-CWS m
Elements by ICPMS - Soils (1)	2	2021/09/16	2021/09/16	AB SOP-00001 / AB SOP- 00043	EPA 6020b R2 m
Elements by ICPMS - Soils (1)	8	2021/09/17	2021/09/17	AB SOP-00001 / AB SOP-00043	EPA 6020b R2 m
Moisture (1)	16	N/A	2021/09/17	AB SOP-00002	CCME PHC-CWS m
Nitrate-N (soluble) (1)	8	2021/09/13	2021/09/18		Auto Calc
Benzo[a]pyrene Equivalency (1)	8	N/A	2021/09/18		Auto Calc
PAH in Soil by GC/MS (1)	8	2021/09/16	2021/09/18	AB SOP-00036 / AB SOP-00003	EPA 3540C/8270E m
Soluble Ions (1)	2	2021/09/16	2021/09/17	AB SOP-00033 / AB SOP- 00042	EPA 6010d R5 m
Soluble Ions (1)	8	2021/09/17	2021/09/19	AB SOP-00033 / AB SOP- 00042	EPA 6010d R5 m
Soluble Paste (1)	2	2021/09/16	2021/09/16	AB SOP-00033	Carter 2nd ed 15.2 m
Soluble Paste (1)	8	2021/09/17	2021/09/17	AB SOP-00033	Carter 2nd ed 15.2 m
Soluble Boron Calculation (1)	2	N/A	2021/09/18		Auto Calc
Soluble Boron Calculation (1)	8	N/A	2021/09/19		Auto Calc
Soluble Ions Calculation (1)	10	N/A	2021/09/28		Auto Calc
VOCs in Soil by HS GC/MS (Std List) (1, 2)	2	N/A	2021/09/15	AB SOP-00056	EPA 5021a/8260d 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



Attention: Aurelie Belavance

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

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

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

Territories

Your C.O.C. #: 644511-87-01, 644511-89-01

Report Date: 2021/09/28

Report #: R3077660 Version: 4 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C167916 Received: 2021/09/10. 09:00

writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

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

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

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

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

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

- * RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
- (1) This test was performed by Bureau Veritas Calgary, 4000 19 St., Calgary, AB, T2E 6P8
- (2) 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.

Encryption Key

Lateshia Lee Supervisor, Project Submissions and Support 28 Sep 2021 17:10:23

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.



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

			_		_		_		_
BV Labs ID		AFU815	AFU816	AFU817	AFU818	AFU819	AFU820		
Sampling Date		2021/09/04	2021/09/04	2021/09/04	2021/09/04	2021/09/04	2021/09/04		
Sampling Date		10:01	10:02	10:05	09:57	09:59	10:00		
COC Number		644511-87-01	644511-87-01	644511-87-01	644511-87-01	644511-87-01	644511-87-01		
	UNITS	TP21-190-02	TP21-190-04	TP21-190-06	TP21-191-02	TP21-191-04	TP21-191-06	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	15	41	<10	<10	<10	<10	10	A355623
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	140	<50	<50	<50	<50	50	A355623
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	<50	<50	50	A355623
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A355623
Physical Properties									
Moisture	%	5.3	14	8.3	3.8	4.9	15	0.30	A355624
Volatiles	•	•	-	•		•	•	·	-
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	0.045	A350570
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	<10	<10	10	A350570
Field Preserved Volatiles	•	•	-	•		•	•	·	-
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A351760
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A351760
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A351760
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	A351760
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A351760
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	<10	<10	10	A351760
Surrogate Recovery (%)	•	•	-	•		•	•	·	-
1,4-Difluorobenzene (sur.)	%	100	98	100	101	99	99	N/A	A351760
4-Bromofluorobenzene (sur.)	%	98	97	96	95	98	96	N/A	A351760
D10-o-Xylene (sur.)	%	98	109	102	98	94	97	N/A	A351760
D4-1,2-Dichloroethane (sur.)	%	102	102	101	103	104	101	N/A	A351760
O-TERPHENYL (sur.)	%	79	83	82	81	76	84	N/A	A355623
RDL = Reportable Detection Lir	mit								

RDL = Reportable Detection Limit



Report Date: 2021/09/28

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU821	AFU822		AFU823	AFU823	1	
		2021/09/04	2021/09/04		2021/09/04	2021/09/04		
Sampling Date		11:25	11:30		11:42	11:42		
COC Number		644511-87-01	644511-87-01		644511-87-01	644511-87-01		
	UNITS		HA21-192-02			HA21-193-01 Lab-Dup	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	A355623	<10	N/A	10	A355625
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	A355623	<50	N/A	50	A355625
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A355623	<50	N/A	50	A355625
Reached Baseline at C50	mg/kg	Yes	Yes	A355623	Yes	N/A	N/A	A355625
Physical Properties	· L	•			•	•		I.
Moisture	%	7.2	11	A355624	9.0	8.2	0.30	A355624
Volatiles	•	•		•		•	•	•
Xylenes (Total)	mg/kg	<0.045	<0.045	A350570	<0.045	N/A	0.045	A350570
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A350570	<10	N/A	10	A350570
Field Preserved Volatiles	•					-	•	•
Benzene	mg/kg	<0.0050	<0.0050	A351760	<0.0050	N/A	0.0050	A351760
Toluene	mg/kg	<0.050	<0.050	A351760	<0.050	N/A	0.050	A351760
Ethylbenzene	mg/kg	<0.010	<0.010	A351760	<0.010	N/A	0.010	A351760
m & p-Xylene	mg/kg	<0.040	<0.040	A351760	<0.040	N/A	0.040	A351760
o-Xylene	mg/kg	<0.020	<0.020	A351760	<0.020	N/A	0.020	A351760
F1 (C6-C10)	mg/kg	<10	<10	A351760	<10	N/A	10	A351760
Surrogate Recovery (%)	•					-	•	•
1,4-Difluorobenzene (sur.)	%	100	99	A351760	98	N/A	N/A	A351760
4-Bromofluorobenzene (sur.)	%	95	96	A351760	96	N/A	N/A	A351760
D10-o-Xylene (sur.)	%	99	100	A351760	103	N/A	N/A	A351760
D4-1,2-Dichloroethane (sur.)	%	104	102	A351760	102	N/A	N/A	A351760
O-TERPHENYL (sur.)	%	81	81	A355623	99	N/A	N/A	A355625
RDI = Reportable Detection Li	mit							

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate



Report Date: 2021/09/28

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU824	AFU824		AFU825	AFU826		
Sampling Date		2021/09/04	2021/09/04		2021/09/04	2021/09/04		
Sampling Date		11:45	11:45		13:30	13:50		
COC Number		644511-87-01	644511-87-01		644511-89-01	644511-89-01		
	UNITS	HA21-193-02	HA21-193-02 Lab-Dup	QC Batch	HA21-194-01	HA21-194-02	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	A355625	25	66	10	A355623
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	A355625	210	950	50	A355623
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A355625	85	690	50	A355623
Reached Baseline at C50	mg/kg	Yes	Yes	A355625	Yes	Yes	N/A	A355623
Physical Properties								
Moisture	%	5.8	N/A	A355626	6.3	4.3	0.30	A355624
Volatiles	•			•			=	
Xylenes (Total)	mg/kg	<0.045	N/A	A350570	<0.045	<0.045	0.045	A350570
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	A350570	<10	<10	10	A350570
Field Preserved Volatiles	-	•	-	•	•	•	=	
Benzene	mg/kg	<0.0050	N/A	A351760	<0.0050	<0.0050	0.0050	A351760
Toluene	mg/kg	<0.050	N/A	A351760	<0.050	<0.050	0.050	A351760
Ethylbenzene	mg/kg	<0.010	N/A	A351760	<0.010	<0.010	0.010	A351760
m & p-Xylene	mg/kg	<0.040	N/A	A351760	<0.040	<0.040	0.040	A351760
o-Xylene	mg/kg	<0.020	N/A	A351760	<0.020	<0.020	0.020	A351760
F1 (C6-C10)	mg/kg	<10	N/A	A351760	<10	<10	10	A351760
Surrogate Recovery (%)	•		-	•	•	•	=	
1,4-Difluorobenzene (sur.)	%	99	N/A	A351760	101	100	N/A	A351760
4-Bromofluorobenzene (sur.)	%	96	N/A	A351760	95	95	N/A	A351760
D10-o-Xylene (sur.)	%	105	N/A	A351760	102	100	N/A	A351760
D4-1,2-Dichloroethane (sur.)	%	101	N/A	A351760	101	103	N/A	A351760
O-TERPHENYL (sur.)	%	92	89	A355625	76	80	N/A	A355623
RDI - Reportable Detection Lie	mit							

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU827	l	AFU828		AFU829	İ	AFU830		l
BV Labs ID										
Sampling Date		2021/09/04 13:55		2021/09/04 11:40		2021/09/04 11:15		2021/09/04 11:20		
COC Number										
COC Number		644511-89-01		644511-89-01		644511-89-01		644511-89-01		
	UNITS	FM21-01	QC Batch	FM21-02	RDL	TP21-152-02	RDL	TP21-177-01	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	A355625	<10	10	1700	10	35	10	A355625
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	A355625	<50	50	1100	50	330	50	A355625
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	A355625	<50	50	220	50	110	50	A355625
Reached Baseline at C50	mg/kg	Yes	A355625	Yes	N/A	Yes	N/A	Yes	N/A	A355625
Physical Properties		•	-						ē	•
Moisture	%	2.2	A355628	2.8	0.30	40	0.30	45	0.30	A355626
Volatiles										
Xylenes (Total)	mg/kg	<0.045	A350570	<0.045	0.045	<0.095	0.095	<0.045	0.045	A350570
F1 (C6-C10) - BTEX	mg/kg	<10	A350570	<10	10	<21	21	<10	10	A350570
Field Preserved Volatiles										
Benzene	mg/kg	<0.0050	A351760	<0.0050	0.0050	<0.011 (1)	0.011	<0.0050	0.0050	A351760
Toluene	mg/kg	<0.050	A351760	<0.050	0.050	<0.11(1)	0.11	<0.050	0.050	A351760
Ethylbenzene	mg/kg	<0.010	A351760	<0.010	0.010	<0.021 (1)	0.021	<0.010	0.010	A351760
m & p-Xylene	mg/kg	<0.040	A351760	<0.040	0.040	<0.085 (1)	0.085	<0.040	0.040	A351760
o-Xylene	mg/kg	<0.020	A351760	<0.020	0.020	<0.043 (1)	0.043	<0.020	0.020	A351760
F1 (C6-C10)	mg/kg	<10	A351760	<10	10	<21 (1)	21	<10	10	A351760
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	100	A351760	98	N/A	99	N/A	100	N/A	A351760
4-Bromofluorobenzene (sur.)	%	98	A351760	97	N/A	97	N/A	98	N/A	A351760
D10-o-Xylene (sur.)	%	93	A351760	91	N/A	103	N/A	94	N/A	A351760
D4-1,2-Dichloroethane (sur.)	%	102	A351760	103	N/A	103	N/A	103	N/A	A351760
O-TERPHENYL (sur.)	%	99	A355625	95	N/A	108	N/A	116	N/A	A355625
PDL - Papartable Detection Lie	:-		•						•	•

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Detection limits raised based on sample weight used for analysis.



Client Project #: 20368099-6000-1001

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

Territories

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

A355626

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

Physical Properties										
UNITS		Lab-Dup	NDL	QC Battii						
	UNITS	TP21-177-01	RDL	QC Batch						
COC Number		644511-89-01								
Sampling Date		2021/09/04 11:20								
BV Labs ID		AFU830								

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 REGULATED METALS - SOILS (SOIL)

BV Labs ID		AFU815		AFU816		AFU817		AFU818		
Sampling Date		2021/09/04		2021/09/04		2021/09/04		2021/09/04		
Sampling Date		10:01		10:02		10:05		09:57		
COC Number		644511-87-01		644511-87-01		644511-87-01		644511-87-01		
	UNITS	TP21-190-02	RDL	TP21-190-04	RDL	TP21-190-06	RDL	TP21-191-02	RDL	QC Batch
Calculated Parameters										
Calculated Boron (B)	mg/kg	0.033	0.025	0.085	0.034	<0.030	0.030	0.046	0.023	A350633
Elements	•									•
Hex. Chromium (Cr 6+)	mg/kg	<0.080	0.080	<0.080	0.080	<0.080	0.080	<0.080	0.080	A356383
Soluble Parameters										
Soluble Boron (B)	mg/L	0.13	0.10	0.25	0.10	<0.10	0.10	0.20	0.10	A357683
Saturation %	%	25	N/A	34	N/A	30	N/A	23	N/A	A354884
Soluble Sulphate (SO4)	mg/L	31	5.0	71	5.0	37	5.0	28	5.0	A357683
Elements										
Total Antimony (Sb)	mg/kg	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	A355882
Total Arsenic (As)	mg/kg	4.5	1.0	5.9	1.0	5.6	1.0	5.8	1.0	A355882
Total Barium (Ba)	mg/kg	220	1.0	340	1.0	110	1.0	260	1.0	A355882
Total Beryllium (Be)	mg/kg	<0.40	0.40	<0.40	0.40	<0.40	0.40	<0.40	0.40	A355882
Total Cadmium (Cd)	mg/kg	<0.050	0.050	0.079	0.050	0.071	0.050	0.079	0.050	A355882
Total Chromium (Cr)	mg/kg	4.9	1.0	5.7	1.0	5.5	1.0	5.5	1.0	A355882
Total Cobalt (Co)	mg/kg	1.6	0.50	2.7	0.50	3.5	0.50	2.2	0.50	A355882
Total Copper (Cu)	mg/kg	4.4	1.0	4.2	1.0	3.7	1.0	4.5	1.0	A355882
Total Lead (Pb)	mg/kg	6.9	0.50	5.4	0.50	3.2	0.50	7.8	0.50	A355882
Total Mercury (Hg)	mg/kg	<0.050	0.050	<0.050	0.050	<0.050	0.050	<0.050	0.050	A355882
Total Molybdenum (Mo)	mg/kg	<0.40	0.40	0.52	0.40	<0.40	0.40	0.52	0.40	A355882
Total Nickel (Ni)	mg/kg	3.6	1.0	5.2	1.0	9.0	1.0	5.1	1.0	A355882
Total Selenium (Se)	mg/kg	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	A355882
Total Silver (Ag)	mg/kg	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	A355882
Total Thallium (Tl)	mg/kg	<0.10	0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10	A355882
Total Tin (Sn)	mg/kg	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	A355882
Total Uranium (U)	mg/kg	0.28	0.20	0.23	0.20	0.22	0.20	0.30	0.20	A355882
Total Vanadium (V)	mg/kg	11	1.0	16	1.0	11	1.0	13	1.0	A355882
Total Zinc (Zn)	mg/kg	12	10	21	10	25	10	15	10	A355882
RDL = Reportable Detection	Limit									



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 REGULATED METALS - SOILS (SOIL)

BV Labs ID		AFU819			AFU820	AFU820		AFU825		
Sampling Date		2021/09/04			2021/09/04	2021/09/04		2021/09/04		
Sampling Date		09:59			10:00	10:00		13:30		
COC Number		644511-87-01			644511-87-01	644511-87-01		644511-89-01		
	UNITS	TP21-191-04	RDL	QC Batch	TP21-191-06	TP21-191-06 Lab-Dup	RDL	HA21-194-01	RDL	QC Batch
Calculated Parameters										
Calculated Boron (B)	mg/kg	0.043	0.025	A350633	0.053	N/A	0.030	0.051	0.032	A350633
Elements										
Hex. Chromium (Cr 6+)	mg/kg	<0.080	0.080	A356383	<0.080	N/A	0.080	<0.080	0.080	A356105
Soluble Parameters	•									
Soluble Boron (B)	mg/L	0.17	0.10	A357683	0.18	0.14	0.10	0.16	0.10	A357683
Saturation %	%	25	N/A	A354884	30	30	N/A	32	N/A	A354884
Soluble Sulphate (SO4)	mg/L	32	5.0	A357683	61	55	5.0	47	5.0	A357683
Elements										
Total Antimony (Sb)	mg/kg	<0.50	0.50	A355882	<0.50	0.68	0.50	0.76	0.50	A355882
Total Arsenic (As)	mg/kg	4.7	1.0	A355882	5.1	5.1	1.0	4.7	1.0	A355882
Total Barium (Ba)	mg/kg	290	1.0	A355882	65	64	1.0	2300	1.0	A355882
Total Beryllium (Be)	mg/kg	<0.40	0.40	A355882	<0.40	<0.40	0.40	<0.40	0.40	A355882
Total Cadmium (Cd)	mg/kg	0.061	0.050	A355882	0.066	0.062	0.050	0.54	0.050	A355882
Total Chromium (Cr)	mg/kg	5.2	1.0	A355882	5.1	5.3	1.0	7.8	1.0	A355882
Total Cobalt (Co)	mg/kg	1.6	0.50	A355882	3.2	3.2	0.50	2.4	0.50	A355882
Total Copper (Cu)	mg/kg	3.9	1.0	A355882	3.6	3.7	1.0	2900	1.0	A355882
Total Lead (Pb)	mg/kg	7.5	0.50	A355882	2.8	2.7	0.50	47	0.50	A355882
Total Mercury (Hg)	mg/kg	<0.050	0.050	A355882	<0.050	<0.050	0.050	0.11	0.050	A355882
Total Molybdenum (Mo)	mg/kg	<0.40	0.40	A355882	<0.40	<0.40	0.40	0.59	0.40	A355882
Total Nickel (Ni)	mg/kg	4.4	1.0	A355882	8.7	8.2	1.0	5.3	1.0	A355882
Total Selenium (Se)	mg/kg	<0.50	0.50	A355882	<0.50	<0.50	0.50	<0.50	0.50	A355882
Total Silver (Ag)	mg/kg	<0.20	0.20	A355882	<0.20	<0.20	0.20	0.28	0.20	A355882
Total Thallium (TI)	mg/kg	<0.10	0.10	A355882	<0.10	<0.10	0.10	<0.10	0.10	A355882
Total Tin (Sn)	mg/kg	<1.0	1.0	A355882	<1.0	<1.0	1.0	<1.0	1.0	A355882
Total Uranium (U)	mg/kg	0.34	0.20	A355882	0.30	0.30	0.20	0.26	0.20	A355882
Total Vanadium (V)	mg/kg	11	1.0	A355882	10	11	1.0	12	1.0	A355882
Total Zinc (Zn)	mg/kg	12	10	A355882	24	24	10	120	10	A355882

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 REGULATED METALS - SOILS (SOIL)

BV Labs ID		AFU826			AFU827		AFU828		
Sampling Date		2021/09/04			2021/09/04		2021/09/04		
Jamping Date		13:50			13:55		11:40		
COC Number		644511-89-01			644511-89-01		644511-89-01		
	UNITS	HA21-194-02	RDL	QC Batch	FM21-01	RDL	FM21-02	RDL	QC Batch
Calculated Parameters									
Calculated Boron (B)	mg/kg	0.078	0.036	A350633	0.034	0.023	0.066	0.052	A350633
Elements	•							•	
Hex. Chromium (Cr 6+)	mg/kg	<0.080	0.080	A356105	<0.080	0.080	<0.080	0.080	A356105
Soluble Parameters	•								
Soluble Boron (B)	mg/L	0.22	0.10	A357683	0.15	0.10	0.13	0.10	A356253
Saturation %	%	36	N/A	A354884	23	N/A	52	N/A	A353202
Soluble Sulphate (SO4)	mg/L	74	5.0	A357683	N/A	N/A	N/A	N/A	N/A
Elements									
Total Antimony (Sb)	mg/kg	1.1	0.50	A355882	<0.50	0.50	<0.50	0.50	A354079
Total Arsenic (As)	mg/kg	8.2	1.0	A355882	6.5	1.0	5.1	1.0	A354079
Total Barium (Ba)	mg/kg	2400	1.0	A355882	250	1.0	89	1.0	A354079
Total Beryllium (Be)	mg/kg	<0.40	0.40	A355882	<0.40	0.40	<0.40	0.40	A354079
Total Cadmium (Cd)	mg/kg	0.54	0.050	A355882	0.076	0.050	0.081	0.050	A354079
Total Chromium (Cr)	mg/kg	9.8	1.0	A355882	6.6	1.0	6.0	1.0	A354079
Total Cobalt (Co)	mg/kg	3.3	0.50	A355882	3.1	0.50	3.8	0.50	A354079
Total Copper (Cu)	mg/kg	53	1.0	A355882	6.8	1.0	4.9	1.0	A354079
Total Lead (Pb)	mg/kg	46	0.50	A355882	7.7	0.50	3.3	0.50	A354079
Total Mercury (Hg)	mg/kg	0.071	0.050	A355882	<0.050	0.050	<0.050	0.050	A354079
Total Molybdenum (Mo)	mg/kg	1.1	0.40	A355882	0.52	0.40	0.44	0.40	A354079
Total Nickel (Ni)	mg/kg	9.6	1.0	A355882	7.9	1.0	10	1.0	A354079
Total Selenium (Se)	mg/kg	<0.50	0.50	A355882	<0.50	0.50	<0.50	0.50	A354079
Total Silver (Ag)	mg/kg	<0.20	0.20	A355882	<0.20	0.20	<0.20	0.20	A354079
Total Thallium (TI)	mg/kg	<0.10	0.10	A355882	<0.10	0.10	<0.10	0.10	A354079
Total Tin (Sn)	mg/kg	1.4	1.0	A355882	<1.0	1.0	<1.0	1.0	A354079
Total Uranium (U)	mg/kg	0.42	0.20	A355882	0.36	0.20	0.36	0.20	A354079
Total Vanadium (V)	mg/kg	16	1.0	A355882	15	1.0	12	1.0	A354079
Total Zinc (Zn)	mg/kg	170	10	A355882	21	10	31	10	A354079
RDL = Reportable Detection	Limit								
N/A = Not Applicable									



Report Date: 2021/09/28

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

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		AFU815		AFU816		AFU817		AFU818		
Sampling Date		2021/09/04 10:01		2021/09/04 10:02		2021/09/04 10:05		2021/09/04 09:57		
COC Number		644511-87-01		644511-87-01		644511-87-01		644511-87-01		
	UNITS	TP21-190-02	RDL	TP21-190-04	RDL	TP21-190-06	RDL	TP21-191-02	RDL	QC Batch
Calculated Parameters										
Soluble Nitrate (N)	mg/L	1.1	0.20	0.32	0.20	1.1	0.20	2.6	0.20	A350563
Calculated Calcium (Ca)	mg/kg	3.0	0.37	8.9	0.51	12	0.45	2.2	0.34	A368052
Calculated Magnesium (Mg)	mg/kg	0.51	0.25	3.4	0.34	2.3	0.30	0.41	0.23	A368052
Calculated Sodium (Na)	mg/kg	3.0	0.61	4.6	0.86	3.5	0.76	3.5	0.57	A368052
Calculated Potassium (K)	mg/kg	0.84	0.32	1.5	0.45	1.1	0.39	3.9	0.30	A368052
Calculated Boron (B)	mg/kg	0.033	0.025	0.085	0.034	<0.030	0.030	0.046	0.023	A368052
Calculated Sulphate (SO4)	mg/kg	7.7	1.2	24	1.7	11	1.5	6.5	1.1	A368052
Calculated Nitrate (N)	mg/kg	0.28	0.049	0.11	0.069	0.34	0.061	0.60	0.046	A368052
Calculated Nitrite (N)	mg/kg	<0.049	0.049	<0.069	0.069	<0.061	0.061	<0.046	0.046	A368052
Calculated Total Nitrogen (N)	mg/kg	CALCERROR	N/A	CALCERROR	N/A	CALCERROR	N/A	CALCERROR	N/A	A368052
RDL = Reportable Detection Lir	mit									

N/A = Not Applicable

BV Labs ID		AFU819		AFU820		AFU825		AFU826		
Sampling Date		2021/09/04 09:59		2021/09/04 10:00		2021/09/04 13:30		2021/09/04 13:50		
COC Number		644511-87-01		644511-87-01		644511-89-01		644511-89-01		
	UNITS	TP21-191-04	RDL	TP21-191-06	RDL	HA21-194-01	RDL	HA21-194-02	RDL	QC Batch
Calculated Parameters										
Soluble Nitrate (N)	mg/L	1.9	0.20	3.9	0.20	<0.20	0.20	<0.20	0.20	A350563
Calculated Calcium (Ca)	mg/kg	2.1	0.37	15	0.45	27	0.48	41	0.54	A368052
Calculated Magnesium (Mg)	mg/kg	0.42	0.25	3.9	0.30	3.5	0.32	5.2	0.36	A368052
Calculated Sodium (Na)	mg/kg	3.0	0.62	8.0	0.75	5.4	0.79	8.0	0.91	A368052
Calculated Potassium (K)	mg/kg	6.6	0.32	1.4	0.39	4.1	0.41	1.2	0.47	A368052
Calculated Boron (B)	mg/kg	0.043	0.025	0.053	0.030	0.051	0.032	0.078	0.036	A368052
Calculated Sulphate (SO4)	mg/kg	8.0	1.2	18	1.5	15	1.6	27	1.8	A368052
Calculated Nitrate (N)	mg/kg	0.48	0.050	1.2	0.060	<0.064	0.064	<0.073	0.073	A368052
Calculated Nitrite (N)	mg/kg	<0.050	0.050	<0.060	0.060	<0.064	0.064	<0.073	0.073	A368052
Calculated Total Nitrogen (N)	mg/kg	CALCERROR	N/A	CALCERROR	N/A	CALCERROR	N/A	CALCERROR	N/A	A368052

RDL = Reportable Detection Limit

N/A = Not Applicable



Report Date: 2021/09/28

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

RESULTS OF CHEMICAL ANALYSES OF SOIL

BV Labs ID		AFU827		AFU828		
Sampling Data		2021/09/04		2021/09/04		
Sampling Date		13:55		11:40		
COC Number		644511-89-01		644511-89-01		
	UNITS	FM21-01	RDL	FM21-02	RDL	QC Batch
Calculated Parameters						
Calculated Calcium (Ca)	mg/kg	6.8	0.34	44	0.77	A368052
Calculated Magnesium (Mg)	mg/kg	1.1	0.23	6.5	0.52	A368052
Calculated Sodium (Na)	mg/kg	2.9	0.57	8.6	1.3	A368052
Calculated Potassium (K)	mg/kg	0.56	0.30	1.6	0.67	A368052
Calculated Boron (B)	mg/kg	0.034	0.023	0.066	0.052	A368052
Calculated Sulphate (SO4)	mg/kg	2.6	1.1	39	2.6	A368052
RDL = Reportable Detection Li	mit					



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

	-							
BV Labs ID		AFU815	AFU816	AFU817	AFU818	AFU819		
Sampling Date		2021/09/04	2021/09/04	2021/09/04	2021/09/04	2021/09/04		
Sumpling Butc		10:01	10:02	10:05	09:57	09:59		
COC Number		644511-87-01	644511-87-01	644511-87-01	644511-87-01	644511-87-01		
	UNITS	TP21-190-02	TP21-190-04	TP21-190-06	TP21-191-02	TP21-191-04	RDL	QC Batch
Polycyclic Aromatics								
Acenaphthene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
B[a]P TPE Total Potency Equivalents	mg/kg	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	A350628
Acenaphthylene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Acridine	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A355621
Anthracene	mg/kg	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0040	A355621
Benzo(a)anthracene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Benzo(b&j)fluoranthene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Benzo(k)fluoranthene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Benzo(g,h,i)perylene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Benzo(c)phenanthrene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Benzo(a)pyrene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Benzo(e)pyrene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Chrysene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Dibenz(a,h)anthracene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Fluoranthene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Fluorene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Indeno(1,2,3-cd)pyrene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
1-Methylnaphthalene	mg/kg	<0.0050	0.047	<0.0050	<0.0050	<0.0050	0.0050	A355621
2-Methylnaphthalene	mg/kg	<0.0050	0.047	<0.0050	<0.0050	<0.0050	0.0050	A355621
Naphthalene	mg/kg	<0.0050	0.018	<0.0050	<0.0050	<0.0050	0.0050	A355621
Phenanthrene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Perylene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Pyrene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A355621
Quinoline	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A355621
Surrogate Recovery (%)								•
D10-ANTHRACENE (sur.)	%	90	103	92	87	89	N/A	A355621
D8-ACENAPHTHYLENE (sur.)	%	82	95	84	81	83	N/A	A355621
D8-NAPHTHALENE (sur.)	%	77	88	78	74	78	N/A	A355621
TERPHENYL-D14 (sur.)	%	97	114	98	93	95	N/A	A355621
RDL = Reportable Detection Limit	8		•			•		•
N/A = Not Applicable								

N/A = Not Applicable



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

	1		İ		1		1	
BV Labs ID		AFU820		AFU825		AFU826		
Sampling Date		2021/09/04		2021/09/04		2021/09/04		
		10:00		13:30		13:50		
COC Number	_	644511-87-01		644511-89-01		644511-89-01		
	UNITS	TP21-191-06	QC Batch	HA21-194-01	QC Batch	HA21-194-02	RDL	QC Batch
Polycyclic Aromatics								
Acenaphthene	mg/kg	<0.0050	A355621	<0.0050	A355621	<0.0050	0.0050	A355621
B[a]P TPE Total Potency Equivalents	mg/kg	<0.0071	A350628	<0.0071	A350057	0.083	0.0071	A350628
Acenaphthylene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.011	0.0050	A355621
Acridine	mg/kg	<0.010	A355621	<0.010	A355621	<0.010	0.010	A355621
Anthracene	mg/kg	<0.0040	A355621	<0.0040	A355621	0.0075	0.0040	A355621
Benzo(a)anthracene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.012	0.0050	A355621
Benzo(b&j)fluoranthene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.047	0.0050	A355621
Benzo(k)fluoranthene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.011	0.0050	A355621
Benzo(g,h,i)perylene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.080	0.0050	A355621
Benzo(c)phenanthrene	mg/kg	<0.0050	A355621	<0.0050	A355621	<0.0050	0.0050	A355621
Benzo(a)pyrene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.065	0.0050	A355621
Benzo(e)pyrene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.047	0.0050	A355621
Chrysene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.012	0.0050	A355621
Dibenz(a,h)anthracene	mg/kg	<0.0050	A355621	<0.0050	A355621	<0.0050	0.0050	A355621
Fluoranthene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.013	0.0050	A355621
Fluorene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.0070	0.0050	A355621
Indeno(1,2,3-cd)pyrene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.072	0.0050	A355621
1-Methylnaphthalene	mg/kg	<0.0050	A355621	0.0054	A355621	0.029	0.0050	A355621
2-Methylnaphthalene	mg/kg	<0.0050	A355621	0.012	A355621	0.11	0.0050	A355621
Naphthalene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.070	0.0050	A355621
Phenanthrene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.018	0.0050	A355621
Perylene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.022	0.0050	A355621
Pyrene	mg/kg	<0.0050	A355621	<0.0050	A355621	0.060	0.0050	A355621
Quinoline	mg/kg	<0.010	A355621	<0.010	A355621	<0.010	0.010	A355621
Surrogate Recovery (%)								
D10-ANTHRACENE (sur.)	%	97	A355621	87	A355621	84	N/A	A355621
D8-ACENAPHTHYLENE (sur.)	%	89	A355621	81	A355621	78	N/A	A355621
D8-NAPHTHALENE (sur.)	%	83	A355621	77	A355621	76	N/A	A355621
TERPHENYL-D14 (sur.)	%	105	A355621	98	A355621	91	N/A	A355621
RDL = Reportable Detection Limit								
N/A = Not Applicable								



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

BV Labs ID		AFU815	AFU816	AFU817	AFU818	AFU819	AFU820		
Sampling Date		2021/09/04	2021/09/04	2021/09/04	2021/09/04	2021/09/04	2021/09/04		
		10:01	10:02	10:05	09:57	09:59	10:00		
COC Number		644511-87-01	644511-87-01	644511-87-01	644511-87-01	644511-87-01	644511-87-01		
	UNITS	TP21-190-02	TP21-190-04	TP21-190-06	TP21-191-02	TP21-191-04	TP21-191-06	RDL	QC Batch
Elements									
Total Fusion Barium (Ba)	mg/kg	970	950	530	960	950	600	50	A358665

BV Labs ID		AFU825	AFU826		
Sampling Date		2021/09/04	2021/09/04		
Sampling Date		13:30	13:50		
COC Number		644511-89-01	644511-89-01		
	UNITS	HA21-194-01	HA21-194-02	RDL	QC Batch
Elements					
Total Fusion Barium (Ba)	mg/kg	10000	74000	50	A358665
RDL = Reportable Detection L	imit	•			



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		AFU827	AFU828		
Sampling Date		2021/09/04	2021/09/04		
		13:55	11:40		
COC Number		644511-89-01	644511-89-01		
	UNITS	FM21-01	FM21-02	RDL	QC Batch
Field Preserved Volatiles					
Bromodichloromethane	mg/kg	<0.030	<0.030	0.030	A351389
Bromoform	mg/kg	<0.050	<0.050	0.050	A351389
Bromomethane	mg/kg	<0.020	<0.020	0.020	A351389
Carbon tetrachloride	mg/kg	<0.00050	<0.00050	0.00050	A351389
Chlorobenzene	mg/kg	<0.0050	<0.0050	0.0050	A351389
Dibromochloromethane	mg/kg	<0.020	<0.020	0.020	A351389
Chloroethane	mg/kg	<0.020	<0.020	0.020	A351389
Chloroform	mg/kg	<0.010	<0.010	0.010	A351389
Chloromethane	mg/kg	<0.030	<0.030	0.030	A351389
1,2-dibromoethane	mg/kg	<0.0020	<0.0020	0.0020	A351389
1,2-dichlorobenzene	mg/kg	0.025	0.023	0.020	A351389
1,3-dichlorobenzene	mg/kg	<0.020	<0.020	0.020	A351389
1,4-dichlorobenzene	mg/kg	<0.020	<0.020	0.020	A351389
1,1-dichloroethane	mg/kg	<0.020	<0.020	0.020	A351389
1,2-dichloroethane	mg/kg	<0.0020	<0.0020	0.0020	A351389
1,1-dichloroethene	mg/kg	<0.020	<0.020	0.020	A351389
cis-1,2-dichloroethene	mg/kg	<0.020	<0.020	0.020	A351389
trans-1,2-dichloroethene	mg/kg	<0.020	<0.020	0.020	A351389
Dichloromethane	mg/kg	<0.030	<0.030	0.030	A351389
1,2-dichloropropane	mg/kg	<0.020	<0.020	0.020	A351389
cis-1,3-dichloropropene	mg/kg	<0.020	<0.020	0.020	A351389
trans-1,3-dichloropropene	mg/kg	<0.020	<0.020	0.020	A351389
Methyl methacrylate	mg/kg	<0.040	<0.040	0.040	A351389
Methyl-tert-butylether (MTBE)	mg/kg	<0.030	<0.030	0.030	A351389
Styrene	mg/kg	<0.020	<0.020	0.020	A351389
1,1,1,2-tetrachloroethane	mg/kg	<0.050	<0.050	0.050	A351389
1,1,2,2-tetrachloroethane	mg/kg	<0.050	<0.050	0.050	A351389
Tetrachloroethene	mg/kg	<0.010	<0.010	0.010	A351389
1,2,3-trichlorobenzene	mg/kg	<0.040	<0.040	0.040	A351389
1,2,4-trichlorobenzene	mg/kg	<0.040	<0.040	0.040	A351389
RDL = Reportable Detection Lim	it				



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

VOLATILE ORGANICS BY GC-MS (SOIL)

BV Labs ID		AFU827	AFU828		
Sampling Date		2021/09/04	2021/09/04		
Sampling Date		13:55	11:40		
COC Number		644511-89-01	644511-89-01		
	UNITS	FM21-01	FM21-02	RDL	QC Batch
1,3,5-trichlorobenzene	mg/kg	<0.040	<0.040	0.040	A351389
1,1,1-trichloroethane	mg/kg	<0.020	<0.020	0.020	A351389
1,1,2-trichloroethane	mg/kg	<0.020	<0.020	0.020	A351389
Trichloroethene	mg/kg	<0.010	<0.010	0.010	A351389
Trichlorofluoromethane	mg/kg	<0.020	<0.020	0.020	A351389
1,2,4-trimethylbenzene	mg/kg	<0.50	<0.50	0.50	A351389
1,3,5-trimethylbenzene	mg/kg	<0.50	<0.50	0.50	A351389
Vinyl chloride	mg/kg	<0.00030	<0.00030	0.00030	A351389
Surrogate Recovery (%)	•				
1,4-Difluorobenzene (sur.)	%	99	99	N/A	A351389
4-Bromofluorobenzene (sur.)	%	97	97	N/A	A351389
D10-o-Xylene (sur.)	%	107	102	N/A	A351389
D4-1,2-Dichloroethane (sur.)	%	99	101	N/A	A351389
RDL = Reportable Detection Lim	nit				
N/A - Not Applicable					

N/A = Not Applicable



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

GENERAL COMMENTS

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

Package 1	4.3°C
Package 2	5.3°C
Package 3	5.7°C
Package 4	3.0°C
Package 5	3.3°C
Package 6	3.3°C
Package 7	1.7°C
Package 8	2.3°C

Version #4: Report reissued to amend sample IDs for AFU821, AFU822, AFU823 and AFU824 on 2021/09/28

Results relate only to the items tested.



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QUALITY ASSURANCE REPORT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A351389	QW1	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/14		99	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/14		105	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/14		107	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/14		102	%	50 - 140
			Bromodichloromethane	2021/09/14		96	%	50 - 140
			Bromoform	2021/09/14		116	%	50 - 140
			Bromomethane	2021/09/14		87	%	50 - 140
			Carbon tetrachloride	2021/09/14		86	%	50 - 140
			Chlorobenzene	2021/09/14		91	%	50 - 140
			Dibromochloromethane	2021/09/14		109	%	50 - 140
			Chloroethane	2021/09/14		72	%	50 - 140
			Chloroform	2021/09/14		90	%	50 - 140
			Chloromethane	2021/09/14		69	%	50 - 140
			1,2-dibromoethane	2021/09/14		107	%	50 - 140
			1,2-dichlorobenzene	2021/09/14		96	%	50 - 140
			1,3-dichlorobenzene	2021/09/14		95	%	50 - 140
			1,4-dichlorobenzene	2021/09/14		98	%	50 - 140
			1,1-dichloroethane	2021/09/14		95	%	50 - 140
			1,2-dichloroethane	2021/09/14		101	%	50 - 140
			1,1-dichloroethene	2021/09/14		86	%	50 - 140
			cis-1,2-dichloroethene	2021/09/14		93	%	50 - 140
			trans-1,2-dichloroethene	2021/09/14		91	%	50 - 140
			Dichloromethane	2021/09/14		95	%	50 - 140
			1,2-dichloropropane	2021/09/14		99	%	50 - 140
			cis-1,3-dichloropropene	2021/09/14		114	%	50 - 140
			trans-1,3-dichloropropene	2021/09/14		102	%	50 - 140
			Methyl methacrylate	2021/09/14		120	%	50 - 140
			Methyl-tert-butylether (MTBE)	2021/09/14		95	%	50 - 140
			Styrene	2021/09/14		96	%	50 - 140
			1,1,1,2-tetrachloroethane	2021/09/14		94	%	50 - 140
			1,1,2,2-tetrachloroethane	2021/09/14		111	%	50 - 140
			Tetrachloroethene	2021/09/14		81	%	50 - 140
			1,2,3-trichlorobenzene	2021/09/14		91	%	50 - 140
			1,2,4-trichlorobenzene	2021/09/14		89	%	50 - 140
			1,3,5-trichlorobenzene	2021/09/14		85	%	50 - 140
			1,1,1-trichloroethane	2021/09/14		89	%	50 - 140
			1,1,2-trichloroethane	2021/09/14		101	%	50 - 140
			Trichloroethene	2021/09/14		86	%	50 - 140
			Trichlorofluoromethane	2021/09/14		84	%	50 - 140
			1,2,4-trimethylbenzene	2021/09/14		92	%	50 - 140
			1,3,5-trimethylbenzene	2021/09/14		92	%	50 - 140
			Vinyl chloride	2021/09/14		85	%	50 - 140
A351389	O\\\/1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/14		99	% %	50 - 140 50 - 140
Y221202	QVVI	Shiven Digilk	4-Bromofluorobenzene (sur.)	2021/09/14		99 103	% %	50 - 140 50 - 140
			D10-o-Xylene (sur.)	2021/09/14		103	%	50 - 140 50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/14		94	% %	50 - 140 50 - 140
			Bromodichloromethane	2021/09/14		94 92		60 - 130
			Bromodichioromethane Bromoform	2021/09/14			%	
						112	%	60 - 130
			Bromomethane	2021/09/14		81	%	60 - 130
			Carbon tetrachloride	2021/09/14		90	%	60 - 130
			Chlorobenzene	2021/09/14		95	<u>%</u>	60 - 130



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC							
Batch	Init QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limit
		Dibromochloromethane	2021/09/14		106	%	60 - 130
		Chloroethane	2021/09/14		71	%	60 - 130
		Chloroform	2021/09/14		89	%	60 - 130
		Chloromethane	2021/09/14		62	%	60 - 130
		1,2-dibromoethane	2021/09/14		103	%	60 - 130
		1,2-dichlorobenzene	2021/09/14		97	%	60 - 130
		1,3-dichlorobenzene	2021/09/14		97	%	60 - 130
		1,4-dichlorobenzene	2021/09/14		100	%	60 - 130
		1,1-dichloroethane	2021/09/14		94	%	60 - 130
		1,2-dichloroethane	2021/09/14		92	%	60 - 130
		1,1-dichloroethene	2021/09/14		87	%	60 - 130
		cis-1,2-dichloroethene	2021/09/14		93	%	60 - 130
		trans-1,2-dichloroethene	2021/09/14		95	%	60 - 130
		Dichloromethane	2021/09/14		93	%	60 - 130
		1,2-dichloropropane	2021/09/14		96	%	60 - 130
		cis-1,3-dichloropropene	2021/09/14		104	%	60 - 130
		trans-1,3-dichloropropene	2021/09/14		91	%	60 - 130
		Methyl methacrylate	2021/09/14		107	%	60 - 130
		Methyl-tert-butylether (MTBE)	2021/09/14		91	%	60 - 130
		Styrene	2021/09/14		100	%	60 - 130
		1,1,1,2-tetrachloroethane	2021/09/14		96	%	60 - 13
		1,1,2,2-tetrachloroethane	2021/09/14		108	%	60 - 13
		Tetrachloroethene	2021/09/14		90	%	60 - 13
		1,2,3-trichlorobenzene	2021/09/14		94	%	60 - 13
		1,2,4-trichlorobenzene	2021/09/14		97	%	60 - 13
		1,3,5-trichlorobenzene	2021/09/14		91	%	60 - 13
		1,1,1-trichloroethane	2021/09/14		91	%	60 - 13
		1,1,2-trichloroethane	2021/09/14		94	%	60 - 13
		Trichloroethene	2021/09/14		90	%	60 - 13
		Trichlorofluoromethane	2021/09/14		74	%	60 - 13
		1,2,4-trimethylbenzene	2021/09/14		97	%	60 - 13
		1,3,5-trimethylbenzene	2021/09/14		98	%	60 - 13
		Vinyl chloride	2021/09/14		82	%	60 - 13
\351389	QW1 Method Blank	1,4-Difluorobenzene (sur.)	2021/09/14		97	%	50 - 14
		4-Bromofluorobenzene (sur.)	2021/09/14		98	%	50 - 14
		D10-o-Xylene (sur.)	2021/09/14		99	%	50 - 14
		D4-1,2-Dichloroethane (sur.)	2021/09/14		98	%	50 - 14
		Bromodichloromethane	2021/09/14	< 0.030		mg/kg	
		Bromoform	2021/09/14	< 0.050		mg/kg	
		Bromomethane	2021/09/14	< 0.020		mg/kg	
		Carbon tetrachloride	2021/09/14	< 0.00050		mg/kg	
		Chlorobenzene	2021/09/14	< 0.0050		mg/kg	
		Dibromochloromethane	2021/09/14	<0.020		mg/kg	
		Chloroethane	2021/09/14	<0.020		mg/kg	
		Chloroform	2021/09/14	<0.010		mg/kg	
		Chloromethane	2021/09/14	< 0.030		mg/kg	
		1,2-dibromoethane	2021/09/14	<0.0020		mg/kg	
		1,2-dichlorobenzene	2021/09/14	<0.020		mg/kg	
		1,3-dichlorobenzene	2021/09/14	<0.020		mg/kg	
		1,4-dichlorobenzene	2021/09/14	<0.020		mg/kg	
		1,1-dichloroethane	2021/09/14	<0.020		mg/kg	



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,2-dichloroethane	2021/09/14	<0.0020		mg/kg	
			1,1-dichloroethene	2021/09/14	<0.020		mg/kg	
			cis-1,2-dichloroethene	2021/09/14	<0.020		mg/kg	
			trans-1,2-dichloroethene	2021/09/14	<0.020		mg/kg	
			Dichloromethane	2021/09/14	<0.030		mg/kg	
			1,2-dichloropropane	2021/09/14	<0.020		mg/kg	
			cis-1,3-dichloropropene	2021/09/14	<0.020		mg/kg	
			trans-1,3-dichloropropene	2021/09/14	<0.020		mg/kg	
			Methyl methacrylate	2021/09/14	<0.040		mg/kg	
			Methyl-tert-butylether (MTBE)	2021/09/14	<0.030		mg/kg	
			Styrene	2021/09/14	<0.020		mg/kg	
			1,1,1,2-tetrachloroethane	2021/09/14	<0.050		mg/kg	
			1,1,2,2-tetrachloroethane	2021/09/14	<0.050		mg/kg	
			Tetrachloroethene	2021/09/14	<0.010		mg/kg	
			1,2,3-trichlorobenzene	2021/09/14	<0.040		mg/kg	
			1,2,4-trichlorobenzene	2021/09/14	<0.040		mg/kg	
			1,3,5-trichlorobenzene	2021/09/14	<0.040		mg/kg	
			1,1,1-trichloroethane	2021/09/14	<0.020		mg/kg	
			1,1,2-trichloroethane	2021/09/14	<0.020		mg/kg	
			Trichloroethene	2021/09/14	< 0.010		mg/kg	
			Trichlorofluoromethane	2021/09/14	<0.020		mg/kg	
			1,2,4-trimethylbenzene	2021/09/14	<0.50		mg/kg	
			1,3,5-trimethylbenzene	2021/09/14	<0.50		mg/kg	
			Vinyl chloride	2021/09/14	<0.00030		mg/kg	
\351389	QW1	RPD	Bromodichloromethane	2021/09/14	NC		%	50
			Bromoform	2021/09/14	NC		%	50
			Bromomethane	2021/09/14	NC		%	50
			Carbon tetrachloride	2021/09/14	NC		%	50
			Chlorobenzene	2021/09/14	NC		%	50
			Dibromochloromethane	2021/09/14	NC		%	50
			Chloroethane	2021/09/14	NC		%	50
			Chloroform	2021/09/14	NC		%	50
			Chloromethane	2021/09/14	NC		%	50
			1,2-dibromoethane	2021/09/14	NC		%	50
			1,2-dichlorobenzene	2021/09/14	NC		%	50
			1,3-dichlorobenzene	2021/09/14	NC		%	50
			1,4-dichlorobenzene	2021/09/14	NC		%	50
			1,1-dichloroethane	2021/09/14	NC		%	50
			1,2-dichloroethane	2021/09/14	NC		%	50
			1,1-dichloroethene	2021/09/14	NC		%	50
			cis-1,2-dichloroethene	2021/09/14	NC		%	50
			trans-1,2-dichloroethene	2021/09/14	NC		%	50
			Dichloromethane	2021/09/14	NC		%	50
			1,2-dichloropropane	2021/09/14	NC		%	50
			cis-1,3-dichloropropene	2021/09/14	NC		%	50
			trans-1,3-dichloropropene	2021/09/14	NC		%	50
			Methyl methacrylate	2021/09/14	NC		%	50
			Methyl-tert-butylether (MTBE)	2021/09/14	NC		%	50
			Styrene	2021/09/14	NC		%	50
			1,1,1,2-tetrachloroethane	2021/09/14	NC		%	50
			1,1,1,2 (Ciracinorocinane	2021/03/14	140		/0	50



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Tetrachloroethene	2021/09/14	NC		%	50
			1,2,3-trichlorobenzene	2021/09/14	NC		%	50
			1,2,4-trichlorobenzene	2021/09/14	NC		%	50
			1,3,5-trichlorobenzene	2021/09/14	NC		%	50
			1,1,1-trichloroethane	2021/09/14	NC		%	50
			1,1,2-trichloroethane	2021/09/14	NC		%	50
			Trichloroethene	2021/09/14	NC		%	50
			Trichlorofluoromethane	2021/09/14	NC		%	50
			1,2,4-trimethylbenzene	2021/09/14	NC		%	50
			1,3,5-trimethylbenzene	2021/09/14	NC		%	50
			Vinyl chloride	2021/09/14	NC		%	50
A351760	DO1	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/16		104	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/16		101	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/16		98	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/16		102	%	50 - 140
			Benzene	2021/09/16		102	%	50 - 140
			Toluene	2021/09/16		106	%	50 - 140
			Ethylbenzene	2021/09/16		106	%	50 - 140
			m & p-Xylene	2021/09/16		108	%	50 - 140
			o-Xylene	2021/09/16		108	%	50 - 140
			F1 (C6-C10)	2021/09/16		96	%	60 - 140
A351760	DO1	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/16		99	%	50 - 140
		•	4-Bromofluorobenzene (sur.)	2021/09/16		97	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/16		94	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/16		101	%	50 - 140
			Benzene	2021/09/16		85	%	60 - 130
			Toluene	2021/09/16		87	%	60 - 130
			Ethylbenzene	2021/09/16		89	%	60 - 130
			m & p-Xylene	2021/09/16		89	%	60 - 130
			o-Xylene	2021/09/16		93	%	60 - 130
			F1 (C6-C10)	2021/09/16		94	%	60 - 140
A351760	DO1	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/16		101	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/16		96	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/16		92	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/16		103	%	50 - 140
			Benzene	2021/09/16	<0.0050		mg/kg	
			Toluene	2021/09/16	<0.050		mg/kg	
			Ethylbenzene	2021/09/16	<0.010		mg/kg	
			m & p-Xylene	2021/09/16	<0.040		mg/kg	
			o-Xylene	2021/09/16	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/16	<10		mg/kg	
A351760	DO1	RPD	Benzene	2021/09/16	NC		%	50
	- "		Toluene	2021/09/16	NC		%	50
			Ethylbenzene	2021/09/16	NC		%	50
			m & p-Xylene	2021/09/16	NC		%	50
			o-Xylene	2021/09/16	NC		%	50
			F1 (C6-C10)	2021/09/16	NC		%	30
A353202	JHC	QC Standard	Saturation %	2021/09/16	-	102	%	75 - 1 25
A353202	JHC	RPD	Saturation %	2021/09/16	1.3	- -	%	12
A354079	PC5	Matrix Spike	Total Antimony (Sb)	2021/09/16	-	104	%	75 - 125
		· - = ==	Total Arsenic (As)	2021/09/16		97	%	75 - 125



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC				<u>-</u>				
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Barium (Ba)	2021/09/16		NC	%	75 - 125
			Total Beryllium (Be)	2021/09/16		98	%	75 - 125
			Total Cadmium (Cd)	2021/09/16		101	%	75 - 125
			Total Chromium (Cr)	2021/09/16		112	%	75 - 125
			Total Cobalt (Co)	2021/09/16		100	%	75 - 125
			Total Copper (Cu)	2021/09/16		99	%	75 - 125
			Total Lead (Pb)	2021/09/16		96	%	75 - 125
			Total Mercury (Hg)	2021/09/16		98	%	75 - 125
			Total Molybdenum (Mo)	2021/09/16		104	%	75 - 125
			Total Nickel (Ni)	2021/09/16		102	%	75 - 125
			Total Selenium (Se)	2021/09/16		99	%	75 - 125
			Total Silver (Ag)	2021/09/16		102	%	75 - 125
			Total Thallium (Tl)	2021/09/16		100	%	75 - 125
			Total Tin (Sn)	2021/09/16		103	%	75 - 125
			Total Uranium (U)	2021/09/16		103	%	75 - 125
			Total Vanadium (V)	2021/09/16		139 (1)	%	75 - 125
			Total Zinc (Zn)	2021/09/16		NC	%	75 - 125
A354079	PC5	QC Standard	Total Antimony (Sb)	2021/09/16		116	%	15 - 182
			Total Arsenic (As)	2021/09/16		104	%	53 - 147
			Total Barium (Ba)	2021/09/16		99	%	80 - 119
			Total Cadmium (Cd)	2021/09/16		100	%	72 - 128
			Total Chromium (Cr)	2021/09/16		99	%	59 - 141
			Total Cobalt (Co)	2021/09/16		99	%	58 - 142
			Total Copper (Cu)	2021/09/16		109	%	83 - 117
			Total Lead (Pb)	2021/09/16		108	%	79 - 121
			Total Molybdenum (Mo)	2021/09/16		111	%	67 - 133
			Total Nickel (Ni)	2021/09/16		112	%	79 - 121
			Total Silver (Ag)	2021/09/16		115	%	47 - 153
			Total Tin (Sn)	2021/09/16		104	%	67 - 133
			Total Uranium (U)	2021/09/16		94	%	77 - 123
			Total Vanadium (V)	2021/09/16		105	%	79 - 121
			Total Zinc (Zn)	2021/09/16		105	%	79 - 121
A354079	PC5	Spiked Blank	Total Antimony (Sb)	2021/09/16		105	%	80 - 120
			Total Arsenic (As)	2021/09/16		99	%	80 - 120
			Total Barium (Ba)	2021/09/16		98	%	80 - 120
			Total Beryllium (Be)	2021/09/16		96	%	80 - 120
			Total Cadmium (Cd)	2021/09/16		98	%	80 - 120
			Total Chromium (Cr)	2021/09/16		100	%	80 - 120
			Total Cobalt (Co)	2021/09/16		102	%	80 - 120
			Total Copper (Cu)	2021/09/16		105	%	80 - 120
			Total Lead (Pb)	2021/09/16		98	%	80 - 120
			Total Mercury (Hg)	2021/09/16		102	%	80 - 120
			Total Molybdenum (Mo)	2021/09/16		100	%	80 - 120
			Total Nickel (Ni)	2021/09/16		102	%	80 - 120
			Total Selenium (Se)	2021/09/16		103	%	80 - 120
			Total Silver (Ag)	2021/09/16		99	%	80 - 120
			Total Thallium (TI)	2021/09/16		102	%	80 - 120
			Total Tin (Sn)	2021/09/16		97	%	80 - 120
			Total Uranium (U)	2021/09/16		102	%	80 - 120
			Total Vanadium (V)	2021/09/16		102	%	80 - 120
			Total Zinc (Zn)	2021/09/16		103	%	80 - 120
			Page 23			100	,,,	



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC	Init	OC Type	Parameter	Date Analyzed	Value	Pacayony	LINUTS	OC Limits
Batch A354079	Init PC5	QC Type Method Blank	Parameter Total Antimony (Sb)	Date Analyzed 2021/09/16	Value <0.50	Recovery	UNITS mg/kg	QC Limits
A334073	PCS	WELTIOU BIATIK	Total Artimony (35)	2021/09/16	<1.0		mg/kg	
			Total Barium (Ba)	2021/09/16	<1.0		mg/kg	
			Total Beryllium (Be)	2021/09/16	<0.40		mg/kg	
			Total Cadmium (Cd)	2021/09/16	<0.40			
			Total Cadmium (Cd) Total Chromium (Cr)	2021/09/16	<1.0		mg/kg	
			• •				mg/kg	
			Total Copper (Cu)	2021/09/16 2021/09/16	<0.50		mg/kg	
			Total Load (Db)		<1.0		mg/kg	
			Total Marsum (U.S.)	2021/09/16	<0.50		mg/kg	
			Total Mercury (Hg)	2021/09/16	<0.050		mg/kg	
			Total Molybdenum (Mo)	2021/09/16	<0.40		mg/kg	
			Total Nickel (Ni)	2021/09/16	<1.0		mg/kg	
			Total Selenium (Se)	2021/09/16	<0.50		mg/kg	
			Total Silver (Ag)	2021/09/16	<0.20		mg/kg	
			Total Thallium (TI)	2021/09/16	<0.10		mg/kg	
			Total Tin (Sn)	2021/09/16	<1.0		mg/kg	
			Total Uranium (U)	2021/09/16	<0.20		mg/kg	
			Total Vanadium (V)	2021/09/16	<1.0		mg/kg	
			Total Zinc (Zn)	2021/09/16	<10		mg/kg	
A354079	PC5	RPD	Total Antimony (Sb)	2021/09/16	6.7		%	30
			Total Arsenic (As)	2021/09/16	1.4		%	30
			Total Barium (Ba)	2021/09/16	1.5		%	35
			Total Beryllium (Be)	2021/09/16	2.1		%	30
			Total Cadmium (Cd)	2021/09/16	1.4		%	30
			Total Chromium (Cr)	2021/09/16	4.5		%	30
			Total Cobalt (Co)	2021/09/16	1.0		%	30
			Total Copper (Cu)	2021/09/16	0.25		%	30
			Total Lead (Pb)	2021/09/16	2.1		%	35
			Total Mercury (Hg)	2021/09/16	NC		%	35
			Total Molybdenum (Mo)	2021/09/16	2.1		%	35
			Total Nickel (Ni)	2021/09/16	5.8		%	30
			Total Selenium (Se)	2021/09/16	NC		%	30
			Total Silver (Ag)	2021/09/16	NC		%	35
			Total Thallium (Tl)	2021/09/16	6.0		%	30
			Total Tin (Sn)	2021/09/16	NC		%	35
			Total Uranium (U)	2021/09/16	4.9		%	30
			Total Vanadium (V)	2021/09/16	3.2		%	30
			Total Zinc (Zn)	2021/09/16	2.9		%	30
A354884	LZ0	QC Standard	Saturation %	2021/09/17		101	%	75 - 125
A354884	LZ0	RPD [AFU820-01]	Saturation %	2021/09/17	0.94		%	12
A355621	SJ1	Matrix Spike	D10-ANTHRACENE (sur.)	2021/09/17		97	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2021/09/17		89	%	50 - 130
			D8-NAPHTHALENE (sur.)	2021/09/17		85	%	50 - 130
			TERPHENYL-D14 (sur.)	2021/09/17		110	%	50 - 130
			Acenaphthene	2021/09/17		87	%	50 - 130
			Acenaphthylene	2021/09/17		86	%	50 - 130
			Acridine	2021/09/17		52	%	50 - 130
			Anthracene	2021/09/17		81	%	50 - 130
			Benzo(a)anthracene	2021/09/17		87	%	50 - 130
			Benzo(b&j)fluoranthene	2021/09/17		79	%	50 - 130
			Benzo(k)fluoranthene	2021/09/17		80	%	50 - 130



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC						_	=	
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Benzo(g,h,i)perylene	2021/09/17		69	%	50 - 130
			Benzo(c)phenanthrene	2021/09/17		85	%	50 - 130
			Benzo(a)pyrene	2021/09/17		78	%	50 - 130
			Benzo(e)pyrene	2021/09/17		73	%	50 - 130
			Chrysene	2021/09/17		86	%	50 - 130
			Dibenz(a,h)anthracene	2021/09/17		71	%	50 - 130
			Fluoranthene	2021/09/17		91	%	50 - 130
			Fluorene	2021/09/17		87	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2021/09/17		78	%	50 - 130
			1-Methylnaphthalene	2021/09/17		67	%	50 - 130
			2-Methylnaphthalene	2021/09/17		83	%	50 - 130
			Naphthalene	2021/09/17		79	%	50 - 130
			Phenanthrene	2021/09/17		88	%	50 - 130
			Perylene	2021/09/17		82	%	50 - 130
			Pyrene	2021/09/17		86	%	50 - 130
			Quinoline	2021/09/17		97	%	50 - 130
A355621	SJ1	Spiked Blank	D10-ANTHRACENE (sur.)	2021/09/18		99	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2021/09/18		94	%	50 - 130
			D8-NAPHTHALENE (sur.)	2021/09/18		91	%	50 - 130
			TERPHENYL-D14 (sur.)	2021/09/18		111	%	50 - 130
			Acenaphthene	2021/09/18		92	%	50 - 130
			Acenaphthylene	2021/09/18		91	%	50 - 130
			Acridine	2021/09/18		65	%	50 - 130
			Anthracene	2021/09/18		86	%	50 - 130
			Benzo(a)anthracene	2021/09/18		94	%	50 - 130
			Benzo(b&j)fluoranthene	2021/09/18		86	%	50 - 130
			Benzo(k)fluoranthene	2021/09/18		91	%	50 - 130
			Benzo(g,h,i)perylene	2021/09/18		92	%	50 - 130
			Benzo(c)phenanthrene	2021/09/18		88	%	50 - 130
			Benzo(a)pyrene	2021/09/18		91	%	50 - 130
			Benzo(e)pyrene	2021/09/18		83	%	50 - 130
			Chrysene	2021/09/18		91	%	50 - 130
			Dibenz(a,h)anthracene	2021/09/18		90	%	50 - 130
			Fluoranthene	2021/09/18		96	%	50 - 130
			Fluorene	2021/09/18		94	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2021/09/18		88	%	50 - 130
			1-Methylnaphthalene	2021/09/18		71	%	50 - 130
			2-Methylnaphthalene	2021/09/18		89	%	50 - 130
			Naphthalene	2021/09/18		84	%	50 - 130
			Phenanthrene	2021/09/18		90	%	50 - 130
			Perylene	2021/09/18		88	%	50 - 130
			Pyrene	2021/09/18		92	%	50 - 130
			Quinoline	2021/09/18		94	%	50 - 130
A355621	SJ1	Method Blank	D10-ANTHRACENE (sur.)	2021/09/18		80	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2021/09/18		88	%	50 - 130
			D8-NAPHTHALENE (sur.)	2021/09/18		83	%	50 - 130
			TERPHENYL-D14 (sur.)	2021/09/18		105	%	50 - 130
			Acenaphthene	2021/09/18	<0.0050		mg/kg	20 100
			Acenaphthylene	2021/09/18	<0.0050		mg/kg	
			Acridine	2021/09/18	<0.0030		mg/kg	
			Anthracene	2021/09/18	<0.010			
			Antinacene	2021/03/10	<u>\0.0040</u>		mg/kg	



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Benzo(a)anthracene	2021/09/18	<0.0050		mg/kg	
			Benzo(b&j)fluoranthene	2021/09/18	<0.0050		mg/kg	
			Benzo(k)fluoranthene	2021/09/18	<0.0050		mg/kg	
			Benzo(g,h,i)perylene	2021/09/18	<0.0050		mg/kg	
			Benzo(c)phenanthrene	2021/09/18	<0.0050		mg/kg	
			Benzo(a)pyrene	2021/09/18	<0.0050		mg/kg	
			Benzo(e)pyrene	2021/09/18	<0.0050		mg/kg	
			Chrysene	2021/09/18	<0.0050		mg/kg	
			Dibenz(a,h)anthracene	2021/09/18	<0.0050		mg/kg	
			Fluoranthene	2021/09/18	<0.0050		mg/kg	
			Fluorene	2021/09/18	<0.0050		mg/kg	
			Indeno(1,2,3-cd)pyrene	2021/09/18	<0.0050		mg/kg	
			1-Methylnaphthalene	2021/09/18	<0.0050		mg/kg	
			2-Methylnaphthalene	2021/09/18	<0.0050		mg/kg	
			Naphthalene	2021/09/18	<0.0050		mg/kg	
			Phenanthrene	2021/09/18	<0.0050		mg/kg	
			Perylene	2021/09/18	<0.0050		mg/kg	
			Pyrene	2021/09/18	<0.0050		mg/kg	
			Quinoline	2021/09/18	<0.010		mg/kg	
A355621	SJ1	RPD	Acenaphthene	2021/09/17	NC		%	50
			Acenaphthylene	2021/09/17	NC		%	50
			Acridine	2021/09/17	NC		%	50
			Anthracene	2021/09/17	NC		%	50
			Benzo(a)anthracene	2021/09/17	NC		%	50
			Benzo(b&j)fluoranthene	2021/09/17	9.4		%	50
			Benzo(k)fluoranthene	2021/09/17	11		%	50
			Benzo(g,h,i)perylene	2021/09/17	18		%	50
			Benzo(c)phenanthrene	2021/09/17	NC		%	50
			Benzo(a)pyrene	2021/09/17	36		%	50
			Benzo(e)pyrene	2021/09/17	3.7		%	50
			Chrysene	2021/09/17	NC		%	50
			Dibenz(a,h)anthracene	2021/09/17	NC		%	50
			Fluoranthene	2021/09/17	2.4		%	50
			Fluorene	2021/09/17	NC		%	50
			Indeno(1,2,3-cd)pyrene	2021/09/17	22		%	50
			1-Methylnaphthalene	2021/09/17	NC		%	50
			2-Methylnaphthalene	2021/09/17	NC		%	50
			Naphthalene	2021/09/17	NC		%	50
			Phenanthrene	2021/09/17	NC		%	50
			Perylene	2021/09/17	39		%	50
			Pyrene	2021/09/17	7.3		%	50
			Quinoline	2021/09/17	NC		%	50
A355623	CAU	Matrix Spike	O-TERPHENYL (sur.)	2021/09/17	-	91	%	60 - 140
	2, .0		F2 (C10-C16 Hydrocarbons)	2021/09/17		79	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		76	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		73	%	60 - 140
A355623	CAU	Spiked Blank	O-TERPHENYL (sur.)	2021/09/17		99	%	60 - 140
555025	CAU	Spinea Dialin	F2 (C10-C16 Hydrocarbons)	2021/09/17		85	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		83	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		80	%	60 - 140
A355623	CAU	Method Blank	O-TERPHENYL (sur.)	2021/09/17		85	%	60 - 140
A333023	CAU	MICHIOU DIAITK	O-TEM HENTE (SUL)	2021/03/17		0.5	/0	00 - 140



Report Date: 2021/09/28

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

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			F2 (C10-C16 Hydrocarbons)	2021/09/17	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/17	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/17	<50		mg/kg	
A355623	CAU	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/17	3.9		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/17	22		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/17	NC		%	40
A355624	MAE	Method Blank	Moisture	2021/09/17	<0.30		%	
A355624	MAE	RPD [AFU823-01]	Moisture	2021/09/17	9.3		%	20
A355625	GG3	Matrix Spike [AFU824-01]	O-TERPHENYL (sur.)	2021/09/17		86	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		82	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		87	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		85	%	60 - 140
A355625	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/09/17		91	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		89	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		93	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		91	%	60 - 140
A355625	GG3	Method Blank	O-TERPHENYL (sur.)	2021/09/17		98	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/17	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/17	<50		mg/kg	
A355625	GG3	RPD [AFU824-01]	F2 (C10-C16 Hydrocarbons)	2021/09/17	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/17	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/17	NC		%	40
A355626	MAE	Method Blank	Moisture	2021/09/17	<0.30		%	
A355626	MAE	RPD [AFU830-01]	Moisture	2021/09/17	9.7		%	20
A355628	SNA	Method Blank	Moisture	2021/09/17	< 0.30		%	
A355628	SNA	RPD	Moisture	2021/09/17	1.9		%	20
A355882	PC5	Matrix Spike [AFU820-01]	Total Antimony (Sb)	2021/09/17		113	%	75 - 125
			Total Arsenic (As)	2021/09/17		103	%	75 - 125
			Total Barium (Ba)	2021/09/17		NC	%	75 - 125
			Total Beryllium (Be)	2021/09/17		114	%	75 - 125
			Total Cadmium (Cd)	2021/09/17		101	%	75 - 125
			Total Chromium (Cr)	2021/09/17		108	%	75 - 125
			Total Cobalt (Co)	2021/09/17		104	%	75 - 125
			Total Copper (Cu)	2021/09/17		104	%	75 - 125
			Total Lead (Pb)	2021/09/17		97	%	75 - 125
			Total Mercury (Hg)	2021/09/17		94	%	75 - 125
			Total Molybdenum (Mo)	2021/09/17		105	%	75 - 125
			Total Nickel (Ni)	2021/09/17		107	%	75 - 125
			Total Selenium (Se)	2021/09/17		109	%	75 - 125
			Total Silver (Ag)	2021/09/17		102	%	75 - 125
			Total Thallium (Tl)	2021/09/17		94	%	75 - 125
			Total Tin (Sn)	2021/09/17		104	%	75 - 125
			Total Uranium (U)	2021/09/17		93	%	75 - 125
			Total Vanadium (V)	2021/09/17		121	%	75 - 125
			Total Zinc (Zn)	2021/09/17		112	%	75 - 125
A355882	PC5	QC Standard	Total Antimony (Sb)	2021/09/17		119	%	15 - 182
			Total Arsenic (As)	2021/09/17		97	%	53 - 147
			Total Barium (Ba)	2021/09/17		88	%	80 - 119
			Total Cadmium (Cd)	2021/09/17		91	%	72 - 128
			Total Chromium (Cr)	2021/09/17		91	%	59 - 141



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Cobalt (Co)	2021/09/17		94	%	58 - 142
			Total Copper (Cu)	2021/09/17		100	%	83 - 117
			Total Lead (Pb)	2021/09/17		103	%	79 - 121
			Total Molybdenum (Mo)	2021/09/17		107	%	67 - 133
			Total Nickel (Ni)	2021/09/17		100	%	79 - 121
			Total Silver (Ag)	2021/09/17		84	%	47 - 153
			Total Tin (Sn)	2021/09/17		98	%	67 - 133
			Total Uranium (U)	2021/09/17		100	%	77 - 123
			Total Vanadium (V)	2021/09/17		96	%	79 - 121
			Total Zinc (Zn)	2021/09/17		101	%	79 - 121
A355882	PC5	Spiked Blank	Total Antimony (Sb)	2021/09/17		108	%	80 - 120
			Total Arsenic (As)	2021/09/17		97	%	80 - 120
			Total Barium (Ba)	2021/09/17		90	%	80 - 120
			Total Beryllium (Be)	2021/09/17		105	%	80 - 120
			Total Cadmium (Cd)	2021/09/17		94	%	80 - 120
			Total Chromium (Cr)	2021/09/17		98	%	80 - 120
			Total Cobalt (Co)	2021/09/17		98	%	80 - 120
			Total Copper (Cu)	2021/09/17		100	%	80 - 120
			Total Lead (Pb)	2021/09/17		91	%	80 - 120
			Total Mercury (Hg)	2021/09/17		92	%	80 - 120
			Total Molybdenum (Mo)	2021/09/17		97	%	80 - 120
			Total Nickel (Ni)	2021/09/17		96	%	80 - 120
			Total Nickel (NI) Total Selenium (Se)	2021/09/17		103	% %	80 - 120
			Total Silver (Ag)	2021/09/17		95	%	80 - 120
			Total Thallium (TI)	2021/09/17		90	%	80 - 120
			Total Tin (Sn)	2021/09/17		94	%	80 - 120
			Total Uranium (U)	2021/09/17		88	%	80 - 120
			Total Vanadium (V)	2021/09/17		98	%	80 - 120
			Total Zinc (Zn)	2021/09/17		100	%	80 - 120
A355882	PC5	Method Blank	Total Antimony (Sb)	2021/09/17	<0.50		mg/kg	
			Total Arsenic (As)	2021/09/17	<1.0		mg/kg	
			Total Barium (Ba)	2021/09/17	<1.0		mg/kg	
			Total Beryllium (Be)	2021/09/17	<0.40		mg/kg	
			Total Cadmium (Cd)	2021/09/17	<0.050		mg/kg	
			Total Chromium (Cr)	2021/09/17	<1.0		mg/kg	
			Total Cobalt (Co)	2021/09/17	<0.50		mg/kg	
			Total Copper (Cu)	2021/09/17	<1.0		mg/kg	
			Total Lead (Pb)	2021/09/17	<0.50		mg/kg	
			Total Mercury (Hg)	2021/09/17	<0.050		mg/kg	
			Total Molybdenum (Mo)	2021/09/17	< 0.40		mg/kg	
			Total Nickel (Ni)	2021/09/17	<1.0		mg/kg	
			Total Selenium (Se)	2021/09/17	<0.50		mg/kg	
			Total Silver (Ag)	2021/09/17	<0.20		mg/kg	
			Total Thallium (TI)	2021/09/17	<0.10		mg/kg	
			Total Tin (Sn)	2021/09/17	<1.0		mg/kg	
			Total Uranium (U)	2021/09/17	<0.20		mg/kg	
			Total Vanadium (V)	2021/09/17	<1.0		mg/kg	
			Total Variation (V)	2021/09/17	<10		mg/kg	
A355882	PC5	RPD [AFU820-01]	Total Antimony (Sb)	2021/09/17	NC		///g/kg %	30
70002	1 63	W D [VI 0050-01]	Total Artimony (3b)	2021/09/17	0.75		% %	30
			ו טנמו או זכוווג (אז)	2021/03/1/	0.75		/0	30



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Beryllium (Be)	2021/09/17	NC		%	30
			Total Cadmium (Cd)	2021/09/17	5.9		%	30
			Total Chromium (Cr)	2021/09/17	2.7		%	30
			Total Cobalt (Co)	2021/09/17	1.4		%	30
			Total Copper (Cu)	2021/09/17	2.4		%	30
			Total Lead (Pb)	2021/09/17	1.2		%	35
			Total Mercury (Hg)	2021/09/17	NC		%	35
			Total Molybdenum (Mo)	2021/09/17	NC		%	35
			Total Nickel (Ni)	2021/09/17	5.7		%	30
			Total Selenium (Se)	2021/09/17	NC		%	30
			Total Silver (Ag)	2021/09/17	NC		%	35
			Total Thallium (TI)	2021/09/17	NC		%	30
			Total Tin (Sn)	2021/09/17	NC		%	35
			Total Uranium (U)	2021/09/17	0.28		%	30
			Total Vanadium (V)	2021/09/17	1.4		%	30
			Total Zinc (Zn)	2021/09/17	0.38		%	30
A356105	BFE	Matrix Spike	Hex. Chromium (Cr 6+)	2021/09/17		91	%	75 - 125
A356105	BFE	Spiked Blank	Hex. Chromium (Cr 6+)	2021/09/17		98	%	80 - 120
A356105	BFE	Method Blank	Hex. Chromium (Cr 6+)	2021/09/17	<0.080		mg/kg	
A356105	BFE	RPD	Hex. Chromium (Cr 6+)	2021/09/17	NC		%	35
A356253	JAB	Matrix Spike	Soluble Boron (B)	2021/09/17		94	%	75 - 125
A356253	JAB	Spiked Blank	Soluble Boron (B)	2021/09/17		94	%	80 - 120
A356253	JAB	Method Blank	Soluble Boron (B)	2021/09/17	<0.10		mg/L	
A356253	JAB	RPD	Soluble Boron (B)	2021/09/17	14		%	30
A356383	BFE	Matrix Spike	Hex. Chromium (Cr 6+)	2021/09/17		105	%	75 - 125
A356383	BFE	Spiked Blank	Hex. Chromium (Cr 6+)	2021/09/17		100	%	80 - 120
A356383	BFE	Method Blank	Hex. Chromium (Cr 6+)	2021/09/17	<0.080		mg/kg	
A356383	BFE	RPD	Hex. Chromium (Cr 6+)	2021/09/17	NC		%	35
A357683	JAB	Matrix Spike [AFU820-01]	Soluble Boron (B)	2021/09/19		96	%	75 - 125
A357683	JAB	QC Standard	Soluble Sulphate (SO4)	2021/09/19		110	%	75 - 125
A357683	JAB	Spiked Blank	Soluble Boron (B)	2021/09/19		96	%	80 - 120
A357683	JAB	Method Blank	Soluble Boron (B)	2021/09/19	< 0.10		mg/L	
			Soluble Sulphate (SO4)	2021/09/19	<5.0		mg/L	
A357683	JAB	RPD [AFU820-01]	Soluble Boron (B)	2021/09/19	21		%	30
			Soluble Sulphate (SO4)	2021/09/19	9.9		%	30
A358665	MPU	QC Standard	Total Fusion Barium (Ba)	2021/09/21		92	%	75 - 125
A358665	MPU	Spiked Blank	Total Fusion Barium (Ba)	2021/09/21		95	%	75 - 125
A358665	MPU	Method Blank	Total Fusion Barium (Ba)	2021/09/21	<50		mg/kg	



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A358665	MPU	RPD	Total Fusion Barium (Ba)	2021/09/21	3.7		%	35

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

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

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

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

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

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

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

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

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



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

VALIDATION SIGNATURE PAGE

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

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

Gita Pokhrel, Laboratory Supervisor

Maria Magdalena Florescu, Ph.D., P.Chem., QP, Inorganics Manager

Qiliang (Alex) Wu, Analyst II

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

permicatalk

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.

ADDITIONAL COOLER TEMPERATURE RECORD CHAIN-OF-CUSTODY RECORD

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DATE (YYYY/MM/DD)

RECEIVED BY (SIGN & PRINT)

MaxXam

ADDITIONAL COOLER TEMPERATURE RECORD CHAIN-OF-CUSTODY RECORD

CHAIN OF CUSTODY ## CUSTODY SEAL YES NO COOLER D D D	CUSTODY SEAL PRESENT INTACT ICE PRESENT CUSTODY SEAL PRESENT ICE P	PRESENT PESENT INTACT EESENT PESENT DD SEAL PESENT INTACT ESENT PESENT INTACT PRESENT PESENT INTACT INTACT	NO COOLER ID NO COOLER ID NO COOLER ID TEMP TEMP TEMP TEMP TEMP TEMP TEMP TEMP	RRID 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 2 2 2
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Of		l	7	-	-
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Of TEMP 5	CUSTODY SEAL	EAL YES	NO COOLER ID	GII	
Of TEMP O I INTACL OF TEMP O I I Z		PRESENT	П		CHINA
CUSTODY SEAL YES NO COOLERID		INTACT	TEMP	-	-
	T	EAL YES	NO COOLER ID	1 0	5 3
OT PRESENT	L		7		ŀ
CT / TEMP ~ (INTACT	TEMP		-
ICE PRESENT /	3 ICE PRESENT			1	2 3
CUSTO	CUSTODY SEAL	EAL YES	NO COOLER ID	OJ	
PRESENT		SENT			_
Of TEMP 1	. INTACT	ACT	TEMP		and the same of
CHERKSEN 1 2	-			1	2 3
OF CODIERID	CUSTODY SEAL	YES	NO COOLER ID	QI.	Total Contract
age INTACT TEMP	PRESENT	DEN!	T		- Company
	ICE PRE		T		3

0h:41

11/60/1202

Page 34 of 52

	INVOICE TO:		2	REPORT TO:					PROJECT INFORMATION:	NFORMAT	ON:		Laboratory Use Only:	e Only:
Company Name. #254 GOLDE	#254 GOLDER ASSOCIATES LTD.	Company Name: #	6340	GOLDER ASSOCIATES LTD	TES LTD.		Quot	Quotation #	C00480				BV Labs Job#:	Bottle Order #:
	AYABLE	Attention:	Aurelie Belavance	ø			P.O.	#	203680	20368099-7000-100	1001		1107911	
2800, 700 -2nd Street SW	d Street SW	Address:	2800, 700 -2nd Street SW	street SW			Project	ict	203680	20368099-6000-1001	1001		11	644511
CALGARY AB T2P 2W2			CALGARY AB T2P 2W2	2P 2W2			Proje	Project Name:					COC #:	Project Manager:
(905) 567-6100 Ext: 1167 canadaaccountspayableir	(905) 567-6100 Ext. 1167 Fax (403) 299-5606 canadaaccountspayableinvoices@golder.com	5006 Tel:	(403) 299-5600 abellavance@golder.com	lder.com	Fax		Site #	Site #					C#844511.87.01	Carmen McKay
			Special Instructions			AN	ALYSIS REQU	ESTED (PLEA	ANALYSIS REQUESTED (PLEASE BE SPECIFIC	0		_	Turnaround Time (TAT) Required:	Sportificad:
ATI ATI CCME		email: she	email: shelldyrldgolder.com		alio2 - a	1		rusion (mu ni S3-		(tTA\3MC	SIA	Regular (St (will be appl Standard TA	Please provide advance rolice for rush projocas Regular (Standard) TAT: (will be applied if flush TAT is not specified): Standard TAT = 5-7 Working days for most lests.	rrush projects
Other		402 8 50 FO.	E *	iltered ? (ed Meta	sisylsnA lios ni		P using rue Bari	16		9 10		Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for 19stalls Job Specific Rush TAT (if applies to entire submission)	- contact your Project Manage sion)
SAMPLES MUST BER	SAMPLES MUST BENEET COOL (< 1000) FROM TIME OF SAMPLING UNTIL DELIVERY TO BY	AMPLING UNTIL DELIVER	Y TO BV ÍABS	s Field F	E X3T8		in \ ətsr	ction (T	r ne Wate	paylos	⊕ UI	Date Required: Rush Confirmation Number:	ad: ation Number:	Second link for #1
Sample Barcode Label	Sample (Location) Identification	Date Sampled	ne Sampled	Matrix	rTA			CCM	Wate ituoR		HA9	# of Bottles	Comments	tts
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	1921-190-04		20:0)		× ×		X	×			×	4 tBorn		
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	TP21-191-02		09:57		X		X	×			×	4+ Bas	findwolley at benjaced	- Allow Monte
	TA1-191-04		65:60	,	X		X	×			<u>×</u>	4+ Baz	By: J'Me	nerson
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,	193-01	1	11:42		_							W		
>	20-26] MANNE	A	11:45 V		X							2		
RELINQUISHED BY: (Signature/Print)		TI (JOHN)	or or	CEIVED BY: (Signa	RECEIVED BY: (Signature/Print)		Date:	Date: (YY/MM/DD)	Time		# jars used and not submitted	Time Sensitive	Laboratory Use Only	
1000	A desa	101101	-		1		M	117.01		_			aniperature (c) oil Necepti	Costooy Seer Hilled Of Cooker

Buraau Veritas Laboratories 4000 19st N.E., Calgary, Alberta Carada TZE 6P8 Tei (403) 291-3077 Toll-free 800-563-6266 Fax (403) 291-9468 www.bvlabs.com

CHAIN OF CUSTODY RECORD

Page 201 2

#254 GOLDER ASSOCIATES LTD.	Company Mama	2000	GOLDER ASSOCIATES LTD		-								Laboratory Use Unity	
		#6340		ES LTD.		ċ	O. retolion III	ರ	C00480				BV Labs Job #:	Bottle Order #:
ACCOUNTS PAYABLE	Attention	Aurelie				3 6	Quotation#.	20	368099-	20368099-7000-1001	_		1100110	
2800, 700 -2nd Street SW	Address	2800, 700 -2nd Street SW	et SW			I a	Project	20	368099-	20368099-6000-1001			05290	644511
CALGARY AB T2P 2W2		CALGARY AB T2P 2W2	2W2			Pro	Project Name:	1					COC #:	Project Manager:
(905) 567-6100 Ext: 1167 Fax. (403) 299-5606 canadaaoccountspayableinvoices@golder.com	Tel:	(403) 299-5600 abellavance@golder.com	1	Fax		Site	Site #: Sampled By:	11					C#644511-89-01	Carmen McKay
	Spic	Special Instructions			A	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)	QUESTED.(I	PLEASE BE S	SPECIFIC)				Turnaround Time (TAT) Required:	equired:
	. =		sted ? (Y/N)	slioS - Soils lioS ni 44-14 l					1/62 - 50/1	1999			Please provide advances notice for rush projects Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Sandard TAT = 5.7 Working days for most leas. Please notice. Standard TAT for certain less are > 5 days - contact your Project Manager for please.	rush projects Kanana your Project Manager for
SAMPLES WUST BE KEPT COOL (< 10°C.) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS Sample (I carlon) Identification Time Sample (I carlon) Identification	ING UNTIL DELIVER	Y TO BV LABS	Metals Field Filte	ons X3T8 fTA	(F2/F2+F3B) ii BIC SCALE At	Sulphate / nitra	Barium on ICP Lxtraction (Tru	CCME BTEX	Petritics Meter	bevloseid -	Igms& bətimiJ		Date Sequined. Date Required. Retain Confirmation Number: Ret Dattles Comments	(call lab for #)
HA21-194-01	04 Sur. 201	13:30 Sil		×		X	×			×	>	2 + 60%	5	
HAY-194-02		13:50		×		X	X			X.	×	3+ 60		
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FW21-02	_	B:*		X					X		7	t	Sample doby O.	0.45 Mbg8.
7/21-152-02		7:2:11		×								w	, ,	0
1921-177-01	>	2.82		7								3	Received in Yellowknife	wknife
				2									By: J.M€1	MERCHO
												52	17 01 01S	9:00 AN
													Tomni	ACT
* RELINQUISHED BY: (Signature/Print) Date: 1YY/MM/DD)	Y/MM/DD) Time		VED BY: (S)	RECEIVED BY: (Signature/Print)	- 6	Da	Date: (YY/MM/DD)		Time	# jars used	and		Laboratory Use Only	
1	4) 4	:00 Ahi	Alicia	A I'M		20	2021/09/		04:41	not submitted	tted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
. 9)		-3									See ACTA	Yes

Bureau Veritas Canada (2019) Inc.

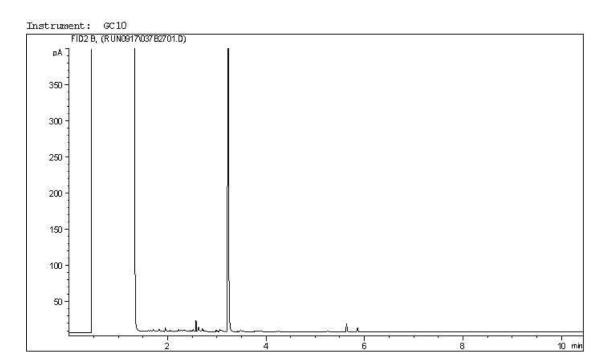
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

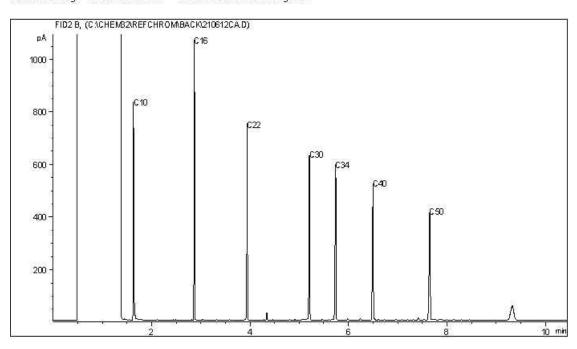
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-190-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4		C12	Diesel:	c8	T	C22
Varsol:	c8	: :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

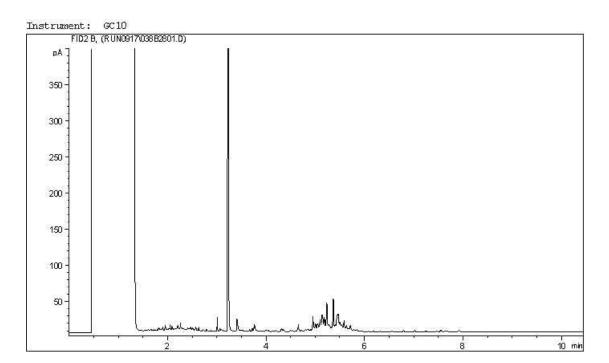
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

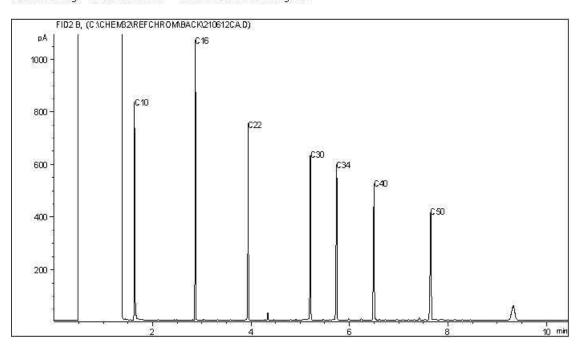
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-190-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 -	- C12	Diesel:	c8 -	C22
Varsol:	c8 -	- C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7 -	- c16	Crude Oils:	c3 -	C60+

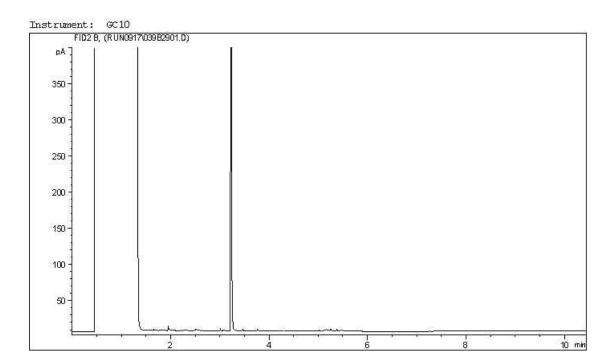
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

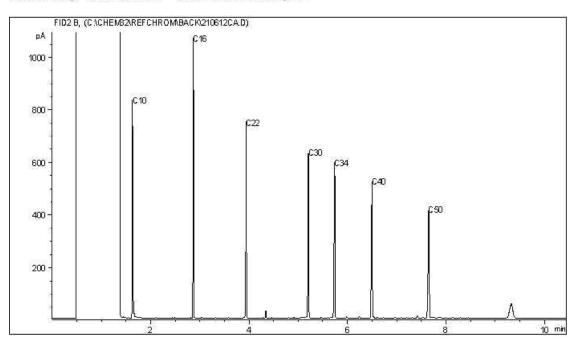
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-190-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4		C12	Diesel:	c8	T	C22
Varsol:	c8	: :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

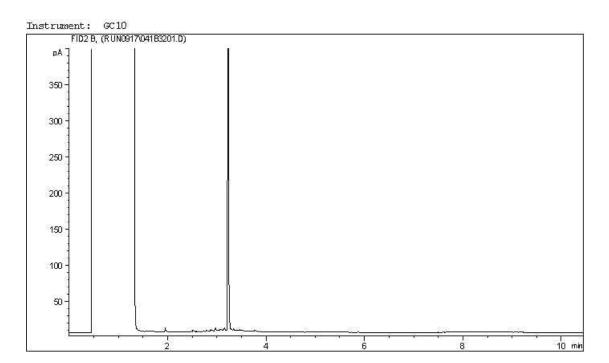
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Client Project #: 20368099-6000-1001

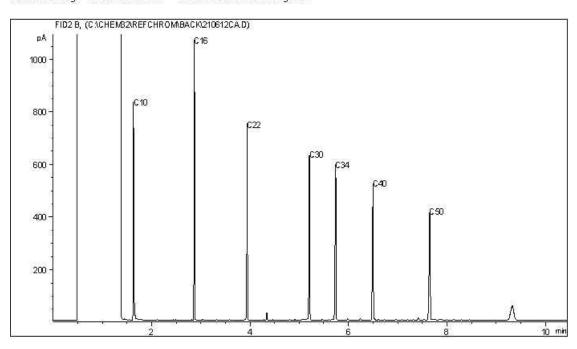
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-191-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8	170	C22
Varsol:	c8	: -	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-191-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2B, (RUN0917042B3301.D)

pA

330

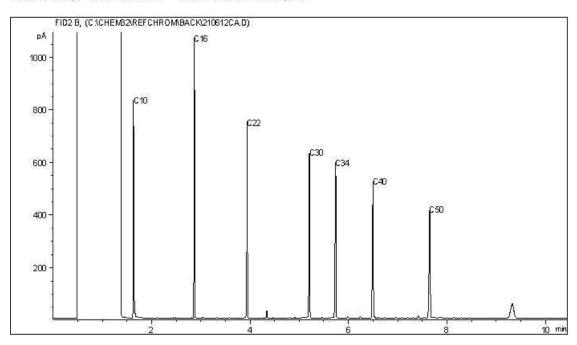
250

100

100

50

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-191-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2B, (RUN0917043B3401.D)

pA

350

250

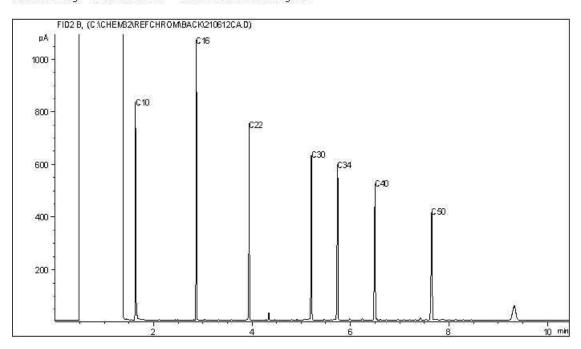
100

100

50

100 min

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: HA21-192-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2 B, (RUN091704483501.0)

pA

330

250

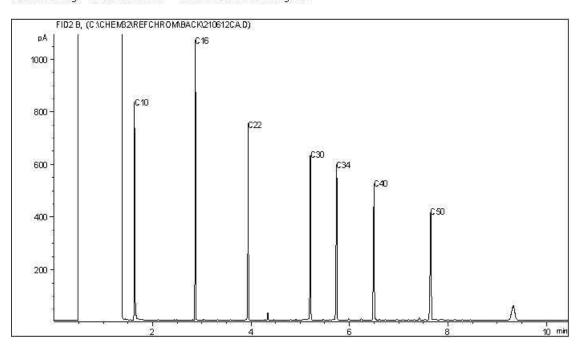
100

100

50

10 min

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: HA21-192-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2B, (RUN091704589801.D)

pA

390

290

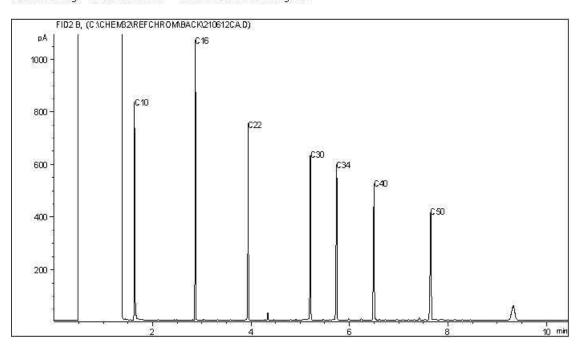
190

100

50

10 min

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

14 min

Client ID: HA21-193-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

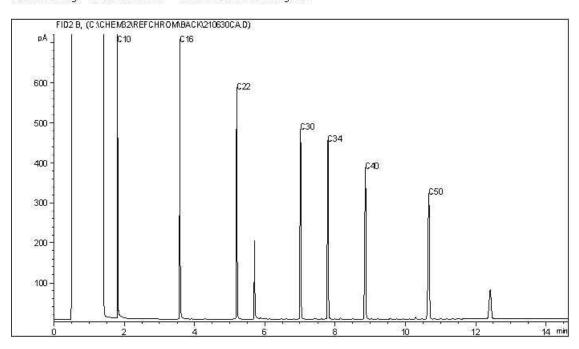
Instrument: GC12

FID2B, (RUN091708484101.D)

pA

350
250
150
100
50-

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: HA21-193-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

BV Labs Job #: C167916 Report Date: 2021/09/28

BV Labs Sample: AFU824 Lab-Dup

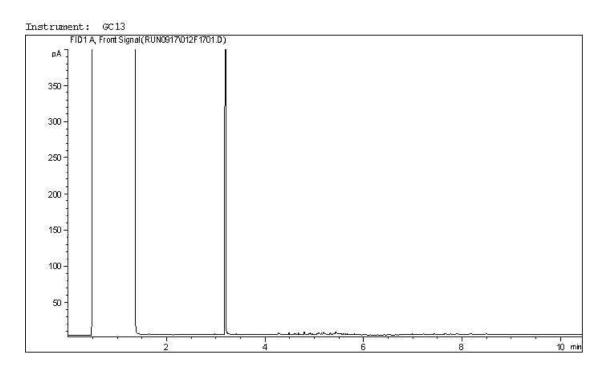
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

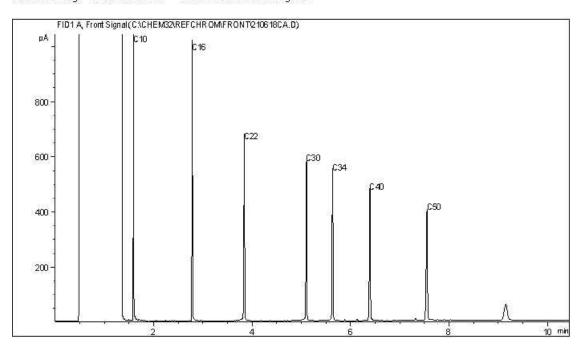
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: HA21-193-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	170	C12	Diesel:	c8	100	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: HA21-194-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2 B, (RUN0917046 B3701.0)

pA

300

250

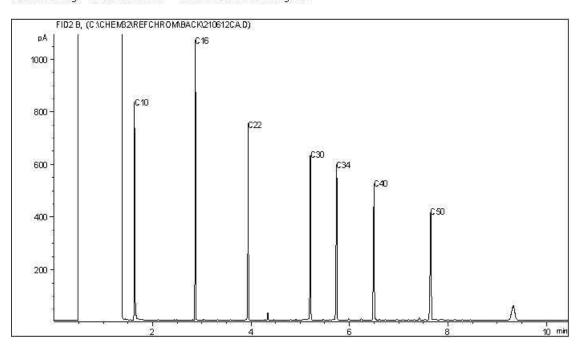
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2 4 6 8 10 min

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: HA21-194-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2 B, (RUN091704889901.0)

pA

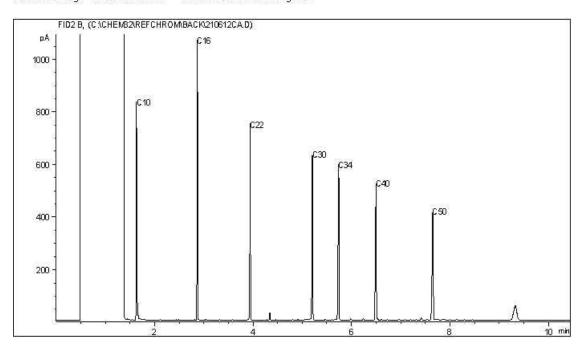
390

250

100

50

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: FM21-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC12

FID2B, (RUN0917085B4201.D)

pA

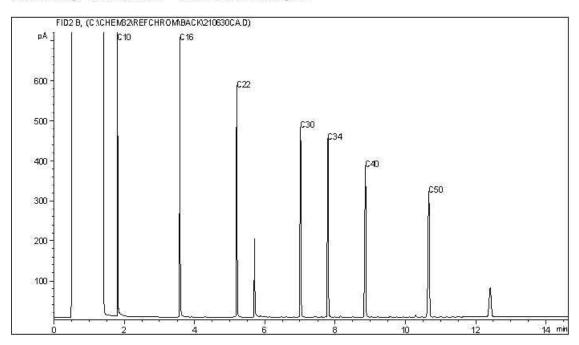
350

250

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2 4 5 8 10 12 14 min

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+

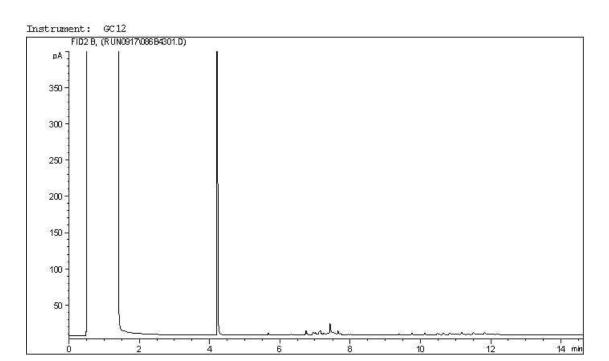
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

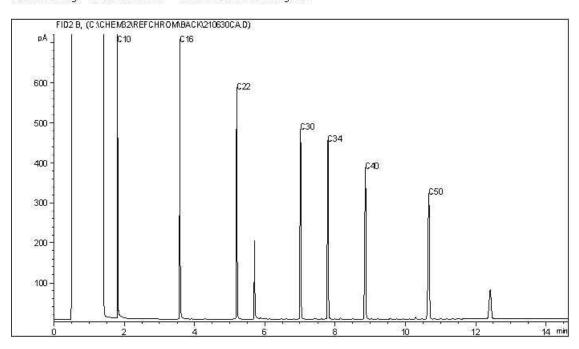
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: FM21-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4 -	C12	Diesel:	c8 -	C22
Varsol:	c8 -	C12	Lubricating Oils:	C20 -	C40
Kerosene:	c7 -	C16	Crude Oils:	c3 -	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-152-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

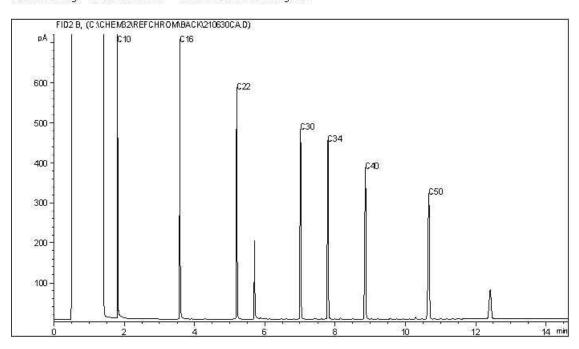
Instrument: GC12

FID2 B, (RUN0917087 B4401.D)

pA

35025015010050-

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+

GOLDER ASSOCIATES LTD.

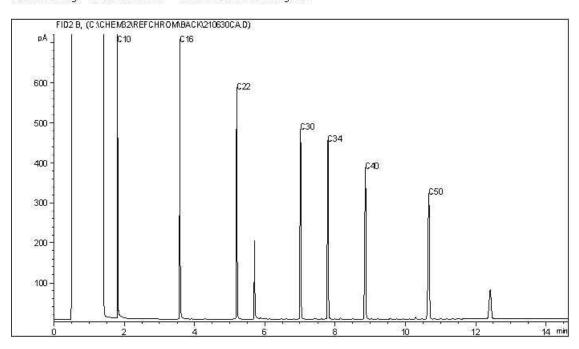
Client Project #: 20368099-6000-1001

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

Client ID: TP21-177-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farew	ell			Sampling Date:	September 4, 2021
Golder Project Number: 2	20368099	9-6000-100	1	Laboratory:	Bureau Veritas Edmonton
Lab Submission Number: (C167916		•		
			•		
Was the Cooler Received at the lal Was proper chain of custody of the				•	Yes Yes
Were sample temperatures accepta					Yes
Were all samples analyzed and ext		•			Yes
Has lab warranted all tests were in					Yes
Was sufficient sample provided for	r the requ	ested analy	sis?		Yes
Has lab warranted all samples were	e analyze	d with limit	ed headsp	pace present?:	Yes
Are All Laboratory QC Within Ac	ceptance Yes	Criteria (Ye No	es, No, N NA	ot Applicable)?	Comments
Surrogate Recovery	X			Matrix spike reco	overy for vanadium(139%) exceeded
Method Blank Concentration	X			the acceptance cr	iteria of (75-125%).
Laboratory Duplicate RPD	X			All remaining lab	oratory QC results are within
Matrix Spike Recovery		X		acceptance criteri	ia.
Blank Spike Recovery	X				
Are All Field QC Samples Within				oplicable)?	
гири и с	Yes	No	NA	N. C.1100	Comments
Field Blank Concentration			X	No field QC samp	ples were collected.
Trip Blank Concentration			X		
Field Duplicate RPD			X		
Is data considered reliable (Yes/No If answer is "No" or "Suspect", de			itionale:	Yes	•
					200000000000000000000000000000000000000
Data Reviewed by (Print): _	Anita Col	bert		Data Reviewed by	(Signature): Ondo Colbert
Date:	Septembe	er 27, 2021			



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

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

Territories

Attention: Aurelie Belavance

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

Your C.O.C. #: 644511-79-01, 644511-80-01, 644511-81-01, 644511-83-01

Report Date: 2021/09/28

Report #: R3077291 Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C167920 Received: 2021/09/10, 09:00

Sample Matrix: Soil # Samples Received: 38

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	38	N/A	2021/09/17	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	38	N/A	2021/09/18		Auto Calc
CCME Hydrocarbons (F2-F4 in soil) (1, 3)	1	2021/09/14	2021/09/15	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 3)	18	2021/09/14	2021/09/17	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 3)	19	2021/09/14	2021/09/18	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F4G in soil) (1, 3)	1	2021/09/14	2021/09/20	AB SOP-00036	CCME PHC-CWS m
				AB SOP-00040	
Moisture (1)	38	N/A	2021/09/15	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.

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.



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. #: 644511-79-01, 644511-80-01, 644511-81-01, 644511-83-01

Report Date: 2021/09/28

Report #: R3077291 Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C167920

Received: 2021/09/10, 09:00

- (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.

Encryption Key



28 Sep 2021 08:28:49

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.



GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU856	AFU856	AFU857	AFU858	AFU859		
Compling Date		2021/09/01	2021/09/01	2021/09/01	2021/09/01	2021/09/01		
Sampling Date		09:55	09:55	09:57	10:00	10:00		
COC Number		644511-79-01	644511-79-01	644511-79-01	644511-79-01	644511-79-01		
	UNITS	TP21-134-02	TP21-134-02 Lab-Dup	TP21-134-04	TP21-134-06	DUP XX	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	N/A	<10	<10	<10	10	A351377
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	N/A	<50	<50	<50	50	A351377
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	N/A	<50	<50	<50	50	A351377
Reached Baseline at C50	mg/kg	Yes	N/A	Yes	Yes	Yes	N/A	A351377
Physical Properties								
Moisture	%	7.1	N/A	4.4	12	12	0.30	A351631
Volatiles	-							
Xylenes (Total)	mg/kg	<0.045	N/A	<0.045	<0.045	<0.045	0.045	A350570
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	<10	<10	<10	10	A350570
Field Preserved Volatiles	-	•	•	•	-		-	
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A351801
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A351801
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	A351801
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	A351801
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	A351801
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	<10	10	A351801
Surrogate Recovery (%)	-	•	•	•	-		-	
1,4-Difluorobenzene (sur.)	%	108	102	102	102	107	N/A	A351801
4-Bromofluorobenzene (sur.)	%	100	95	100	100	93	N/A	A351801
D10-o-Xylene (sur.)	%	96	87	98	108	89	N/A	A351801
D4-1,2-Dichloroethane (sur.)	%	104	100	99	100	103	N/A	A351801
O-TERPHENYL (sur.)	%	96	N/A	92	97	99	N/A	A351377

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate



GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU860	AFU860		AFU861		AFU862		
Sampling Date		2021/09/01	2021/09/01		2021/09/01		2021/09/01		
Jamping Date		10:15	10:15		10:17		10:29		
COC Number		644511-79-01	644511-79-01		644511-79-01		644511-79-01		
	UNITS	TP21-135-02	TP21-135-02 Lab-Dup	QC Batch	TP21-135-03	QC Batch	TP21-135-05	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	84	86	A351402	35	A351377	<10	10	A351377
F3 (C16-C34 Hydrocarbons)	mg/kg	95	85	A351402	<50	A351377	<50	50	A351377
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A351402	<50	A351377	<50	50	A351377
Reached Baseline at C50	mg/kg	Yes	Yes	A351402	Yes	A351377	Yes	N/A	A351377
Physical Properties	•								
Moisture	%	7.2	6.0	A352143	5.4	A351889	6.3	0.30	A351631
Volatiles	•								
Xylenes (Total)	mg/kg	<0.045	N/A	A350570	<0.045	A350570	<0.045	0.045	A350570
F1 (C6-C10) - BTEX	mg/kg	<10	N/A	A350570	<10	A350570	<10	10	A350570
Field Preserved Volatiles	•								
Benzene	mg/kg	<0.0050	N/A	A351801	<0.0050	A351801	<0.0050	0.0050	A351801
Toluene	mg/kg	<0.050	N/A	A351801	<0.050	A351801	<0.050	0.050	A351801
Ethylbenzene	mg/kg	<0.010	N/A	A351801	<0.010	A351801	<0.010	0.010	A351801
m & p-Xylene	mg/kg	<0.040	N/A	A351801	<0.040	A351801	<0.040	0.040	A351801
o-Xylene	mg/kg	<0.020	N/A	A351801	<0.020	A351801	<0.020	0.020	A351801
F1 (C6-C10)	mg/kg	<10	N/A	A351801	<10	A351801	<10	10	A351801
Surrogate Recovery (%)	•								
1,4-Difluorobenzene (sur.)	%	103	N/A	A351801	102	A351801	93	N/A	A351801
4-Bromofluorobenzene (sur.)	%	109	N/A	A351801	102	A351801	103	N/A	A351801
D10-o-Xylene (sur.)	%	106	N/A	A351801	106	A351801	97	N/A	A351801
D4-1,2-Dichloroethane (sur.)	%	100	N/A	A351801	97	A351801	93	N/A	A351801
O-TERPHENYL (sur.)	%	102	93	A351402	99	A351377	100	N/A	A351377

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate



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)

<u></u>									
BV Labs ID		AFU862	AFU863	AFU864	AFU865		AFU868		
Sampling Date		2021/09/01	2021/09/01	2021/09/01	2021/09/01		2021/09/01		
Sampling Date		10:29	10:17	09:57	10:29		10:54		
COC Number		644511-79-01	644511-79-01	644511-79-01	644511-79-01		644511-80-01		
	UNITS	TP21-135-05 Lab-Dup	DUP YY	DUP WW	DUP ZZ	QC Batch	TP21-177-02	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	79	<10	<10	A351377	52	10	A351377
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	<50	A351377	850	50	A351377
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	<50	A351377	290	50	A351377
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	A351377	Yes	N/A	A351377
Physical Properties									
Moisture	%	N/A	11	3.5	6.8	A351631	29	0.30	A351889
Volatiles	•								
Xylenes (Total)	mg/kg	N/A	<0.045	<0.045	<0.045	A350570	<0.045	0.045	A350570
F1 (C6-C10) - BTEX	mg/kg	N/A	<10	<10	<10	A350570	<10	10	A350570
Field Preserved Volatiles	•								
Benzene	mg/kg	N/A	<0.0050	<0.0050	<0.0050	A351801	<0.0050	0.0050	A351801
Toluene	mg/kg	N/A	<0.050	<0.050	<0.050	A351801	<0.050	0.050	A351801
Ethylbenzene	mg/kg	N/A	<0.010	<0.010	<0.010	A351801	<0.010	0.010	A351801
m & p-Xylene	mg/kg	N/A	<0.040	<0.040	<0.040	A351801	<0.040	0.040	A351801
o-Xylene	mg/kg	N/A	<0.020	<0.020	<0.020	A351801	<0.020	0.020	A351801
F1 (C6-C10)	mg/kg	N/A	<10	<10	<10	A351801	<10	10	A351801
Surrogate Recovery (%)	•	•	•	•	•	-	•	•	•
1,4-Difluorobenzene (sur.)	%	N/A	101	100	101	A351801	97	N/A	A351801
4-Bromofluorobenzene (sur.)	%	N/A	98	102	100	A351801	98	N/A	A351801
D10-o-Xylene (sur.)	%	N/A	108	103	97	A351801	102	N/A	A351801
D4-1,2-Dichloroethane (sur.)	%	N/A	99	97	99	A351801	96	N/A	A351801
O-TERPHENYL (sur.)	%	100	91	93	94	A351377	110	N/A	A351377
			-		-				

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate



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)

	AFU869		AFU870	AFU871	AFU872	AFU873		
	2021/09/01		2021/09/01	2021/09/01	2021/09/01	2021/09/01		
	10:54		10:55	10:55	11:16	11:16		
	644511-80-01		644511-80-01	644511-80-01	644511-80-01	644511-80-01		
UNITS	DUP AAA	RDL	TP21-177-04	DUP BBB	TP21-178-02	DUP CCC	RDL	QC Batch
mg/kg	36	10	<10	<10	<10	10	10	A351377
mg/kg	720	50	<50	<50	<50	<50	50	A351377
mg/kg	240	50	<50	<50	<50	<50	50	A351377
mg/kg	Yes	N/A	Yes	Yes	Yes	Yes	N/A	A351377
%	37	0.30	11	12	3.8	5.0	0.30	A351631
mg/kg	<0.093	0.093	<0.045	<0.045	<0.045	<0.045	0.045	A350570
mg/kg	<21	21	<10	<10	<10	<10	10	A350570
								-
mg/kg	<0.010 (1)	0.010	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A351801
mg/kg	<0.10 (1)	0.10	<0.050	<0.050	<0.050	<0.050	0.050	A351801
mg/kg	<0.021 (1)	0.021	<0.010	<0.010	<0.010	<0.010	0.010	A351801
mg/kg	<0.083 (1)	0.083	<0.040	<0.040	<0.040	<0.040	0.040	A351801
mg/kg	<0.042 (1)	0.042	<0.020	<0.020	<0.020	<0.020	0.020	A351801
mg/kg	<21 (1)	21	<10	<10	<10	<10	10	A351801
%	99	N/A	106	104	99	104	N/A	A351801
%	99	N/A	97	97	98	101	N/A	A351801
%	94	N/A	97	92	95	103	N/A	A351801
%	98	N/A	100	96	94	98	N/A	A351801
%	108	N/A	104	104	101	103	N/A	A351377
	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	mg/kg 36 mg/kg 720 mg/kg 240 mg/kg 240 mg/kg Yes % 37 mg/kg <0.093 mg/kg <21 mg/kg <0.10 (1) mg/kg <0.021 (1) mg/kg <0.042 (1) mg/kg <0.042 (1) mg/kg <21 (1) % 99 % 99 % 99 % 98	2021/09/01 10:54 644511-80-01	2021/09/01	2021/09/01	2021/09/01	2021/09/01	2021/09/01

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Detection limits raised based on sample weight used for analysis.



GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU874	AFU875		AFU876	AFU877		
Sampling Date		2021/09/01	2021/09/01		2021/09/01	2021/09/01		
Jamping Date		11:17	11:17		11:25	11:25		
COC Number		644511-80-01	644511-80-01		644511-80-01	644511-80-01		
	UNITS	TP21-178-04	DUP DDD	QC Batch	TP21-178-06	DUP EEE	RDL	QC Batch
Ext. Pet. Hydrocarbon	•			•			-	•
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	A351377	<10	<10	10	A351864
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	A351377	<50	<50	50	A351864
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A351377	<50	<50	50	A351864
Reached Baseline at C50	mg/kg	Yes	Yes	A351377	Yes	Yes	N/A	A351864
Physical Properties	•						_	•
Moisture	%	3.6	3.9	A351631	15	14	0.30	A351588
Volatiles	•			•			-	
Xylenes (Total)	mg/kg	<0.045	<0.045	A350812	<0.045	<0.045	0.045	A350812
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A350812	<10	<10	10	A350812
Field Preserved Volatiles	•			•			-	
Benzene	mg/kg	<0.0050	<0.0050	A351801	<0.0050	<0.0050	0.0050	A351801
Toluene	mg/kg	<0.050	<0.050	A351801	<0.050	<0.050	0.050	A351801
Ethylbenzene	mg/kg	<0.010	<0.010	A351801	<0.010	<0.010	0.010	A351801
m & p-Xylene	mg/kg	<0.040	<0.040	A351801	<0.040	<0.040	0.040	A351801
o-Xylene	mg/kg	<0.020	<0.020	A351801	<0.020	<0.020	0.020	A351801
F1 (C6-C10)	mg/kg	<10	<10	A351801	<10	<10	10	A351801
Surrogate Recovery (%)	•			•			-	
1,4-Difluorobenzene (sur.)	%	104	106	A351801	102	107	N/A	A351801
4-Bromofluorobenzene (sur.)	%	101	100	A351801	104	95	N/A	A351801
D10-o-Xylene (sur.)	%	100	98	A351801	102	86	N/A	A351801
D4-1,2-Dichloroethane (sur.)	%	97	99	A351801	98	100	N/A	A351801
O-TERPHENYL (sur.)	%	112	108	A351377	99	102	N/A	A351864
RDL = Reportable Detection Li	mit							

RDL = Reportable Detection Limit



GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU881	AFU882		AFU883	AFU884		
Sampling Date		2021/09/01	2021/09/01		2021/09/01	2021/09/01		
Sampling Date		11:40	11:40		11:41	11:41		
COC Number		644511-81-01	644511-81-01		644511-81-01	644511-81-01		
	UNITS	TP21-179-02	DUP FFF	QC Batch	TP21-179-04	DUP GGG	RDL	QC Batch
Ext. Pet. Hydrocarbon	•			•			-	
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	A351864	<10	<10	10	A351377
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	A351864	<50	<50	50	A351377
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	A351864	<50	<50	50	A351377
Reached Baseline at C50	mg/kg	Yes	Yes	A351864	Yes	Yes	N/A	A351377
Physical Properties				•			-	
Moisture	%	4.6	4.3	A351588	4.0	4.2	0.30	A351631
Volatiles	•						-	
Xylenes (Total)	mg/kg	<0.045	<0.045	A350812	<0.045	<0.045	0.045	A350812
F1 (C6-C10) - BTEX	mg/kg	<10	<10	A350812	<10	<10	10	A350812
Field Preserved Volatiles	•						-	
Benzene	mg/kg	<0.0050	<0.0050	A351806	<0.0050	<0.0050	0.0050	A351806
Toluene	mg/kg	<0.050	<0.050	A351806	<0.050	<0.050	0.050	A351806
Ethylbenzene	mg/kg	<0.010	<0.010	A351806	<0.010	<0.010	0.010	A351806
m & p-Xylene	mg/kg	<0.040	<0.040	A351806	<0.040	<0.040	0.040	A351806
o-Xylene	mg/kg	<0.020	<0.020	A351806	<0.020	<0.020	0.020	A351806
F1 (C6-C10)	mg/kg	<10	<10	A351806	<10	<10	10	A351806
Surrogate Recovery (%)	•						-	
1,4-Difluorobenzene (sur.)	%	101	101	A351806	101	101	N/A	A351806
4-Bromofluorobenzene (sur.)	%	95	92	A351806	97	97	N/A	A351806
D10-o-Xylene (sur.)	%	97	95	A351806	92	97	N/A	A351806
D4-1,2-Dichloroethane (sur.)	%	95	94	A351806	93	95	N/A	A351806
O-TERPHENYL (sur.)	%	92	98	A351864	98	101	N/A	A351377
RDL = Reportable Detection Li	mit							

RDL = Reportable Detection Limit



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU885	AFU886	AFU886	AFU887	AFU888	AFU889		
Sampling Date		2021/09/01	2021/09/01	2021/09/01	2021/09/01	2021/09/01	2021/09/01		
Sampling Date		11:49	11:49	11:49	14:05	14:07	14:07		
COC Number		644511-81-01	644511-81-01	644511-81-01	644511-81-01	644511-81-01	644511-81-01		
	UNITS	TP21-179-06	DUP HHH	DUP HHH Lab-Dup	TP21-180-01	TP21-180-03	DUP III	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	<10	96	190	380	10	A351864
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	<50	<50	230	320	770	50	A351864
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	54	240	370	50	A351864
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A351864
Physical Properties								•	
Moisture	%	13	16	17	11	4.4	8.1	0.30	A351588
Volatiles									
Xylenes (Total)	mg/kg	<0.045	<0.045	N/A	<0.045	0.15	<0.045	0.045	A350812
F1 (C6-C10) - BTEX	mg/kg	<10	<10	N/A	<10	<10	<10	10	A350812
Field Preserved Volatiles		•		•			•	•	
Benzene	mg/kg	<0.0050	<0.0050	N/A	<0.0050	0.071	<0.0050	0.0050	A351806
Toluene	mg/kg	<0.050	<0.050	N/A	<0.050	0.24	<0.050	0.050	A351806
Ethylbenzene	mg/kg	<0.010	<0.010	N/A	<0.010	0.026	<0.010	0.010	A351806
m & p-Xylene	mg/kg	<0.040	<0.040	N/A	<0.040	0.12	<0.040	0.040	A351806
o-Xylene	mg/kg	<0.020	<0.020	N/A	<0.020	0.025	<0.020	0.020	A351806
F1 (C6-C10)	mg/kg	<10	<10	N/A	<10	<10	<10	10	A351806
Surrogate Recovery (%)	•	•	•	•	•	•	•	•	
1,4-Difluorobenzene (sur.)	%	101	99	N/A	100	102	102	N/A	A351806
4-Bromofluorobenzene (sur.)	%	98	97	N/A	97	94	96	N/A	A351806
D10-o-Xylene (sur.)	%	99	96	N/A	100	91	100	N/A	A351806
D4-1,2-Dichloroethane (sur.)	%	96	93	N/A	95	96	96	N/A	A351806
O-TERPHENYL (sur.)	%	94	102	94	99	89	108	N/A	A351864

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU890	AFU891	AFU892	AFU893	AFU894	AFU895		
Campling Data		2021/09/01	2021/09/01	2021/09/01	2021/09/01	2021/09/01	2021/09/01		
Sampling Date		14:09	14:09	14:30	14:33	14:45	15:07		
COC Number		644511-81-01	644511-83-01	644511-83-01	644511-83-01	644511-83-01	644511-83-01		
	UNITS	TP21-180-05	TP21-180-06	TP21-181-02	TP21-181-04	TP21-181-06	TP21-182-02	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	180	260	<10	<10	<10	11	10	A351864
F3 (C16-C34 Hydrocarbons)	mg/kg	860	230	<50	<50	<50	180	50	A351864
F4 (C34-C50 Hydrocarbons)	mg/kg	290	100	<50	<50	<50	<50	50	A351864
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	Yes	Yes	N/A	A351864
Physical Properties								•	
Moisture	%	7.0	15	3.0	11	14	17	0.30	A351588
Volatiles									
Xylenes (Total)	mg/kg	0.13	0.083	<0.045	<0.045	<0.045	<0.045	0.045	A350812
F1 (C6-C10) - BTEX	mg/kg	<10	58	<10	<10	<10	<10	10	A350812
Field Preserved Volatiles							•	•	
Benzene	mg/kg	0.020	0.011 (1)	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	A351806
Toluene	mg/kg	0.094	0.066	<0.050	<0.050	<0.050	<0.050	0.050	A351806
Ethylbenzene	mg/kg	0.023	0.12	<0.010	<0.010	<0.010	<0.010	0.010	A351806
m & p-Xylene	mg/kg	0.097	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	A351806
o-Xylene	mg/kg	0.032	0.083	<0.020	<0.020	<0.020	<0.020	0.020	A351806
F1 (C6-C10)	mg/kg	<10	59	<10	<10	<10	<10	10	A351806
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	101	100	100	99	99	100	N/A	A351806
4-Bromofluorobenzene (sur.)	%	98	95	99	97	98	97	N/A	A351806
D10-o-Xylene (sur.)	%	103	103	88	104	100	103	N/A	A351806
D4-1,2-Dichloroethane (sur.)	%	97	95	95	97	96	96	N/A	A351806
O-TERPHENYL (sur.)	%	109	104	100	103	102	103	N/A	A351864

RDL = Reportable Detection Limit

N/A = Not Applicable

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



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 BTEX AND F1-F4 IN SOIL (VIALS)

BV Labs ID		AFU896		AFU897		AFU898		
Sampling Date		2021/09/01 15:07		2021/09/01 15:08		2021/09/01 14:33		
COC Number		644511-83-01		644511-83-01		644511-83-01		
	UNITS	DUP KKK	RDL	TP21-182-04	RDL	DUP JJJ	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	18	10	83	10	<10	10	A351864
F3 (C16-C34 Hydrocarbons)	mg/kg	300	50	1200	50	<50	50	A351864
F4 (C34-C50 Hydrocarbons)	mg/kg	100	50	390	50	<50	50	A351864
Reached Baseline at C50	mg/kg	Yes	N/A	No	N/A	Yes	N/A	A351864
Physical Properties								
Moisture	%	24	0.30	45	0.30	16	0.30	A351588
Volatiles								
Xylenes (Total)	mg/kg	<0.045	0.045	<0.092	0.092	<0.045	0.045	A350812
F1 (C6-C10) - BTEX	mg/kg	<10	10	<21	21	<10	10	A350812
Field Preserved Volatiles	•	•	=	•	•	•	=	•
Benzene	mg/kg	<0.0050	0.0050	<0.010 (1)	0.010	<0.0050	0.0050	A351806
Toluene	mg/kg	<0.050	0.050	<0.10 (1)	0.10	<0.050	0.050	A351806
Ethylbenzene	mg/kg	<0.010	0.010	<0.021 (1)	0.021	<0.010	0.010	A351806
m & p-Xylene	mg/kg	<0.040	0.040	<0.082 (1)	0.082	<0.040	0.040	A351806
o-Xylene	mg/kg	<0.020	0.020	<0.041 (1)	0.041	<0.020	0.020	A351806
F1 (C6-C10)	mg/kg	<10	10	<21 (1)	21	<10	10	A351806
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	99	N/A	100	N/A	100	N/A	A351806
4-Bromofluorobenzene (sur.)	%	96	N/A	95	N/A	94	N/A	A351806
D10-o-Xylene (sur.)	%	106	N/A	112	N/A	101	N/A	A351806
D4-1,2-Dichloroethane (sur.)	%	95	N/A	96	N/A	96	N/A	A351806
O-TERPHENYL (sur.)	%	108	N/A	111	N/A	99	N/A	A351864

RDL = Reportable Detection Limit

N/A = Not Applicable

(1) Detection limits raised based on sample weight used for analysis.



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)

BV Labs ID		AFU897		·
Sampling Date		2021/09/01		
Sampling Date		15:08		
COC Number		644511-83-01		
	UNITS	TP21-182-04	RDL	QC Batch
Ext. Pet. Hydrocarbon				
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	1700	500	A358666
RDL = Reportable Detection Limit		•		



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

GENERAL COMMENTS

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

Package 1	4.3°C
Package 2	5.3°C
Package 3	5.7°C
Package 4	3.0°C
Package 5	3.3°C
Package 6	3.3°C
Package 7	1.7°C
Package 8	2.3°C

Version #3: Report reissued to amend client sample ID on AFU877 from DUP-EE to DUP-EEE as per the original Chain of Custody.

Sample AFU888 [TP21-180-03]: Sample was analyzed past method specified hold time for CCME Hydrocarbons (F2-F4 in soil).

Sample AFU889 [DUP III]: Sample was analyzed past method specified hold time for CCME Hydrocarbons (F2-F4 in soil).

Results relate only to the items tested.



GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QUALITY ASSURANCE REPORT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A351377	CAU	Matrix Spike [AFU862-01]	O-TERPHENYL (sur.)	2021/09/18		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/18		88	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/18		86	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/18		84	%	60 - 140
A351377	CAU	Spiked Blank	O-TERPHENYL (sur.)	2021/09/18		104	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/18		90	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/18		86	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/18		82	%	60 - 140
A351377	CAU	Method Blank	O-TERPHENYL (sur.)	2021/09/18		100	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/18	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/18	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/18	<50		mg/kg	
A351377	CAU	RPD [AFU862-01]	F2 (C10-C16 Hydrocarbons)	2021/09/18	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/18	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/18	NC		%	40
A351402	MHF	Matrix Spike [AFU860-01]	O-TERPHENYL (sur.)	2021/09/15		98	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/15		101	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/15		99	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/15		100	%	60 - 140
A351402	MHF	Spiked Blank	O-TERPHENYL (sur.)	2021/09/15		105	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/15		102	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/15		105	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/15		105	%	60 - 140
A351402	MHF	Method Blank	O-TERPHENYL (sur.)	2021/09/15		111	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/15	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/15	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/15	<50		mg/kg	
A351402	MHF	RPD [AFU860-01]	F2 (C10-C16 Hydrocarbons)	2021/09/15	1.4		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/15	11		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/15	NC		%	40
A351588	WLE	Method Blank	Moisture	2021/09/15	<0.30		%	
A351588	WLE	RPD [AFU886-01]	Moisture	2021/09/15	2.4		%	20
A351631	SVI	Method Blank	Moisture	2021/09/15	<0.30		%	
A351631	SVI	RPD	Moisture	2021/09/15	0.37		%	20
A351801	RSU	Matrix Spike [AFU856-02]	1,4-Difluorobenzene (sur.)	2021/09/17		101	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/17		101	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		94	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		100	%	50 - 140
			Benzene	2021/09/17		88	%	50 - 140
			Toluene	2021/09/17		88	%	50 - 140
			Ethylbenzene	2021/09/17		88	%	50 - 140
			m & p-Xylene	2021/09/17		86	%	50 - 140
			o-Xylene	2021/09/17		84	%	50 - 140
			F1 (C6-C10)	2021/09/17		104	%	60 - 140
A351801	RSU	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/17		103	%	50 - 140
552001		-p	4-Bromofluorobenzene (sur.)	2021/09/17		96	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		95	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		100	%	50 - 140
			Benzene	2021/09/17		87	%	60 - 130
			Toluene	2021/09/17		87	%	60 - 130
			TOTACTIC	2021/03/11		07	/0	OO - T30



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			m & p-Xylene	2021/09/17		87	%	60 - 130
			o-Xylene	2021/09/17		82	%	60 - 130
			F1 (C6-C10)	2021/09/17		86	%	60 - 140
A351801	RSU	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/17		104	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/17		102	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		89	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		103	%	50 - 140
			Benzene	2021/09/17	<0.0050		mg/kg	
			Toluene	2021/09/17	< 0.050		mg/kg	
			Ethylbenzene	2021/09/17	< 0.010		mg/kg	
			m & p-Xylene	2021/09/17	< 0.040		mg/kg	
			o-Xylene	2021/09/17	< 0.020		mg/kg	
			F1 (C6-C10)	2021/09/17	<10		mg/kg	
A351801	RSU	RPD [AFU856-02]	Benzene	2021/09/17	NC		%	50
			Toluene	2021/09/17	NC		%	50
			Ethylbenzene	2021/09/17	NC		%	50
			m & p-Xylene	2021/09/17	NC		%	50
			o-Xylene	2021/09/17	NC		%	50
			F1 (C6-C10)	2021/09/17	NC		%	30
A351806	RSU	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/17		100	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/17		98	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		107	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		91	%	50 - 140
			Benzene	2021/09/17		78	%	50 - 140
			Toluene	2021/09/17		82	%	50 - 140
			Ethylbenzene	2021/09/17		87	%	50 - 140
			m & p-Xylene	2021/09/17		89	%	50 - 140
			o-Xylene	2021/09/17		86	%	50 - 140
			F1 (C6-C10)	2021/09/17		85	%	60 - 140
A351806	RSU	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/17		104	%	50 - 140
A331000	1130	Spikeu bialik	4-Bromofluorobenzene (sur.)	2021/09/17		104	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		98	% %	50 - 140
						97	% %	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17				
			Benzene	2021/09/17		80	%	60 - 130
			Toluene	2021/09/17		82	%	60 - 130
			Ethylbenzene	2021/09/17		84	%	60 - 130
			m & p-Xylene	2021/09/17		87	%	60 - 130
			o-Xylene	2021/09/17		88	%	60 - 130
			F1 (C6-C10)	2021/09/17		94	%	60 - 140
A351806	RSU	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/17		104	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/17		97	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		84	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		96	%	50 - 140
			Benzene	2021/09/17	<0.0050		mg/kg	
			Toluene	2021/09/17	<0.050		mg/kg	
			Ethylbenzene	2021/09/17	<0.010		mg/kg	
			m & p-Xylene	2021/09/17	<0.040		mg/kg	
			o-Xylene	2021/09/17	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/17	<10		mg/kg	
A351806	RSU	RPD	Benzene	2021/09/17	NC		%	50
			Toluene	2021/09/17	NC		%	50



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Ethylbenzene	2021/09/17	NC		%	50
			m & p-Xylene	2021/09/17	NC		%	50
			o-Xylene	2021/09/17	NC		%	50
			F1 (C6-C10)	2021/09/17	NC		%	30
A351864	CAU	Matrix Spike [AFU886-01]	O-TERPHENYL (sur.)	2021/09/17		123	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		105	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		104	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		100	%	60 - 140
A351864	CAU	Spiked Blank	O-TERPHENYL (sur.)	2021/09/17		105	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		94	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		91	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		86	%	60 - 140
A351864	CAU	Method Blank	O-TERPHENYL (sur.)	2021/09/17		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/17	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/17	<50		mg/kg	
A351864	CAU	RPD [AFU886-01]	F2 (C10-C16 Hydrocarbons)	2021/09/17	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/17	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/17	NC		%	40
A351889	SVI	Method Blank	Moisture	2021/09/15	<0.30		%	
A351889	SVI	RPD	Moisture	2021/09/15	7.2		%	20
A352143	ODM	Method Blank	Moisture	2021/09/15	< 0.30		%	
A352143	ODM	RPD [AFU860-01]	Moisture	2021/09/15	18		%	20
A358666	JLJ	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/20		95	%	60 - 140
A358666	JLJ	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/20	<500		mg/kg	
A358666	JLJ	RPD	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/20	10		%	40

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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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

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.

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

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ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

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Buraau Veritas Laboratorias 4000 19st N.E. Calgary, Alberta Canada T.ZE 6P8 Tei (403) 291-3077 Toll-free 800-563-6266 Fax (403) 291-3468 www.bviabs.com

Laboratory Use Only:	BV Labs Job #: Bottle Order #:		3	COC #: Project Manager:	Carrent		Turnaround Time (TAT) Required:	Please provide advance notice for rush projects	Regular (Standard) TAT: (will be applied If Rush TAT is not specified); Sandard TAT = 5-7 Working days for most tests. Sandard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests are > 5 days - contact your Project Manager for regularity and tests.	Job Specific Rush TAT (if applies to entire submission) Date Required:	Rush Confirmation Number: (call lab for #)	# of Bottles Comments	3	\$	65	3 Received in Yellowknife	3 By: Juneran	3 SFP 10 2021	3 pri sel Acti	S Temp:	3	83	Laboratory Use Only Calebraty Spail Internal Contact C	
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4	# acitatoriO		Project 2	Project Name:	Site #,	Sampled By:	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)		sing Fusion Barium) ni SA-1A in	ənıT) n	IE B.	Bariu Extra				1 13							(00/	11/10/1207
REPORT TO:	Company Name #6340 GOLDER ASSOCIATES LTD.	Aurelie E	Address 2800, 700 -2nd Street SW	CALGARY AB T2P 2W2	Tel: (403) 299-5600 Fax:	Email: abellavance@golder.com		Shellborde 1do	detale - Soils (Y/N)	ulsted N	SCA BTE	Marry Metall ITA ITA ATT I TA	N See 221 09:55 SOIL X	£5:60	X 00:03	× 00:01	× \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	X	10:29 ×	X £1:0)	X , FS:80	V 10:29 V	Time RECEIVED BY: (Signature/P	2
MAZDICE TO:	Common Marie #254 GOLDER ASSOCIATES LTD.		Address: 2800, 700 -2nd Street SW	CALGARY AB T2P 2W2	Tel: (905) 567-6100 Ext. 1167 Fax. (403) 299-5606	Email canadaaccountspayableinvoices@golder.com	Bemistory Critera	Adduratory orneria.	COME PACIFIC		SAMPLES MUST BE KEPT COOL (< 10°C.) FROM TIME OF SAMPLING UNTIL DELIVERY TO BY LABS	Sample (Location) Identification Da	1 NA. TP21-134-03-01	TP21-134-04	TP1-134-06	XX oco	10-581-121	TA1-135-03		9.0 YY	mm SO	N 840 ZZ	gnature Print) Date: XYYIMN	

Bureau Veritas Canada (2019) Inc.

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	-6266 Fax:	REPORT TO	GOI DER ASSOCIATES LTD	ance	700 -2nd Street SW	B T2P 2\	00	@golder.								Matrix	Y I I	827	_		-	_				_	\geqslant
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	Bureau Verias Laboratories 400 1981 N E. Galgary, Alberta Canada 12E 6P8 Tel (403) 291-3077 Toll-free 800-563-6269 Fax (403) 291-9468 www.bvlabs.com	INVOICE TO:	OT LOST FIGURE ASSOCIATION ASS	ABLE	treet SW	P 2W2	xt: 1167 Fay (403) 299-5606	voices						×	SAMPLES MIST BE KEDT COOL (< 10°C.) FROM TIME OF SAMPLING UNTIL DELIVERY TO BY LABS	Constitution Joseph House	Sample (Location) Identification	TP-177-02	no AM	TP21-177-04	ON GRE	1001-178-02	D. P. CCC	TP31 178-04	000 000	TP1-178-06	Avo FEE
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Bureau Veritas Canada (2019) Inc.

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"THIS REAR PORTING AND ANYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER.

"ALL SAMPLES ARREIT SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER.

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121-178-06 OUP EEE

Gustody Seal Intact on Cooler?

Yes No

White: BV Labs

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CHAIN OF CUSTODY RECORD

Page 30f

Bureau Veritas Laboratories 4000 1981 N.E. Calgary, Alberta Canada T2E 6P8 Tal (403) 291-3077 Toll-free 800-563-6286 Fax (403) 291-9468 www.bviabs.com

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Only:	Bottle Order #:	644511	Project Manager:	Carmon McKay	Calliel McNay	equired:	ush projects Contact your Project Manager for ion)	(call lab for #)	S			Montherife	~ 14	Set CO	1707	がらずし				40 mm mm mm mm mm mm mm mm mm mm mm mm mm	Custody Seal Intact on Cooler? Yes No		
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** IT IS THE RESEAUSBILENY OF THE RELINGUISMS."

** ALL SAMPLES ARE HELD FOR 80 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER.

Bureau Veritas Canada (2019) Inc.

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CHAIN OF CUSTODY RECORD

Bureau Veritas Laboratories 4000 19st N E. Calgary, Alberta Canada T2E 6P8 Tei:(403) 291-3077 Toll-free.800-563-6266 Fax:(403) 291-3468 www.bviabs.com

Part Colonia Part
REPORT TO: ANY AB TSP SCOCIATES LTD. ANY AB TSP SCOCIATES LTD. ANY AB TSP SCOCIATES LTD. ANY AB TSP SW2 ANY AB TS
REPORT TO: ANY LEST COLOUR ASSOCIATES LTD. ANALYSIS REQuisited Metals COMB British COM
REPORT TO: GOLDER ASSOCIATES LTD. GOLDER ASSOCIATES LTD. GOLDER ASSOCIATES LTD. ARY AB 12P 2W2 Subsetting Fluid Fillered ? (Y / N) Metals Fleid Fillered ? (Y / N) ANALYSIS Requisition # # ANALYSIS Requisition # # ANALYSIS Requisition # Fillered Price Bardum on ICP using Flusion Extraction (True Bardum) Water COME BTEX and F1-F2 in Soil Subsetting Flusion COME BTEX and F1-F2 in Soil Water COME BTEX and F1-F2 in Soil CO
ARY AB 12P 2W2 GOLDER ASSOCIATES LTD. Gold - 2nd Street SW ARY AB 12P 2W2 ARY AB 12P 2W2 ARY AB 12P 2W2 ARY AB 12P 2W2 AND - 2nd Street SW ARY AB 12P 2W2 AND - 2nd Street SW ARY AB 12P 2W2 AND - 2nd Street SW ARY AB 12P 2W2 AND - 2nd Street SW ARY AB 12P 2W2 AND - 2nd Street SW ARY AB 12P 2W2 AND - 2nd Street SW AND - 2nd Str
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1 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 AMALYTICAL TAT DELAYS.

1 ALL SAMPLES ARE HELD FOR 50 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER.

Bureau Veritas Canada (2019) Inc.

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-134-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

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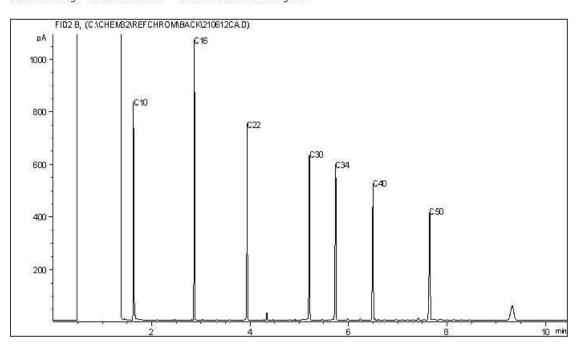
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Carbon Range Distribution - Reference Chromatogram



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+

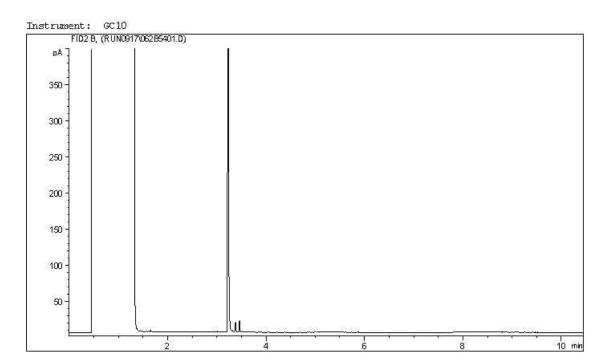
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

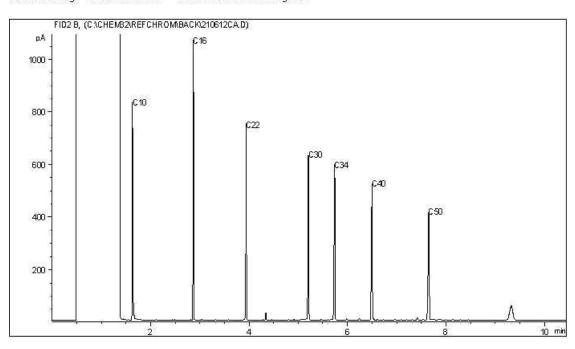
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-134-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	: +	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

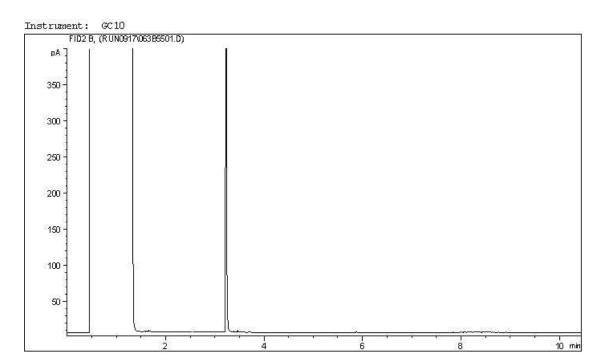
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

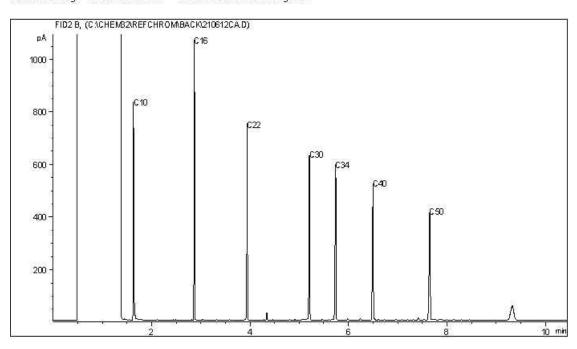
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-134-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8	170	C22
Varsol:	c8	÷	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

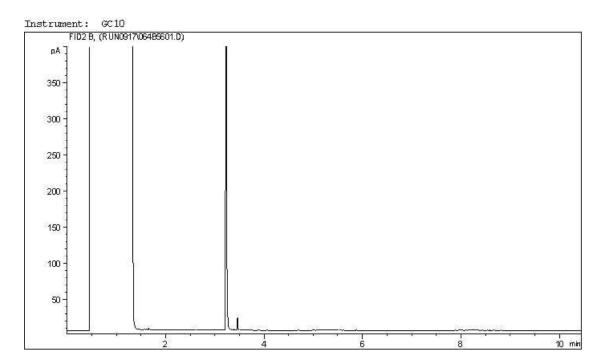
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

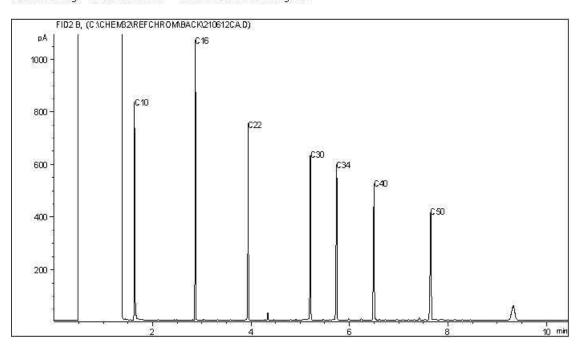
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP XX

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8	170	C22
Varsol:	c8	÷	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-135-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

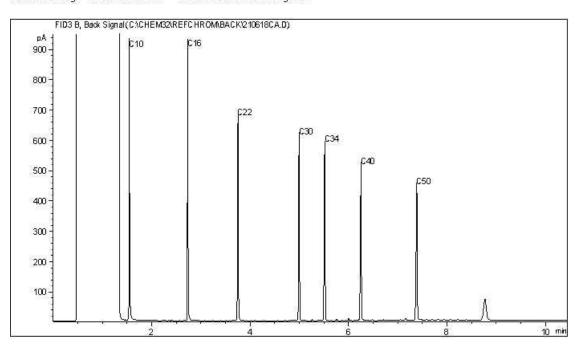
Instrument: GC13

FID3 B, Back Signal(RUN0915099B3301.D)

pA

30025015010050-

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+

BV Labs Job #: C167920 Report Date: 2021/09/28

BV Labs Sample: AFU860 Lab-Dup

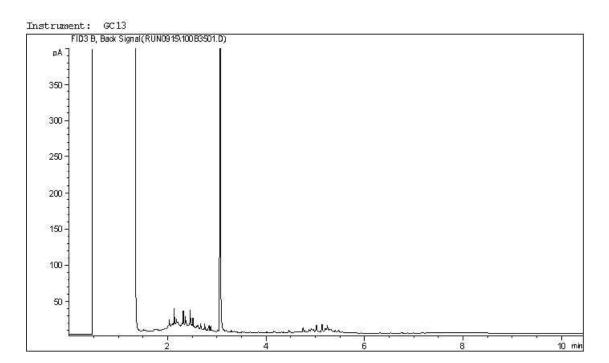
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

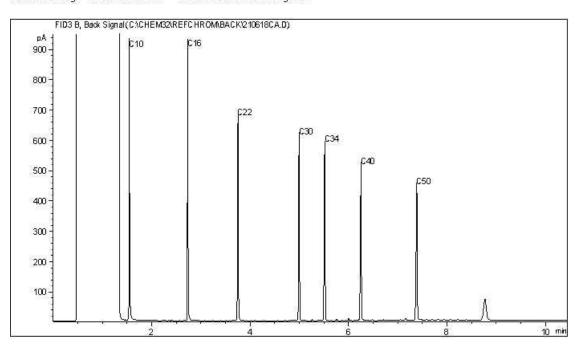
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-135-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-135-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2 B, (RUN091706585701.0)

pA

300

250

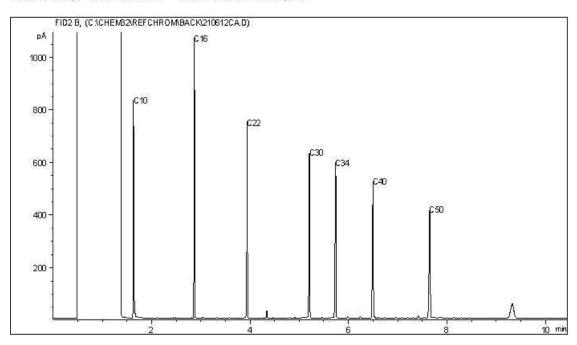
150

100

50

10 min

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+

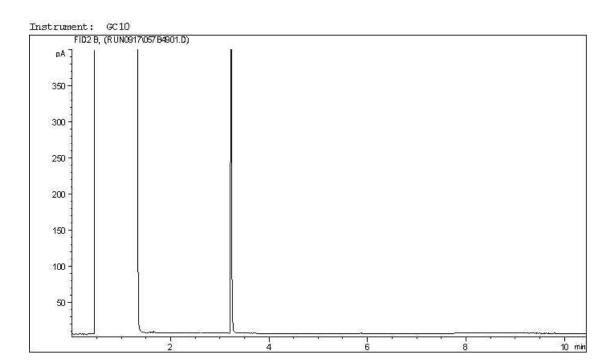
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Client Project #: 20368099-6000-1001

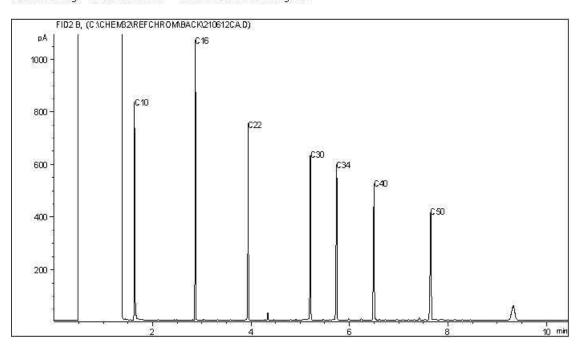
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-135-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

BV Labs Job #: C167920 Report Date: 2021/09/28

BV Labs Sample: AFU862 Lab-Dup

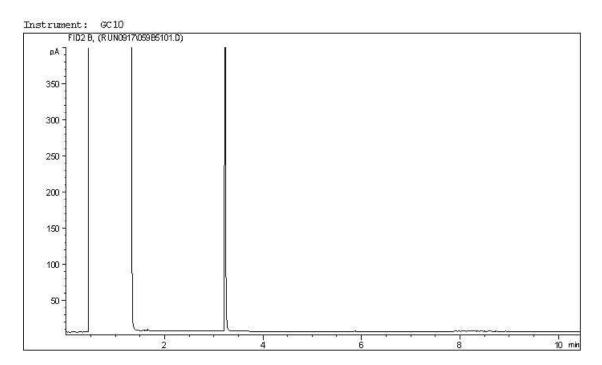
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Client Project #: 20368099-6000-1001

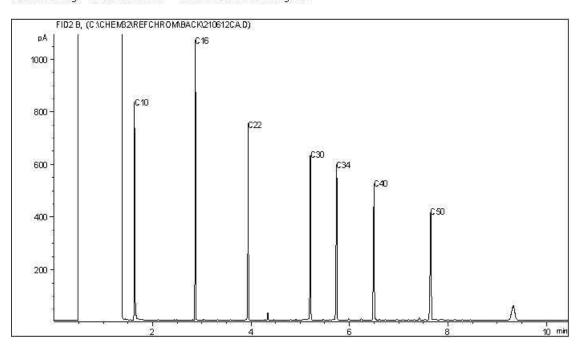
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-135-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	170	C12	Diesel:	c8	100	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

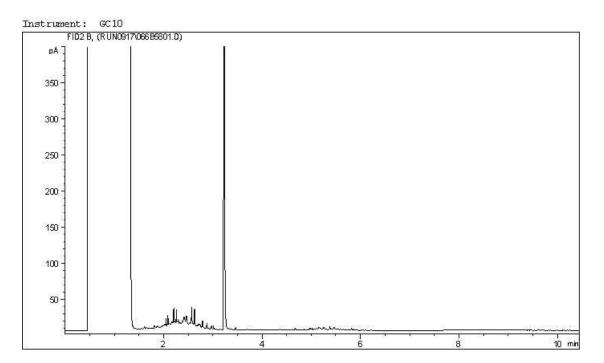
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Client Project #: 20368099-6000-1001

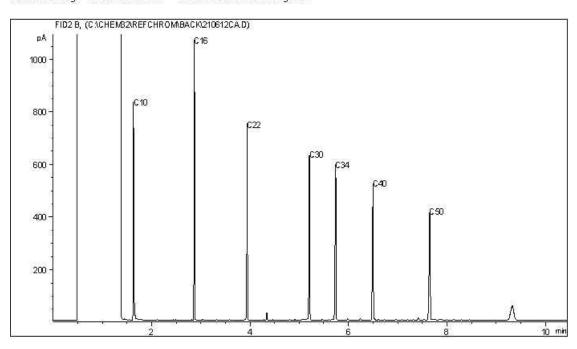
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP YY

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4		C12	Diesel:	c8	7	C22
Varsol:	c8	: :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

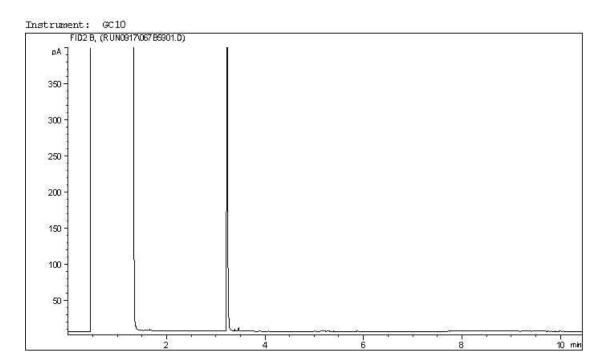
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Client Project #: 20368099-6000-1001

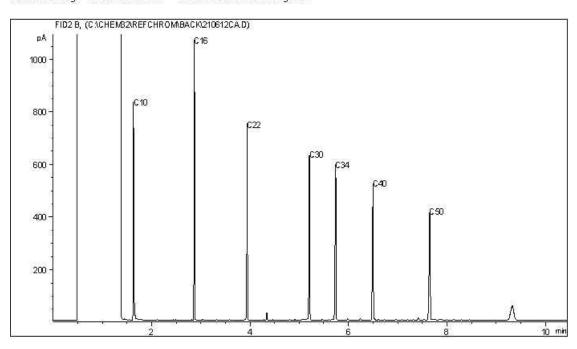
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP WW

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

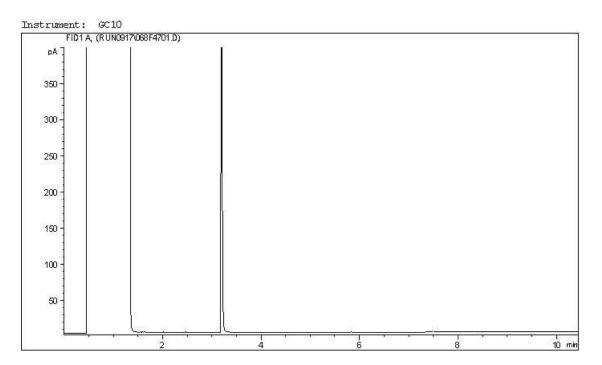
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

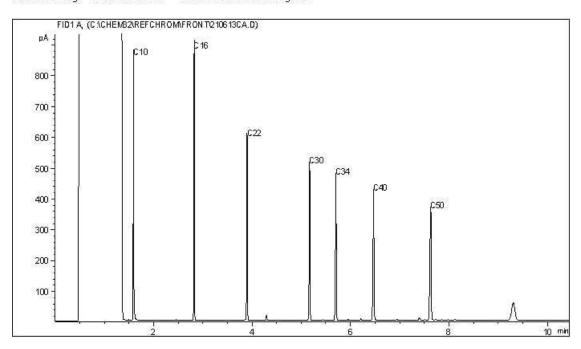
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP ZZ

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-177-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID1A (RUN0917072F5101.D)

pA

350

250

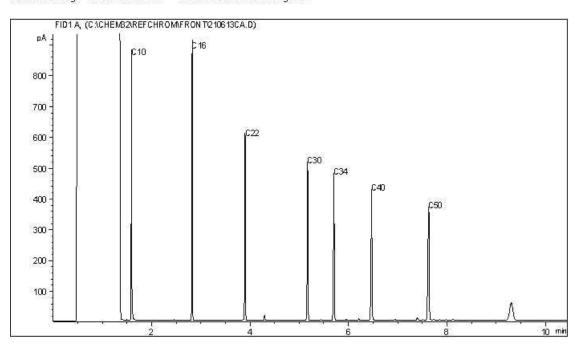
100

100

50

2 4 6 8 10 min

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+

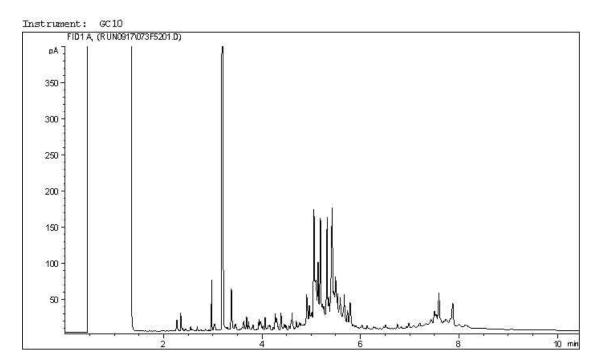
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

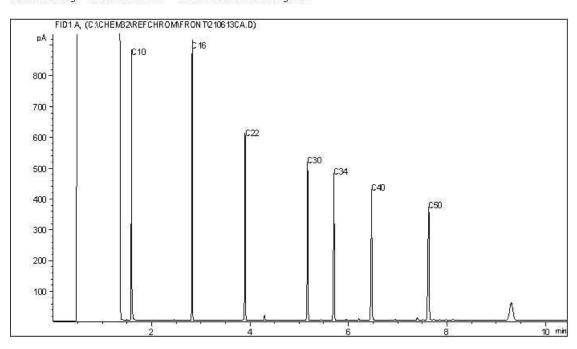
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP AAA

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 -	- C12	Diesel:	c8 -	C22
Varsol:	c8 -	- C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7 -	- c16	Crude Oils:	c3 -	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-177-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID1A (RUN0917069F4301.D)

pA

350

250

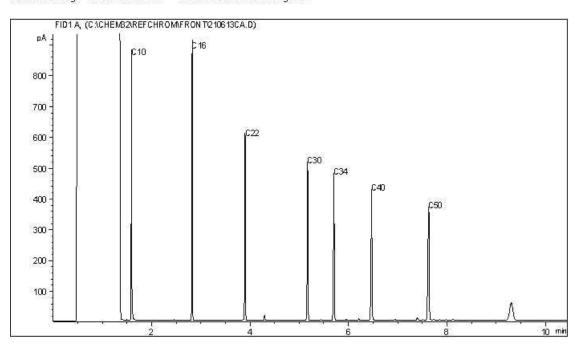
150

100

50

100 min

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+

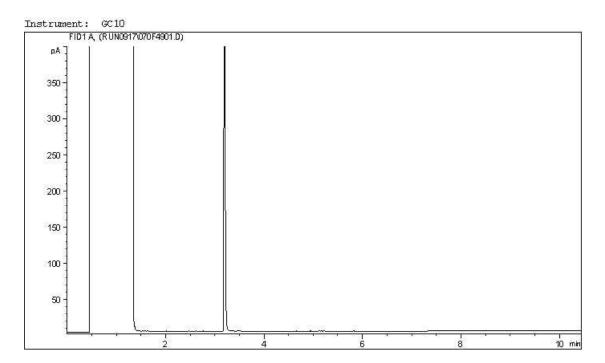
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

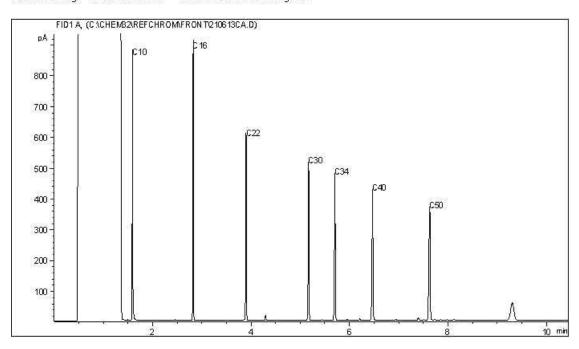
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP BBB

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

GOLDER ASSOCIATES LTD.

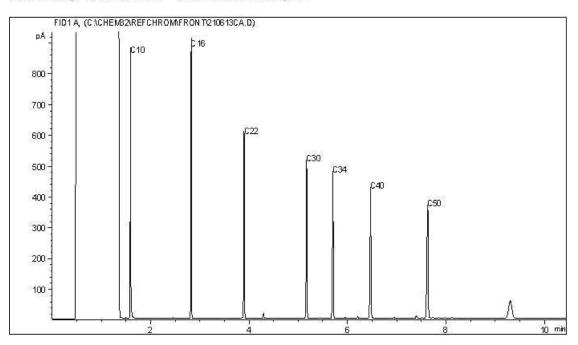
Client Project #: 20368099-6000-1001

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

Client ID: TP21-178-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

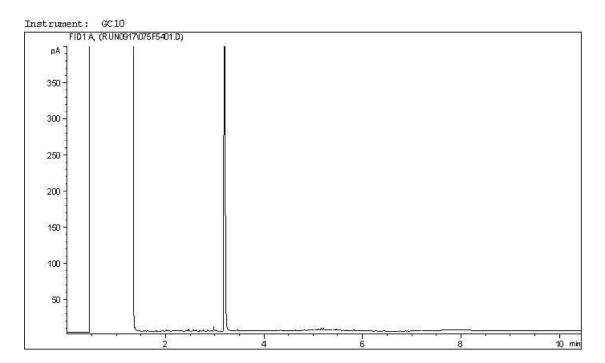
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

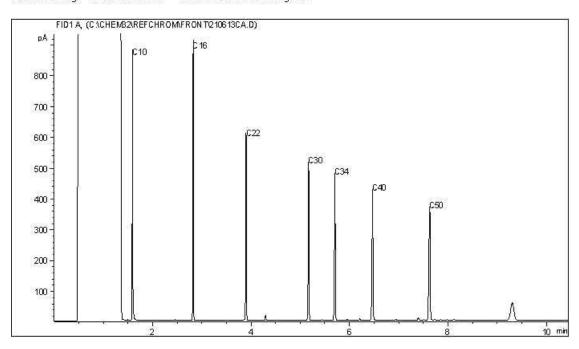
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP CCC

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4		C12	Diesel:	c8	7	C22
Varsol:	c8	: :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-178-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID1A (RUN0917076F5501.D)

pA

300

250

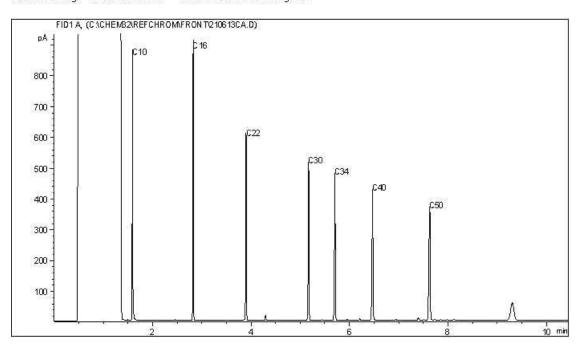
150

100

50

10 min

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+

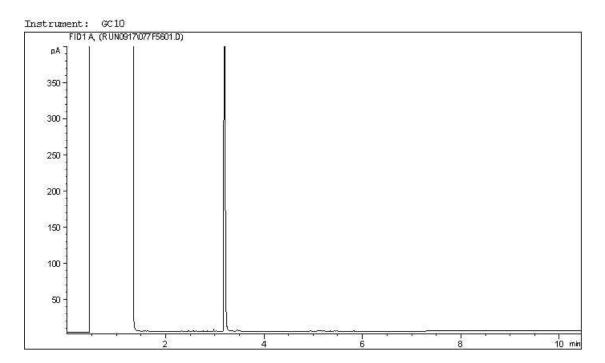
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

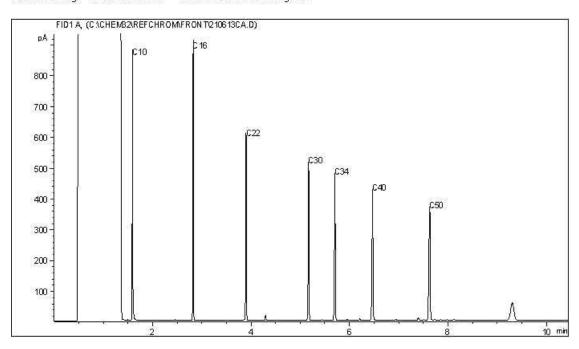
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP DDD

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-178-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2B, (RUN0916063B7801.D)

pA

300

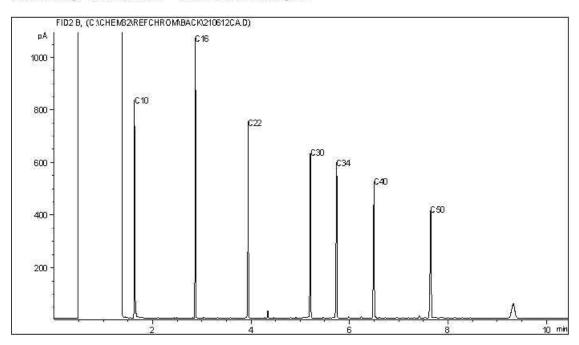
250

150

100

50

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+

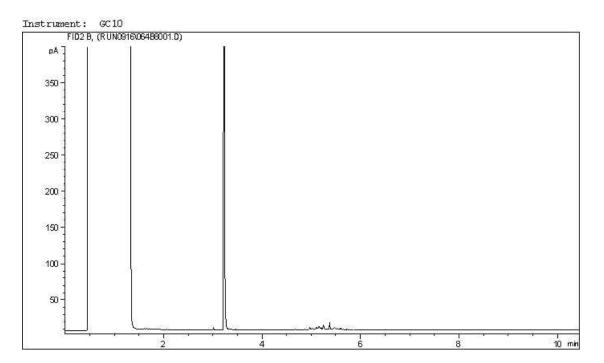
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

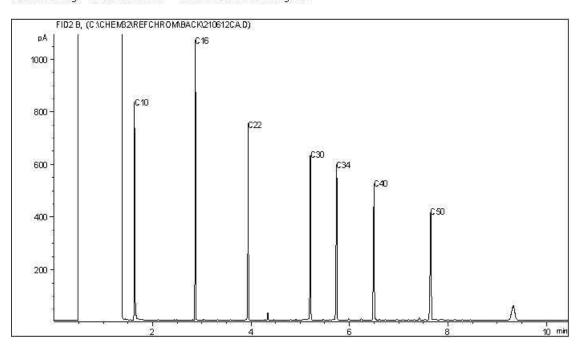
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP EEE

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	170	C12	Diesel:	c8	100	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

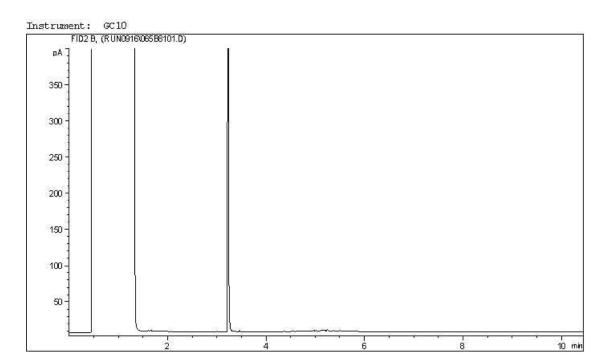
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

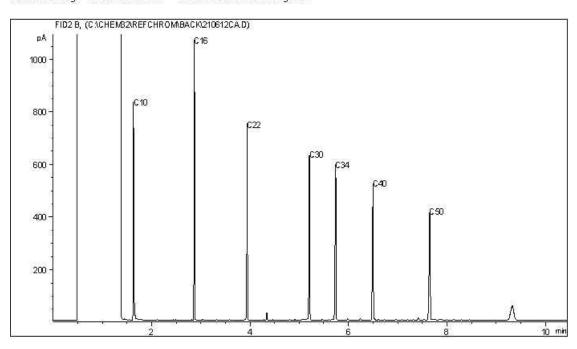
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-179-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

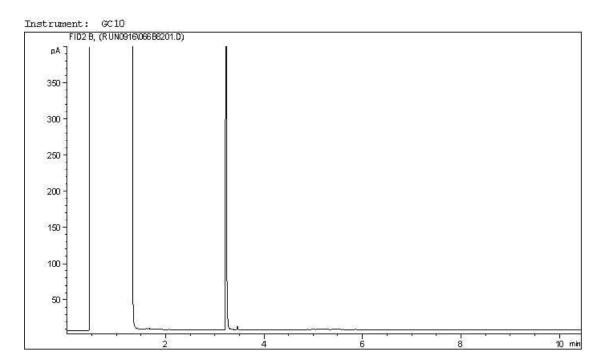
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

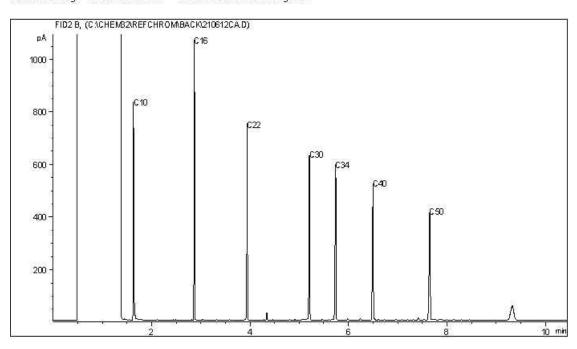
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP FFF

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

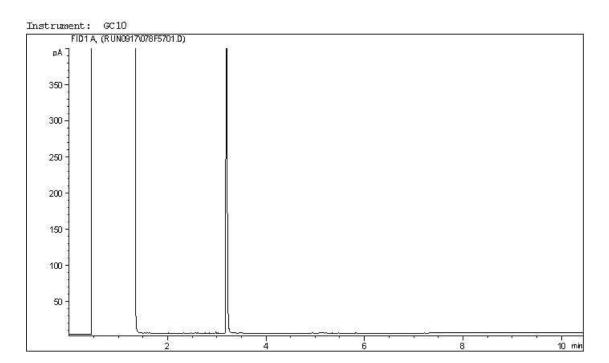
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

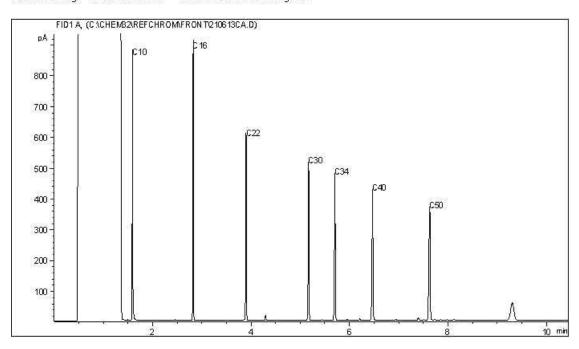
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-179-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

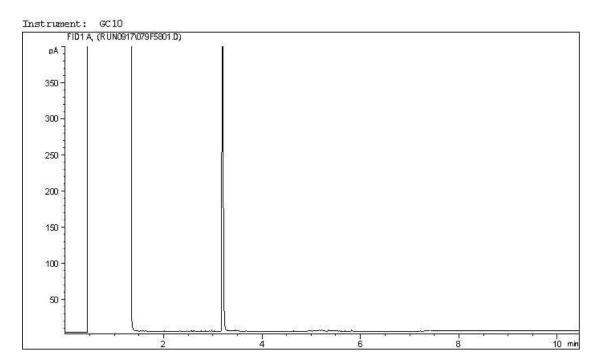
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

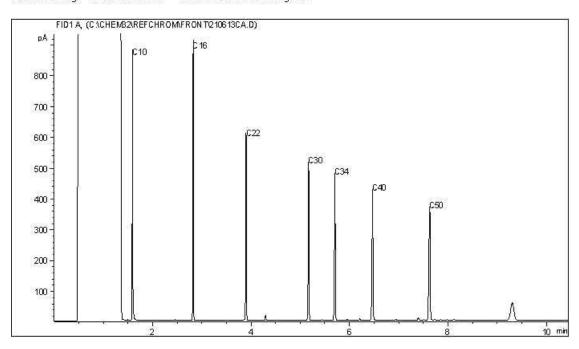
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP GGG

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

GOLDER ASSOCIATES LTD.

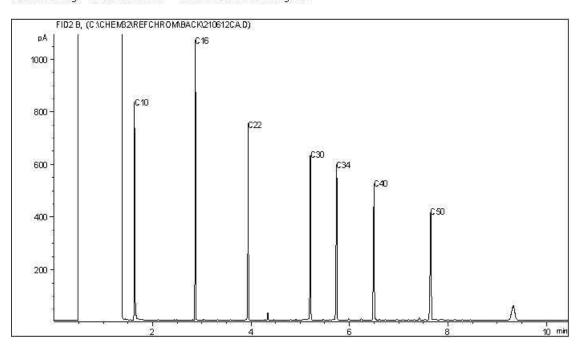
Client Project #: 20368099-6000-1001

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

Client ID: TP21-179-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

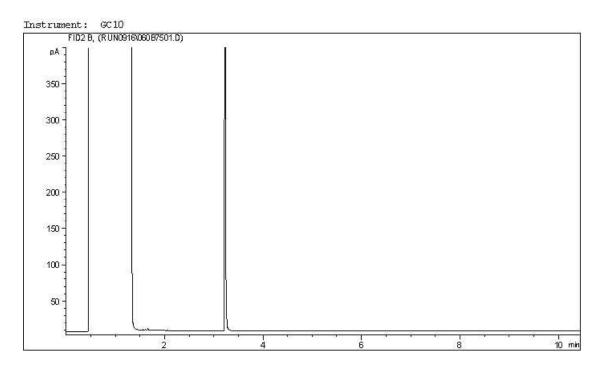
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

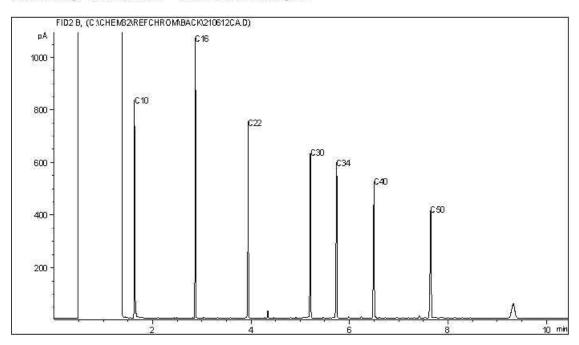
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP HHH

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

BV Labs Job #: C167920
Report Date: 2021/09/28

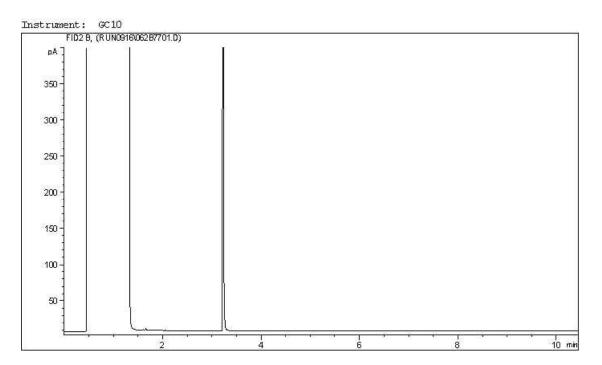
Report Date: 2021/09/28 BV Labs Sample: AFU886 Lab-Dup GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

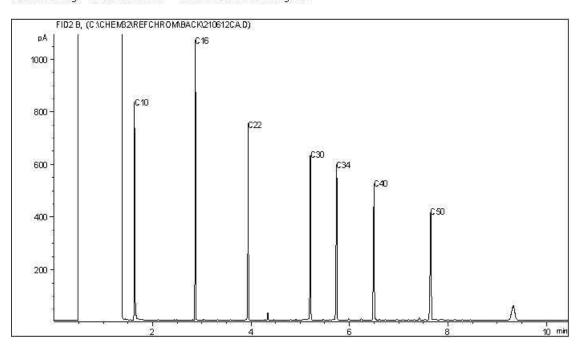
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP HHH

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	170	C12	Diesel:	c8	100	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-180-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC10

FID2 B, (RUN091506888401.0)

pA

350

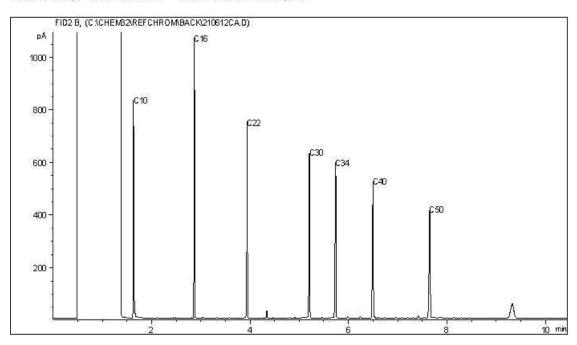
250

150

100

50

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+

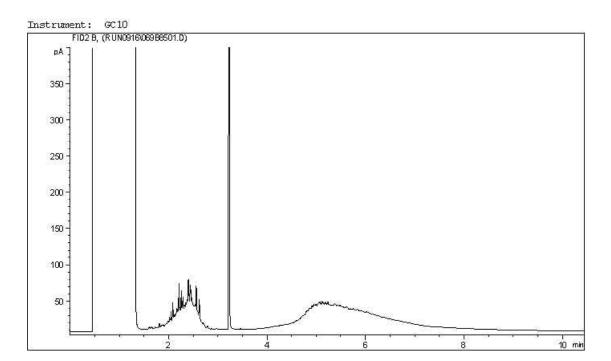
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

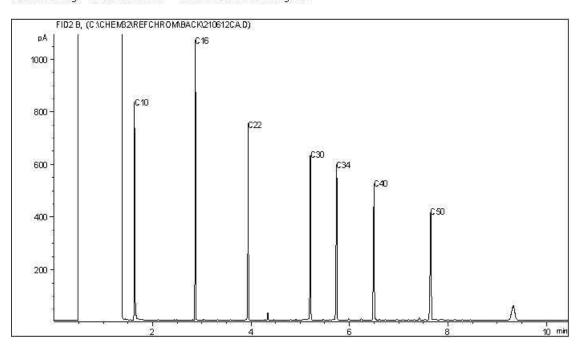
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-180-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

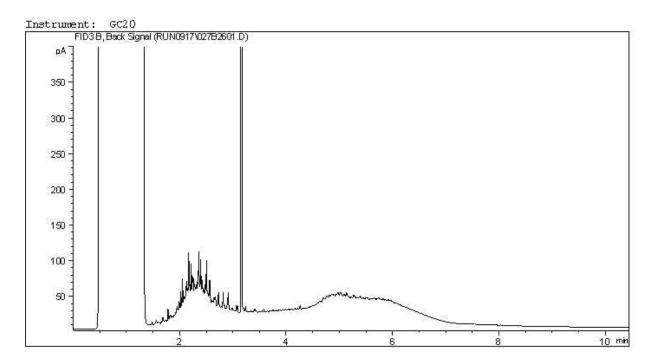
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Client Project #: 20368099-6000-1001

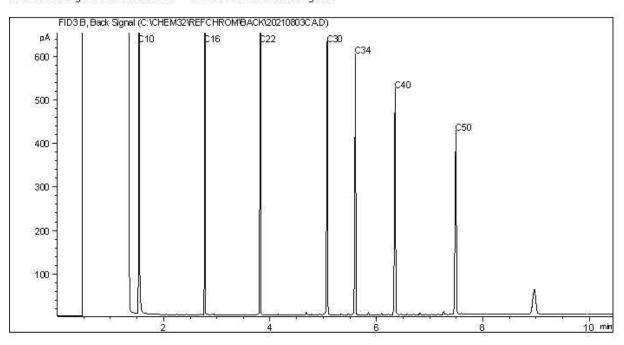
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP III

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

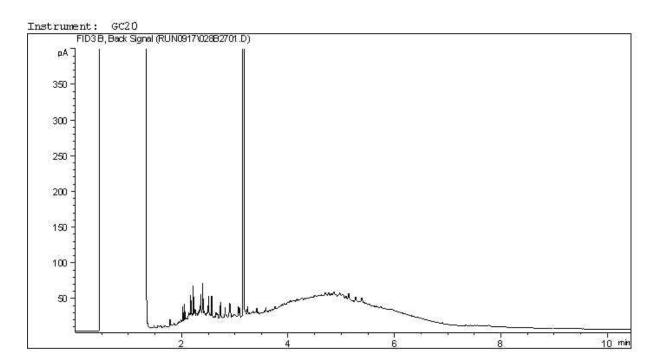
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Client Project #: 20368099-6000-1001

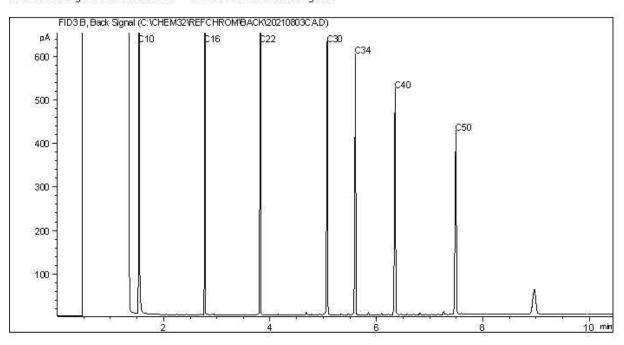
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-180-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

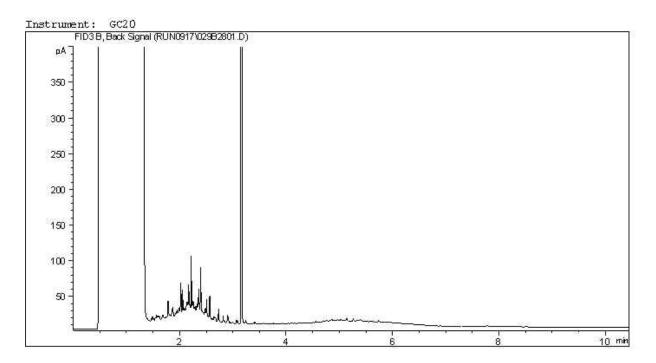
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

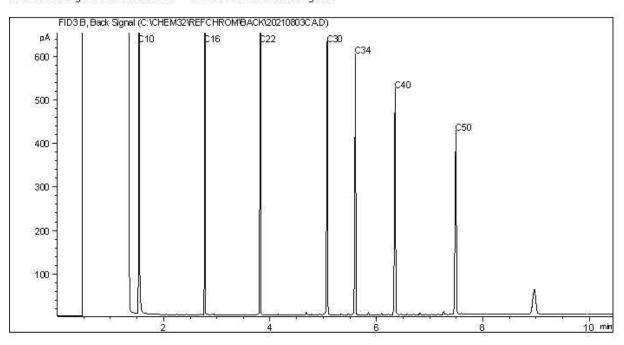
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-180-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

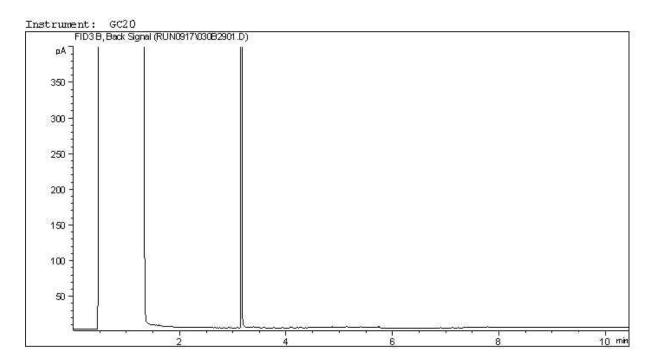
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Client Project #: 20368099-6000-1001

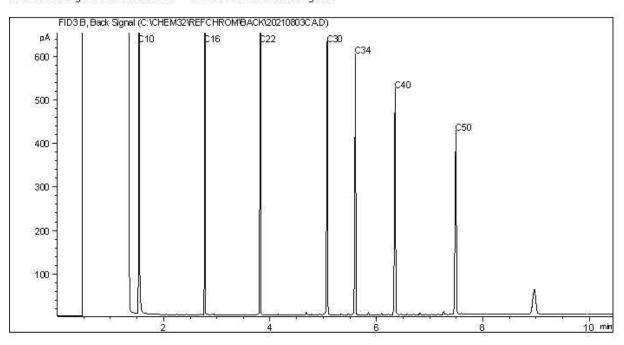
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-181-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	c8 -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

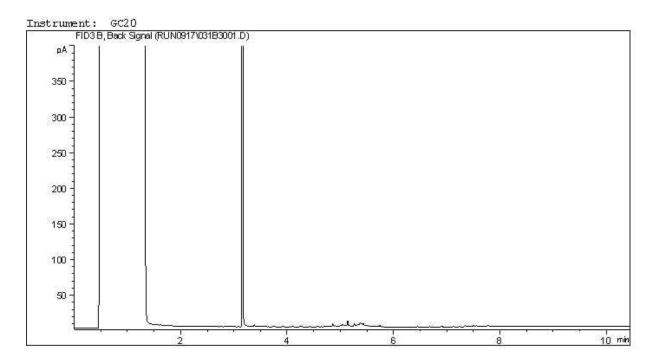
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Client Project #: 20368099-6000-1001

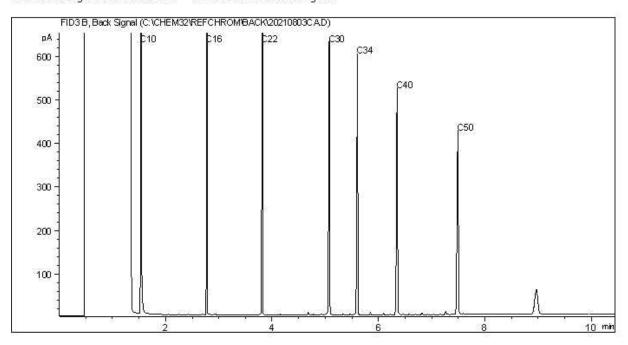
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-181-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

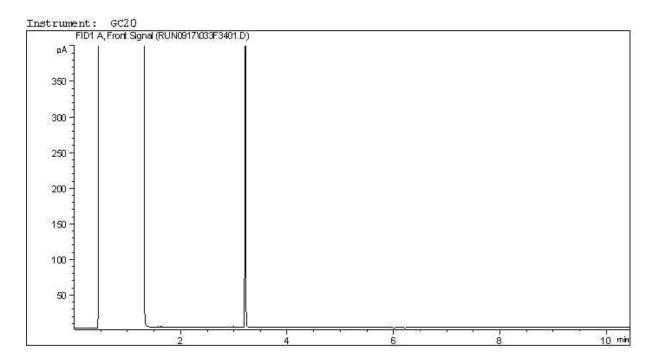
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Client Project #: 20368099-6000-1001

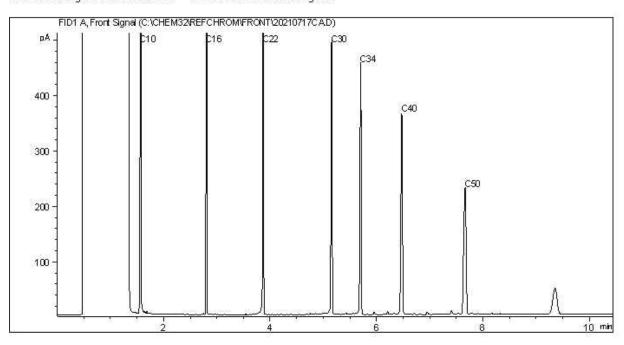
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-181-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	c8 -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

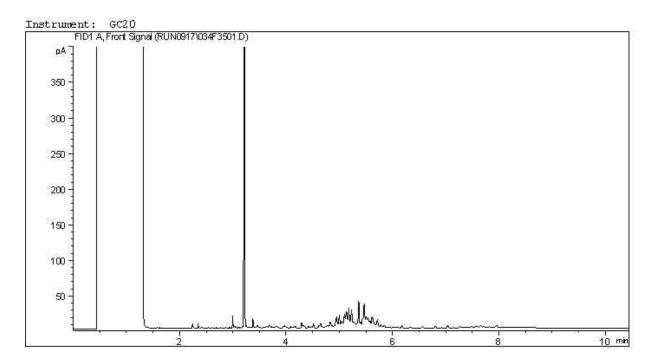
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Client Project #: 20368099-6000-1001

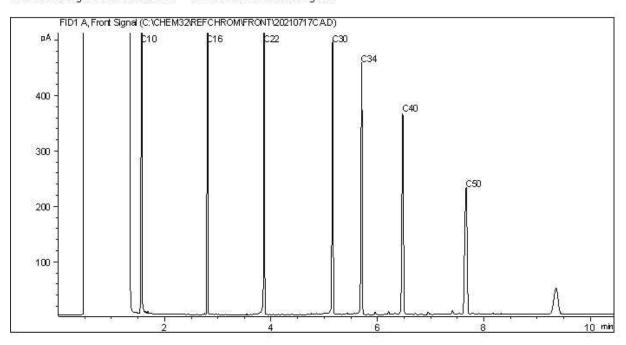
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-182-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

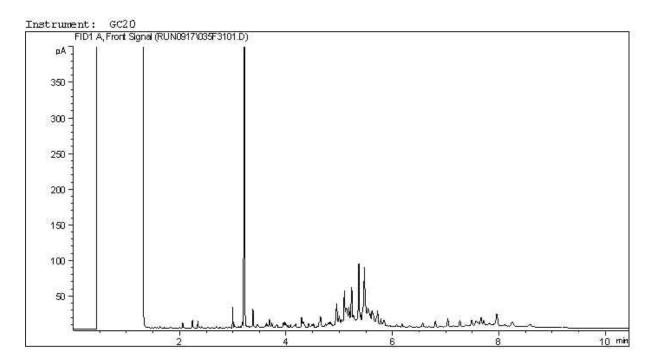
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Client Project #: 20368099-6000-1001

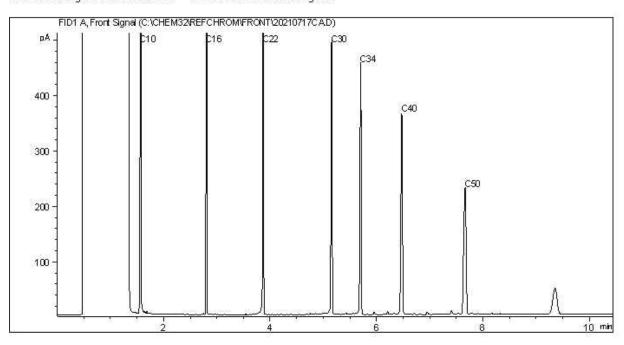
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP KKK

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	-	C12	Diesel:	c8 -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

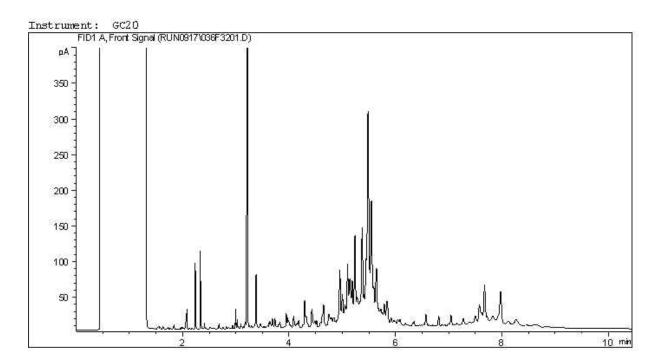
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

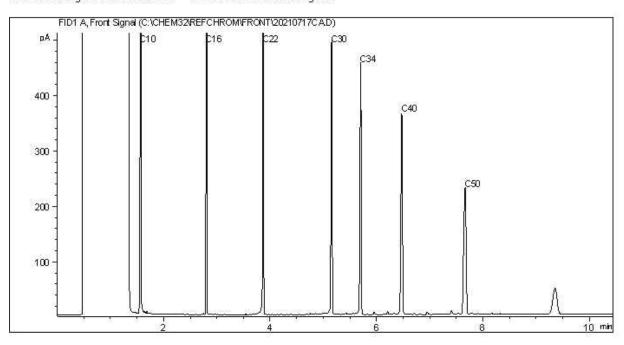
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-182-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

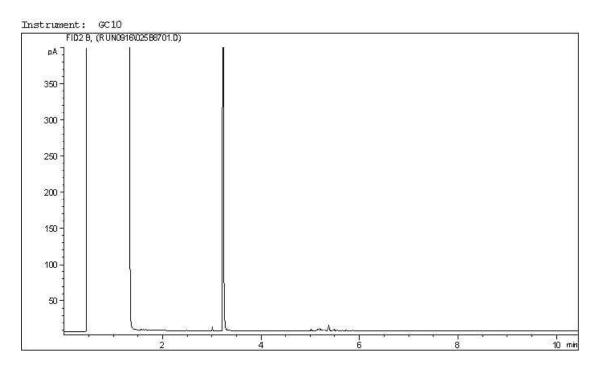
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

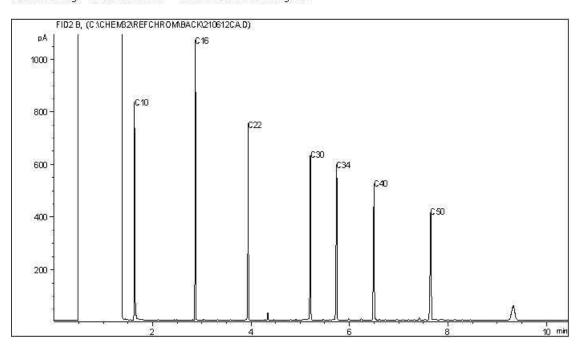
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: DUP JJJ

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	170	C12	Diesel:	c8	100	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farew	ell			Sampling Date: September 1, 2021				
Golder Project Number: 20368099-6000-1001				Laboratory: Bureau Veritas Edmonton				
Lab Submission Number: C167920								
Was the Cooler Received at the la Was proper chain of custody of th Were sample temperatures accepta Were all samples analyzed and exit Has lab warranted all tests were in Was sufficient sample provided for Has lab warranted all samples were	e samples able when cracted wi statistica r the requ	documented they reached thin hold time to the control in the setted analyses.	ed and keped lab?: mes?: CoA?: rsis?	ot?	Yes			
Are All Laboratory QC Within Acceptance Criteria (Yes, No, Not Applicable)?								
_	Yes	No	NA		Comments			
Surrogate Recovery	X			•	C results are within			
Method Blank Concentration	X			acceptance criter	ia.			
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 TP21-18	80-03 and DUP III exceed the alert			
Trip Blank Concentration			X	limits for F2 (C1)	0-C16) (67%) and F3 (C16-C34) (83%).			
Field Duplicate RPD		X		All remaining fie	ld QC samples are within alert limits.			
Is data considered reliable (Yes/No/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):								
Date: September 27, 2021								



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

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

Territories

Attention: Aurelie Belavance

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

Your C.O.C. #: 644511-85-01, 644511-86-01, 644511-84-01, 644511-82-01

Report Date: 2022/01/14 Report #: R3122013 Version: 6 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C168138 Received: 2021/09/10, 09:00

Sample Matrix: Soil # Samples Received: 31

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Barium on ICP using Fusion Extraction (1)	5	2021/09/20	2021/09/21	AB SOP-00044 / AB SOP- 00042	EPA 6010d R5 m
BTEX/F1 by HS GC/MS/FID (MeOH extract) (1, 2)	31	N/A	2021/09/17	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	11	N/A	2021/09/17		Auto Calc
F1-BTEX (1)	20	N/A	2021/09/18		Auto Calc
Hexavalent Chromium (1, 3)	5	2021/09/15	2021/09/15	AB SOP-00063	SM 23 3500-Cr B m
CCME Hydrocarbons (F2-F4)+F3A/B in soil (1, 4)	12	2021/09/16	2021/09/17	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	2	2021/09/16	2021/09/17	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2-F4 in soil) (1, 5)	17	2021/09/16	2021/09/18	AB SOP-00036	CCME PHC-CWS m
CCME Hydrocarbons (F2/F2+F3B) in soil (1, 6)	12	N/A	2021/09/17		Auto Calc
CCME Hydrocarbons (F4G in soil) (1, 5)	3	2021/09/16	2021/09/20	AB SOP-00036 AB SOP-00040	CCME PHC-CWS m
Elements by ICPMS - Soils (1)	5	2021/09/17	2021/09/17	AB SOP-00001 / AB SOP- 00043	EPA 6020b R2 m
Moisture (1)	31	N/A	2021/09/17	AB SOP-00002	CCME PHC-CWS m
Nitrate-N (soluble) (1)	5	2021/09/14	2021/09/18		Auto Calc
Benzo[a]pyrene Equivalency (1)	5	N/A	2021/09/18		Auto Calc
PAH in Soil by GC/MS (1)	5	2021/09/16	2021/09/18	AB SOP-00036 / AB SOP- 00003	EPA 3540C/8270E m
Soluble lons (1)	5	2021/09/17	2021/09/19	AB SOP-00033 / AB SOP- 00042	EPA 6010d R5 m
Soluble Paste (1)	5	2021/09/17	2021/09/17	AB SOP-00033	Carter 2nd ed 15.2 m
Soluble Boron Calculation (1)	5	N/A	2021/09/19		Auto Calc
Soluble Ions Calculation (1)	5	N/A	2021/09/28		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.



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. #: 644511-85-01, 644511-86-01, 644511-84-01, 644511-82-01

Report Date: 2022/01/14

Report #: R3122013 Version: 6 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C168138 Received: 2021/09/10, 09:00

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

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

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

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

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

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

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



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

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

Territories

Attention: Aurelie Belavance

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

Your C.O.C. #: 644511-85-01, 644511-86-01, 644511-84-01, 644511-82-01

Report Date: 2022/01/14

Report #: R3122013 Version: 6 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C168138 Received: 2021/09/10, 09:00

Encryption Key



Bureau Veritas

14 Jan 2022 16:29:38

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.



reau Veritas Job #: C168138 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										
		AFW111	AFW111		AFW112			AFW113		
Sampling Date		2021/09/03	2021/09/03		2021/09/03			2021/09/03		
		08:43	08:43		10:02			10:30		
COC Number		644511-85-01	644511-85-01		644511-85-01			644511-85-01		
	UNITS	TP21-183-02	TP21-183-02 Lab-Dup	RDL	TP21-183-04	RDL	QC Batch	TP21-184-02	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	N/A	N/A	N/A	10	A355312	<10	10	A355312
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	N/A	N/A	N/A	50	A355312	<50	50	A355312
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	N/A	N/A	N/A	50	A355312	<50	50	A355312
Reached Baseline at C50	mg/kg	N/A	N/A	N/A	N/A	N/A	A355312	Yes	N/A	A355312
Physical Properties	-								ē	•
Moisture	%	54	N/A	0.30	53	0.30	A355564	5.0	0.30	A355376
Volatiles										
Xylenes (Total)	mg/kg	<0.12	N/A	0.12	<0.094	0.094	A351423	<0.045	0.045	A351423
F1 (C6-C10) - BTEX	mg/kg	<24	N/A	24	<21	21	A351423	<10	10	A351423
Field Preserved Volatiles										
Benzene	mg/kg	<0.014 (1)	<0.014	0.014	<0.011 (1)	0.011	A353452	<0.0050	0.0050	A353452
Toluene	mg/kg	<0.080 (2)	<0.080	0.080	<0.11 (1)	0.11	A353452	<0.050	0.050	A353452
Ethylbenzene	mg/kg	<0.027 (1)	<0.027	0.027	<0.021 (1)	0.021	A353452	<0.010	0.010	A353452
m & p-Xylene	mg/kg	<0.11(1)	<0.11	0.11	<0.084 (1)	0.084	A353452	<0.040	0.040	A353452
o-Xylene	mg/kg	<0.054 (1)	<0.054	0.054	<0.042 (1)	0.042	A353452	<0.020	0.020	A353452
F1 (C6-C10)	mg/kg	<24 (2)	<24	24	<21 (1)	21	A353452	<10	10	A353452
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	101	100	N/A	102	N/A	A353452	102	N/A	A353452
4-Bromofluorobenzene (sur.)	%	95	97	N/A	96	N/A	A353452	97	N/A	A353452
D10-o-Xylene (sur.)	%	100	102	N/A	111	N/A	A353452	102	N/A	A353452
D4-1,2-Dichloroethane (sur.)	%	101	101	N/A	102	N/A	A353452	103	N/A	A353452

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

- (1) Detection limits raised based on sample weight used for analysis.
- (2) Detection limits raised based on MDL and sample weight used for analysis.



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		AFW114		AFW115	AFW116			AFW117		
Sampling Date		2021/09/03 10:35		2021/09/03 10:38	2021/09/03 08:49			2021/09/03 08:50		
COC Number		644511-85-01		644511-85-01	644511-85-01			644511-85-01		
	UNITS	TP21-184-04	RDL	TP21-184-05	TP21-185-02	RDL	QC Batch	TP21-185-03	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	10	N/A	<10	10	A355312	N/A	10	A355312
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	50	N/A	<50	50	A355312	N/A	50	A355312
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	50	N/A	<50	50	A355312	N/A	50	A355312
Reached Baseline at C50	mg/kg	N/A	N/A	N/A	Yes	N/A	A355312	N/A	N/A	A355312
Physical Properties	-									
Moisture	%	66	0.30	42	5.8	0.30	A355375	48	0.30	A355564
Volatiles										
Xylenes (Total)	mg/kg	<0.21	0.21	<0.045	<0.045	0.045	A351423	<0.12	0.12	A351423
F1 (C6-C10) - BTEX	mg/kg	<47	47	<10	<10	10	A351423	<24	24	A351423
Field Preserved Volatiles										
Benzene	mg/kg	0.044 (1)	0.024	0.018	<0.0050	0.0050	A353452	<0.013 (1)	0.013	A353452
Toluene	mg/kg	69 (1)	0.24	0.78	<0.050	0.050	A353452	<0.080 (2)	0.080	A353452
Ethylbenzene	mg/kg	<0.047 (1)	0.047	<0.010	<0.010	0.010	A353452	<0.026 (1)	0.026	A353452
m & p-Xylene	mg/kg	<0.19 (1)	0.19	<0.040	<0.040	0.040	A353452	<0.10 (1)	0.10	A353452
o-Xylene	mg/kg	<0.094 (1)	0.094	<0.020	<0.020	0.020	A353452	<0.052 (1)	0.052	A353452
F1 (C6-C10)	mg/kg	93 (1)	47	<10	<10	10	A353452	<24 (2)	24	A353452
Surrogate Recovery (%)										
1,4-Difluorobenzene (sur.)	%	99	N/A	101	100	N/A	A353452	102	N/A	A353452
4-Bromofluorobenzene (sur.)	%	96	N/A	98	97	N/A	A353452	96	N/A	A353452
D10-o-Xylene (sur.)	%	96	N/A	119	99	N/A	A353452	108	N/A	A353452
D4-1,2-Dichloroethane (sur.)	%	98	N/A	102	101	N/A	A353452	102	N/A	A353452
O-TERPHENYL (sur.)	%	N/A	N/A	N/A	116	N/A	A355312	N/A	N/A	N/A

RDL = Reportable Detection Limit

⁽¹⁾ Detection limits raised based on sample weight used for analysis.

⁽²⁾ Detection limits raised based on MDL and sample weight used for analysis.



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		AFW117		AFW118		AFW119			AFW219		
Sampling Date		2021/09/03 08:50		2021/09/03 09:00		2021/09/03 08:52			2021/09/03 10:46		
COC Number		644511-85-01		644511-85-01		644511-85-01			644511-86-01		
	UNITS	TP21-185-03 Lab-Dup	RDL	TP21-185-05	RDL	TP21-185-04	RDL	QC Batch	TP21-186-02	RDL	QC Batch
Ext. Pet. Hydrocarbon		•	•	•	•	•	•		•	•	
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	10	N/A	10	N/A	10	A355312	22	10	A355534
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	50	N/A	50	N/A	50	A355312	53	50	A355534
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	50	N/A	50	N/A	50	A355312	<50	50	A355534
Reached Baseline at C50	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	A355312	Yes	N/A	A355534
Physical Properties	•		•		•		•				
Moisture	%	51	0.30	57	0.30	67	0.30	A355564	8.1	0.30	A355564
Volatiles											
Xylenes (Total)	mg/kg	N/A	0.12	<0.10	0.10	<0.20	0.20	A351423	0.12	0.045	A351423
F1 (C6-C10) - BTEX	mg/kg	N/A	24	<23	23	<24	24	A351423	<10	10	A351423
Field Preserved Volatiles											
Benzene	mg/kg	N/A	0.013	<0.012 (1)	0.012	<0.022 (1)	0.022	A353452	<0.0050	0.0050	A353452
Toluene	mg/kg	N/A	0.080	2.2 (1)	0.12	<0.080 (2)	0.080	A353452	<0.050	0.050	A353452
Ethylbenzene	mg/kg	N/A	0.026	<0.023 (1)	0.023	<0.044 (1)	0.044	A353452	0.013	0.010	A353452
m & p-Xylene	mg/kg	N/A	0.10	<0.093 (1)	0.093	<0.18 (1)	0.18	A353452	0.082	0.040	A353452
o-Xylene	mg/kg	N/A	0.052	<0.046 (1)	0.046	<0.088 (1)	0.088	A353452	0.034	0.020	A353452
F1 (C6-C10)	mg/kg	N/A	24	<23 (1)	23	<24 (2)	24	A353452	<10	10	A353452
Surrogate Recovery (%)											
1,4-Difluorobenzene (sur.)	%	N/A	N/A	101	N/A	101	N/A	A353452	100	N/A	A353452
4-Bromofluorobenzene (sur.)	%	N/A	N/A	96	N/A	97	N/A	A353452	96	N/A	A353452
D10-o-Xylene (sur.)	%	N/A	N/A	118	N/A	106	N/A	A353452	91	N/A	A353452
D4-1,2-Dichloroethane (sur.)	%	N/A	N/A	101	N/A	102	N/A	A353452	102	N/A	A353452
O-TERPHENYL (sur.)	%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	98	N/A	A355534
PDI - Papartable Detection Liv	mi+							•			-

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

- (1) Detection limits raised based on sample weight used for analysis.
- (2) Detection limits raised based on MDL and sample weight used for analysis.



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)

<u> </u>									
Bureau Veritas ID		AFW220	AFW221	AFW222	AFW223	AFW224	AFW226		
Sampling Date		2021/09/03	2021/09/03	2021/09/03	2021/09/03	2021/09/03	2021/09/03		
Sampling Date		10:48	10:50	10:45	13:48	13:56	13:57		
COC Number		644511-86-01	644511-86-01	644511-86-01	644511-86-01	644511-86-01	644511-86-01		
	UNITS	TP21-186-04	TP21-186-06	TP21-186-01	TP21-159-06	TP21-160-05	TP21-160-06	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	N/A	<10	N/A	<10	N/A	96	10	A355534
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	<50	N/A	<50	N/A	110	50	A355534
F4 (C34-C50 Hydrocarbons)	mg/kg	N/A	<50	N/A	<50	N/A	<50	50	A355534
Reached Baseline at C50	mg/kg	N/A	Yes	N/A	Yes	N/A	Yes	N/A	A355534
Physical Properties									
Moisture	%	8.1	18	9.3	22	15	17	0.30	A355564
Volatiles	•								
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	<0.045	1.8	0.13	0.045	A351423
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	<10	150	34	10	A351423
Field Preserved Volatiles	•	•	-	•		•	•	ē	<u>, </u>
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0065	<0.0050	0.0050	A353452
Toluene	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	A353452
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	<0.010	0.12	0.038	0.010	A353452
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	<0.040	1.7	0.13	0.040	A353452
o-Xylene	mg/kg	<0.020	<0.020	<0.020	<0.020	0.061	<0.020	0.020	A353452
F1 (C6-C10)	mg/kg	<10	<10	<10	<10	150	34	10	A353452
Surrogate Recovery (%)	•	•	-	•		•	•	ē	<u>, </u>
1,4-Difluorobenzene (sur.)	%	100	100	100	100	99	99	N/A	A353452
4-Bromofluorobenzene (sur.)	%	97	97	96	97	103	99	N/A	A353452
D10-o-Xylene (sur.)	%	100	111	100	114	118	108	N/A	A353452
D4-1,2-Dichloroethane (sur.)	%	101	102	101	100	101	102	N/A	A353452
O-TERPHENYL (sur.)	%	N/A	97	N/A	100	N/A	101	N/A	A355534
RDL = Reportable Detection Lir	mit	_		_		_			

RDL = Reportable Detection Limit



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		AFW227		AFW279		AFW280	AFW281		
Sampling Date		2021/09/03		2021/09/03		2021/09/03	2021/09/03		
Jamping Date		13:58		14:28		14:29	14:35		
COC Number		644511-86-01		644511-84-01		644511-84-01	644511-84-01		
	UNITS	TP21-160-07	RDL	TP21-187-02	RDL	TP21-187-04	TP21-187-06	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	10	110 (1)	26	<10	<10	10	A355534
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	50	2900 (1)	130	<50	<50	50	A355534
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	920 (1)	130	<50	<50	50	A355534
Reached Baseline at C50	mg/kg	Yes	N/A	No	N/A	Yes	Yes	N/A	A355534
Physical Properties			_						
Moisture	%	16	0.30	62	0.30	9.9	18	0.30	A355564
Volatiles	•		•		•			•	•
Xylenes (Total)	mg/kg	<0.045	0.045	<0.15	0.15	<0.045	<0.045	0.045	A351423
F1 (C6-C10) - BTEX	mg/kg	<10	10	<24	24	<10	<10	10	A351423
Field Preserved Volatiles	•			•	•	•		•	
Benzene	mg/kg	0.012	0.0050	<0.017 (2)	0.017	<0.0050	<0.0050	0.0050	A353452
Toluene	mg/kg	<0.050	0.050	<0.080 (3)	0.080	<0.050	<0.050	0.050	A353452
Ethylbenzene	mg/kg	0.032	0.010	<0.034 (2)	0.034	<0.010	<0.010	0.010	A353452
m & p-Xylene	mg/kg	<0.040	0.040	<0.13 (2)	0.13	<0.040	<0.040	0.040	A353452
o-Xylene	mg/kg	<0.020	0.020	<0.067 (2)	0.067	<0.020	<0.020	0.020	A353452
F1 (C6-C10)	mg/kg	<10	10	<24 (3)	24	<10	<10	10	A353452
Surrogate Recovery (%)			_						
1,4-Difluorobenzene (sur.)	%	100	N/A	100	N/A	102	100	N/A	A353452
4-Bromofluorobenzene (sur.)	%	97	N/A	98	N/A	97	97	N/A	A353452
D10-o-Xylene (sur.)	%	101	N/A	99	N/A	105	108	N/A	A353452
D4-1,2-Dichloroethane (sur.)	%	102	N/A	102	N/A	103	101	N/A	A353452
O-TERPHENYL (sur.)	%	96	N/A	94	N/A	98	97	N/A	A355534

RDL = Reportable Detection Limit

- (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.



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		AFW282	AFW283	AFW284		AFW285		
Sampling Date		2021/09/03	2021/09/03	2021/09/03		2021/09/03		
Jampinig Date		14:50	14:52	15:07		15:08		
COC Number		644511-84-01	644511-84-01	644511-84-01		644511-84-01		
	UNITS	TP21-80-05	TP21-80-06	TP21-188-02	RDL	TP21-188-04	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	27	<10	N/A	10	N/A	10	A355534
F3 (C16-C34 Hydrocarbons)	mg/kg	72	<50	N/A	50	N/A	50	A355534
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	N/A	50	N/A	50	A355534
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	N/A	N/A	N/A	A355534
Physical Properties	•	•	•					
Moisture	%	11	20	49	0.30	49	0.30	A355564
Volatiles								
Xylenes (Total)	mg/kg	<0.045	<0.045	<0.045	0.045	<0.12	0.12	A351423
F1 (C6-C10) - BTEX	mg/kg	<10	<10	<10	10	<24	24	A351423
Field Preserved Volatiles								
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	<0.013 (1)	0.013	A353455
Toluene	mg/kg	<0.050	<0.050	<0.050	0.050	<0.080 (2)	0.080	A353455
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	0.010	<0.026 (1)	0.026	A353455
m & p-Xylene	mg/kg	<0.040	<0.040	<0.040	0.040	<0.10 (1)	0.10	A353455
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	<0.051 (1)	0.051	A353455
F1 (C6-C10)	mg/kg	<10	<10	<10	10	<24 (2)	24	A353455
Surrogate Recovery (%)								
1,4-Difluorobenzene (sur.)	%	101	99	101	N/A	101	N/A	A353455
4-Bromofluorobenzene (sur.)	%	98	97	96	N/A	95	N/A	A353455
D10-o-Xylene (sur.)	%	103	101	126	N/A	107	N/A	A353455
D4-1,2-Dichloroethane (sur.)	%	103	102	102	N/A	103	N/A	A353455
O-TERPHENYL (sur.)	%	95	94	N/A	N/A	N/A	N/A	A355534
								_

RDL = Reportable Detection Limit

⁽¹⁾ Detection limits raised based on sample weight used for analysis.

⁽²⁾ Detection limits raised based on MDL and sample weight used for analysis.



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		AFW286		AFW287		AFW342	AFW343		
Sampling Date		2021/09/03		2021/09/03		2021/09/03	2021/09/03		
Sampling Date		15:13		14:28		16:04	16:05		
COC Number		644511-84-01		644511-84-01		644511-82-01	644511-82-01		
	UNITS	TP21-188-06	QC Batch	TP21-187-03	QC Batch	TP21-189-01	TP21-189-03	RDL	QC Batch
Ext. Pet. Hydrocarbon									
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	A355625	34	A355625	170	6900	10	A355623
F3 (C16-C34 Hydrocarbons)	mg/kg	<50	A355625	790	A355625	160	4500	50	A355623
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	A355625	320	A355625	54	1900	50	A355623
Reached Baseline at C50	mg/kg	Yes	A355625	No	A355625	Yes	Yes	N/A	A355623
Physical Properties									
Moisture	%	14	A355626	25	A355626	12	13	0.30	A355624
Volatiles	•		•						
Xylenes (Total)	mg/kg	<0.045	A351423	<0.045	A351571	<0.045	1.7	0.045	A351571
F1 (C6-C10) - BTEX	mg/kg	<10	A351423	<10	A351571	28	290	10	A351571
Field Preserved Volatiles									
Benzene	mg/kg	<0.0050	A353455	<0.0050	A353455	<0.0050	0.23	0.0050	A353455
Toluene	mg/kg	<0.050	A353455	<0.050	A353455	<0.050	1.5	0.050	A353455
Ethylbenzene	mg/kg	<0.010	A353455	<0.010	A353455	<0.010	0.39	0.010	A353455
m & p-Xylene	mg/kg	<0.040	A353455	<0.040	A353455	<0.040	1.3	0.040	A353455
o-Xylene	mg/kg	<0.020	A353455	<0.020	A353455	<0.020	0.33	0.020	A353455
F1 (C6-C10)	mg/kg	<10	A353455	<10	A353455	28	290	10	A353455
Surrogate Recovery (%)									
1,4-Difluorobenzene (sur.)	%	100	A353455	102	A353455	102	100	N/A	A353455
4-Bromofluorobenzene (sur.)	%	99	A353455	98	A353455	96	109	N/A	A353455
D10-o-Xylene (sur.)	%	98	A353455	109	A353455	99	120	N/A	A353455
D4-1,2-Dichloroethane (sur.)	%	102	A353455	101	A353455	102	104	N/A	A353455
O-TERPHENYL (sur.)	%	97	A355625	96	A355625	78	96	N/A	A355623
RDL = Reportable Detection Lir	nit								



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		AFW344	AFW345		AFW346		
Sampling Date		2021/09/03 16:06	2021/09/03 16:07		2021/09/03 16:08		
COC Number		644511-82-01	644511-82-01		644511-82-01		
	UNITS	TP21-189-05	TP21-189-06	QC Batch	TP21-189-08	RDL	QC Batch
Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	3100	3800	A355623	4100	10	A355623
F3 (C16-C34 Hydrocarbons)	mg/kg	340	770	A355623	740	50	A355623
F4 (C34-C50 Hydrocarbons)	mg/kg	79	240	A355623	230	50	A355623
Reached Baseline at C50	mg/kg	Yes	Yes	A355623	Yes	N/A	A355623
Physical Properties	•					•	
Moisture	%	3.1	3.8	A355624	8.3	0.30	A355626
Volatiles	•						
Xylenes (Total)	mg/kg	17	13	A351571	1.3	0.045	A351571
F1 (C6-C10) - BTEX	mg/kg	1600	1900	A351571	1200	10	A351571
Field Preserved Volatiles	•			•		•	
Benzene	mg/kg	0.088 (1)	0.039 (1)	A353455	0.026 (1)	0.0050	A353455
Toluene	mg/kg	0.39	0.17	A353455	0.063	0.050	A353455
Ethylbenzene	mg/kg	1.4	1.7	A353455	0.26	0.010	A353455
m & p-Xylene	mg/kg	8.7	4.8	A353455	0.43	0.040	A353455
o-Xylene	mg/kg	7.9	8.3	A353455	0.86	0.020	A353455
F1 (C6-C10)	mg/kg	1700	1900	A353455	1200	10	A353455
Surrogate Recovery (%)	•	•	•	•	•	=	
1,4-Difluorobenzene (sur.)	%	95	98	A353455	97	N/A	A353455
4-Bromofluorobenzene (sur.)	%	108	95	A353455	NC (2)	N/A	A353455
D10-o-Xylene (sur.)	%	131	172 (3)	A353455	NC (2)	N/A	A353455
D4-1,2-Dichloroethane (sur.)	%	114	119	A353455	115	N/A	A353455
O-TERPHENYL (sur.)	%	85	80	A355623	90	N/A	A355623
DDI Damantahla Dataatian Lin							

RDL = Reportable Detection Limit

⁽¹⁾ Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.

⁽²⁾ Surrogate recovery non calculable due to matrix interference.

⁽³⁾ O-Xylene-d10 recovery biased due to high level of native hydrocarbon present in sample.



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 REGULATED METALS - SOILS (SOIL)

		_			_	_		_	_	_
Bureau Veritas ID		AFW342		AFW343		AFW344		AFW345		
Sampling Date		2021/09/03		2021/09/03		2021/09/03		2021/09/03		
Sampling Date		16:04		16:05		16:06		16:07		
COC Number		644511-82-01		644511-82-01		644511-82-01		644511-82-01		
	UNITS	TP21-189-01	RDL	TP21-189-03	RDL	TP21-189-05	RDL	TP21-189-06	RDL	QC Batch
Calculated Parameters										
Calculated Boron (B)	mg/kg	0.14	0.050	0.21	0.037	0.054	0.029	<0.030	0.030	A350655
Elements	•		•				•		•	
Hex. Chromium (Cr 6+)	mg/kg	<0.080	0.080	<0.080	0.080	<0.080	0.080	<0.080	0.080	A353165
Soluble Parameters		•		•	•			•		
Soluble Boron (B)	mg/L	0.29	0.10	0.56	0.10	0.18	0.10	<0.10	0.10	A357683
Saturation %	%	50	N/A	37	N/A	29	N/A	30	N/A	A354884
Soluble Sulphate (SO4)	mg/L	200	5.0	480	5.0	330	5.0	25	5.0	A357683
Elements										
Total Antimony (Sb)	mg/kg	<0.50	0.50	11	0.50	<0.50	0.50	<0.50	0.50	A355882
Total Arsenic (As)	mg/kg	5.3	1.0	9.1	1.0	6.1	1.0	6.8	1.0	A355882
Total Barium (Ba)	mg/kg	2300	1.0	1700	1.0	460	1.0	90	1.0	A355882
Total Beryllium (Be)	mg/kg	<0.40	0.40	<0.40	0.40	<0.40	0.40	<0.40	0.40	A355882
Total Cadmium (Cd)	mg/kg	0.24	0.050	14	0.050	0.37	0.050	0.086	0.050	A355882
Total Chromium (Cr)	mg/kg	110	1.0	82	1.0	6.4	1.0	5.3	1.0	A355882
Total Cobalt (Co)	mg/kg	5.3	0.50	5.3	0.50	3.7	0.50	3.8	0.50	A355882
Total Copper (Cu)	mg/kg	12	1.0	540	1.0	22	1.0	5.0	1.0	A355882
Total Lead (Pb)	mg/kg	14	0.50	1100	13	12	0.50	5.0	0.50	A355882
Total Mercury (Hg)	mg/kg	0.054	0.050	0.43	0.050	<0.050	0.050	<0.050	0.050	A355882
Total Molybdenum (Mo)	mg/kg	2.9	0.40	3.4	0.40	0.55	0.40	0.55	0.40	A355882
Total Nickel (Ni)	mg/kg	54	1.0	41	1.0	8.8	1.0	9.3	1.0	A355882
Total Selenium (Se)	mg/kg	<0.50	0.50	<0.50	0.50	<0.50	0.50	<0.50	0.50	A355882
Total Silver (Ag)	mg/kg	<0.20	0.20	<0.20	0.20	<0.20	0.20	<0.20	0.20	A355882
Total Thallium (Tl)	mg/kg	<0.10	0.10	<0.10	0.10	<0.10	0.10	<0.10	0.10	A355882
Total Tin (Sn)	mg/kg	<1.0	1.0	9.1	1.0	<1.0	1.0	<1.0	1.0	A355882
Total Uranium (U)	mg/kg	0.45	0.20	0.41	0.20	0.28	0.20	0.24	0.20	A355882
Total Vanadium (V)	mg/kg	12	1.0	16	1.0	12	1.0	12	1.0	A355882
Total Zinc (Zn)	mg/kg	61	10	690	10	54	10	26	10	A355882
RDL = Reportable Detection	Limit						•			



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

AT1 REGULATED METALS - SOILS (SOIL)

Bureau Veritas ID		AFW346		
Sampling Date		2021/09/03		
		16:08		
COC Number		644511-82-01		
	UNITS	TP21-189-08	RDL	QC Batch
Calculated Parameters				
Calculated Boron (B)	mg/kg	<0.031	0.031	A350655
Elements				
Hex. Chromium (Cr 6+)	mg/kg	<0.080	0.080	A353165
Soluble Parameters				
Soluble Boron (B)	mg/L	<0.10	0.10	A357683
Saturation %	%	31	N/A	A354884
Soluble Sulphate (SO4)	mg/L	31	5.0	A357683
Elements				
Total Antimony (Sb)	mg/kg	<0.50	0.50	A355882
Total Arsenic (As)	mg/kg	5.3	1.0	A355882
Total Barium (Ba)	mg/kg	85	1.0	A355882
Total Beryllium (Be)	mg/kg	<0.40	0.40	A355882
Total Cadmium (Cd)	mg/kg	0.090	0.050	A355882
Total Chromium (Cr)	mg/kg	5.6	1.0	A355882
Total Cobalt (Co)	mg/kg	3.4	0.50	A355882
Total Copper (Cu)	mg/kg	4.8	1.0	A355882
Total Lead (Pb)	mg/kg	4.4	0.50	A355882
Total Mercury (Hg)	mg/kg	<0.050	0.050	A355882
Total Molybdenum (Mo)	mg/kg	<0.40	0.40	A355882
Total Nickel (Ni)	mg/kg	9.1	1.0	A355882
Total Selenium (Se)	mg/kg	<0.50	0.50	A355882
Total Silver (Ag)	mg/kg	<0.20	0.20	A355882
Total Thallium (TI)	mg/kg	<0.10	0.10	A355882
Total Tin (Sn)	mg/kg	<1.0	1.0	A355882
Total Uranium (U)	mg/kg	0.36	0.20	A355882
Total Vanadium (V)	mg/kg	12	1.0	A355882
Total Zinc (Zn)	mg/kg	27	10	A355882
RDL = Reportable Detection	Limit			
N/A = Not Applicable				



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

RESULTS OF CHEMICAL ANALYSES OF SOIL

Bureau Veritas ID		AFW342		AFW343			AFW344		
Sampling Date		2021/09/03 16:04		2021/09/03 16:05			2021/09/03 16:06		
COC Number		644511-82-01		644511-82-01			644511-82-01		
	UNITS	TP21-189-01	RDL	TP21-189-03	RDL	QC Batch	TP21-189-05	RDL	QC Batch
Calculated Parameters									
Soluble Nitrate (N)	mg/L	<0.20	0.20	<0.20	0.20	A351579	<0.20	0.20	A351579
Calculated Calcium (Ca)	mg/kg	45	0.75	130	0.56	A368052	47	0.44	A368767
Calculated Magnesium (Mg)	mg/kg	12	0.50	7.0	0.37	A368052	5.1	0.29	A368767
Calculated Sodium (Na)	mg/kg	10	1.2	12	0.93	A368052	3.8	0.73	A368767
Calculated Potassium (K)	mg/kg	6.4	0.65	9.8	0.48	A368052	5.0	0.38	A368767
Calculated Boron (B)	mg/kg	0.14	0.050	0.21	0.037	A368052	0.054	0.029	A368767
Calculated Sulphate (SO4)	mg/kg	100	2.5	180	1.9	A368052	96	1.5	A368767
Calculated Nitrate (N)	mg/kg	<0.099	0.099	<0.074	0.074	A368052	<0.059	0.059	A368767
Calculated Nitrite (N)	mg/kg	<0.099	0.099	<0.074	0.074	A368052	<0.059	0.059	A368767
Calculated Total Nitrogen (N)	mg/kg	CALCERROR	N/A	CALCERROR	N/A	A368052	CALCERROR	N/A	A368767
RDL = Reportable Detection Lir	nit								

Bureau Veritas ID		AFW345		AFW346		
Sampling Date		2021/09/03 16:07		2021/09/03 16:08		
COC Number		644511-82-01		644511-82-01		
	UNITS	TP21-189-06	RDL	TP21-189-08	RDL	QC Batch
Calculated Parameters						
Soluble Nitrate (N)	mg/L	<0.20	0.20	<0.20	0.20	A351579
Calculated Calcium (Ca)	mg/kg	9.0	0.45	13	0.46	A368767
Calculated Magnesium (Mg)	mg/kg	2.7	0.30	1.4	0.31	A368767
Calculated Sodium (Na)	mg/kg	3.4	0.76	4.6	0.76	A368767
Calculated Potassium (K)	mg/kg	1.2	0.39	0.81	0.40	A368767
Calculated Boron (B)	mg/kg	<0.030	0.030	<0.031	0.031	A368767
Calculated Sulphate (SO4)	mg/kg	7.7	1.5	9.5	1.5	A368767
Calculated Nitrate (N)	mg/kg	<0.061	0.061	<0.061	0.061	A368767
Calculated Nitrite (N)	mg/kg	<0.061	0.061	<0.061	0.061	A368767
Calculated Total Nitrogen (N)	mg/kg	CALCERROR	N/A	CALCERROR	N/A	A368767
RDL = Reportable Detection Li	mit		•			
N/A = Not Applicable						



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		AFW111			AFW112			AFW114		
Sampling Date		2021/09/03 08:43			2021/09/03 10:02			2021/09/03 10:35		
COC Number		644511-85-01			644511-85-01			644511-85-01		
	UNITS	TP21-183-02	RDL	QC Batch	TP21-183-04	RDL	QC Batch	TP21-184-04	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	110 (1)	22	A355591	21 (1)	21	A355591	570 (1)	29	A350635
F3 (C16-C34 Hydrocarbons)	mg/kg	1300	150	A351574	340	150	A351575	9800	210	A351574
F3A (C16-C22)	mg/kg	140 (1)	110	A355591	<110 (1)	110	A355591	1100 (1)	150	A350635
F3B (C22-C34)	mg/kg	1200 (1)	110	A355591	340 (1)	110	A355591	8600 (1)	150	A350635
F2% (BIC)	mg/kg	8.8	N/A	A351574	5.9	N/A	A351575	6.2	N/A	A351574
F4 (C34-C50 Hydrocarbons)	mg/kg	480 (1)	110	A355591	140 (1)	110	A355591	3800 (1)	150	A350635
Reached Baseline at C50	mg/kg	Yes	N/A	A355591	Yes	N/A	A355591	No	N/A	A350635
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	24000 (2)	1400	A358672
Surrogate Recovery (%)		•				•				
O-TERPHENYL (sur.)	%	94	N/A	A355591	101	N/A	A355591	133	N/A	A350635

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 due to high moisture content, samples contain => 50% moisture.

Bureau Veritas ID		AFW115		AFW117		AFW118		AFW119		
Sampling Date		2021/09/03 10:38		2021/09/03 08:50		2021/09/03 09:00		2021/09/03 08:52		
COC Number		644511-85-01		644511-85-01		644511-85-01		644511-85-01		
	UNITS	TP21-184-05	QC Batch	TP21-185-03	RDL	TP21-185-05	RDL	TP21-185-04	RDL	QC Batch
Ext. Pet. Hydrocarbon										
F2 (C10-C16 Hydrocarbons)	mg/kg	23	A350635	25	10	<23 (1)	23	<30 (1)	30	A355591
F3 (C16-C34 Hydrocarbons)	mg/kg	410	A351575	250	71	<160	160	210	210	A351575
F3A (C16-C22)	mg/kg	62	A350635	<50	50	<120 (1)	120	<150 (1)	150	A355591
F3B (C22-C34)	mg/kg	340	A350635	250	50	<120 (1)	120	210 (1)	150	A355591
F2% (BIC)	mg/kg	6.3	A351575	NC	N/A	NC	N/A	NC	N/A	A351575
F4 (C34-C50 Hydrocarbons)	mg/kg	120	A350635	67	50	<120 (1)	120	<150 (1)	150	A355591
Reached Baseline at C50	mg/kg	Yes	A350635	Yes	N/A	Yes	N/A	Yes	N/A	A355591
Surrogate Recovery (%)									•	
O-TERPHENYL (sur.)	%	135	A350635	99	N/A	102	N/A	96	N/A	A355591

RDL = Reportable Detection Limit

N/A = Not Applicable

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



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		AFW220	AFW222	AFW224	AFW279	AFW284		
Sampling Date		2021/09/03 10:48	2021/09/03 10:45	2021/09/03 13:56	2021/09/03 14:28	2021/09/03 15:07		
COC Number		644511-86-01	644511-86-01	644511-86-01	644511-84-01	644511-84-01		
	UNITS	TP21-186-04	TP21-186-01	TP21-160-05	TP21-187-02	TP21-188-02	RDL	QC Batch
Ext. Pet. Hydrocarbon								
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	30	12	N/A	2200 (1)	10	A355591
F3 (C16-C34 Hydrocarbons)	mg/kg	<71	<71	<71	N/A	950	71	A351575
F3A (C16-C22)	mg/kg	<50	<50	<50	N/A	250	50	A355591
F3B (C22-C34)	mg/kg	<50	<50	<50	N/A	700	50	A355591
F2% (BIC)	mg/kg	NC	NC	NC	N/A	NC	N/A	A351575
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	<50	<50	N/A	190	50	A355591
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	N/A	Yes	N/A	A355591
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	N/A	N/A	N/A	10000 (2)	N/A	1200	A358672
Surrogate Recovery (%)	•							
O-TERPHENYL (sur.)	%	93	93	96	N/A	96	N/A	A355591

RDL = Reportable Detection Limit

⁽¹⁾ Duplicate exceeds acceptance criteria due to sample non homogeneity. Reanalysis yields similar results.

⁽²⁾ Detection limits raised due to high moisture content, samples contain => 50% moisture.



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		AFW284	AFW285		AFW287		
Sampling Date		2021/09/03	2021/09/03		2021/09/03		
Sampling Date		15:07	15:08		14:28		
COC Number		644511-84-01	644511-84-01		644511-84-01		
	UNITS	TP21-188-02 Lab-Dup	TP21-188-04	RDL	TP21-187-03	RDL	QC Batch
Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	1200 (1)	260	10	N/A	10	A355591
F3 (C16-C34 Hydrocarbons)	mg/kg	N/A	410	71	N/A	71	A351575
F3A (C16-C22)	mg/kg	230	160	50	N/A	50	A355591
F3B (C22-C34)	mg/kg	840	240	50	N/A	50	A355591
F2% (BIC)	mg/kg	N/A	52	N/A	N/A	N/A	A351575
F4 (C34-C50 Hydrocarbons)	mg/kg	230	96	50	N/A	50	A355591
Reached Baseline at C50	mg/kg	Yes	Yes	N/A	N/A	N/A	A355591
F4G-SG (Heavy Hydrocarbons-Grav.)	mg/kg	N/A	N/A	1200	2200	500	A358672
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	105	94	N/A	N/A	N/A	A355591
·		•	•		•		

RDL = Reportable Detection Limit

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

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



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

					1					1
Bureau Veritas ID		AFW342		AFW343		AFW344		AFW345		
Sampling Date		2021/09/03 16:04		2021/09/03 16:05		2021/09/03 16:06		2021/09/03 16:07		
COC Number		644511-82-01		644511-82-01		644511-82-01		644511-82-01		
	UNITS	TP21-189-01	RDL	TP21-189-03	RDL	TP21-189-05	RDL	TP21-189-06	RDL	QC Batch
Polycyclic Aromatics										
Acenaphthene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	0.15 (2)	0.0050	0.25 (2)	0.0050	A355621
B[a]P TPE Total Potency Equivalents	mg/kg	<0.0071	0.0071	<0.071	0.071	<0.0071	0.0071	<0.0071	0.0071	A351203
Acenaphthylene	mg/kg	<0.0050	0.0050	0.12 (1)	0.050	0.048 (2)	0.0050	0.071 (2)	0.0050	A355621
Acridine	mg/kg	<0.010	0.010	0.54 (1)	0.10	0.052	0.010	0.13	0.010	A355621
Anthracene	mg/kg	<0.0040	0.0040	0.088 (1)	0.040	0.012	0.0040	0.026	0.0040	A355621
Benzo(a)anthracene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Benzo(b&j)fluoranthene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Benzo(k)fluoranthene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Benzo(g,h,i)perylene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Benzo(c)phenanthrene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Benzo(a)pyrene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Benzo(e)pyrene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Chrysene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Dibenz(a,h)anthracene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Fluoranthene	mg/kg	<0.0050	0.0050	0.086 (1)	0.050	0.0072	0.0050	0.0097	0.0050	A355621
Fluorene	mg/kg	0.0071	0.0050	0.32 (1)	0.050	0.27	0.0050	0.42	0.0050	A355621
Indeno(1,2,3-cd)pyrene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
1-Methylnaphthalene	mg/kg	0.016	0.0050	1.1 (1)	0.050	4.3	0.0050	6.7	0.050	A355621
2-Methylnaphthalene	mg/kg	0.012	0.0050	0.88 (1)	0.050	9.1	0.050	10	0.050	A355621
Naphthalene	mg/kg	0.0090	0.0050	0.79 (1)	0.050	3.7	0.0050	2.4	0.0050	A355621
Phenanthrene	mg/kg	<0.0050	0.0050	0.30 (1)	0.050	0.15	0.0050	0.39	0.0050	A355621
Perylene	mg/kg	<0.0050	0.0050	<0.050 (1)	0.050	<0.0050	0.0050	<0.0050	0.0050	A355621
Pyrene	mg/kg	<0.0050	0.0050	0.52 (1)	0.050	0.018	0.0050	0.024	0.0050	A355621
Quinoline	mg/kg	<0.010	0.010	NC (3)	0.10	<0.010	0.010	<0.010	0.010	A355621

RDL = Reportable Detection Limit

- (1) Detection limits raised due to dilution as a result of sample matrix interference.
- (2) Qualifying ion outside of acceptance criteria. Results are tentatively identified and potentially biased high.
- (3) Quinoline not calculated due to required dilution caused by sample matrix. Detection limits raised due to dilution as a result of sample matrix interference.



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AFW342		AFW343		AFW344		AFW345		
Sampling Date		2021/09/03 16:04		2021/09/03 16:05		2021/09/03 16:06		2021/09/03 16:07		
COC Number		644511-82-01		644511-82-01		644511-82-01		644511-82-01		
	UNITS	TP21-189-01	RDL	TP21-189-03	RDL	TP21-189-05	RDL	TP21-189-06	RDL	QC Batch
Surrogate Recovery (%)										
D10-ANTHRACENE (sur.)	%	86	N/A	113	N/A	86	N/A	87	N/A	A355621
D8-ACENAPHTHYLENE (sur.)	%	76	N/A	105	N/A	76	N/A	78	N/A	A355621
D8-NAPHTHALENE (sur.)	%	69	N/A	98	N/A	58	N/A	60	N/A	A355621
TERPHENYL-D14 (sur.)	%	90	N/A	116	N/A	88	N/A	92	N/A	A355621

RDL = Reportable Detection Limit



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AFW346		
Sampling Date		2021/09/03		
		16:08		
COC Number		644511-82-01		
	UNITS	TP21-189-08	RDL	QC Batch
Polycyclic Aromatics				
Acenaphthene	mg/kg	0.17 (1)	0.0050	A355621
B[a]P TPE Total Potency Equivalents	mg/kg	<0.0071	0.0071	A351203
Acenaphthylene	mg/kg	0.063 (1)	0.0050	A355621
Acridine	mg/kg	0.13	0.010	A355621
Anthracene	mg/kg	0.024	0.0040	A355621
Benzo(a)anthracene	mg/kg	<0.0050	0.0050	A355621
Benzo(b&j)fluoranthene	mg/kg	<0.0050	0.0050	A355621
Benzo(k)fluoranthene	mg/kg	<0.0050	0.0050	A355621
Benzo(g,h,i)perylene	mg/kg	<0.0050	0.0050	A355621
Benzo(c)phenanthrene	mg/kg	<0.0050	0.0050	A355621
Benzo(a)pyrene	mg/kg	<0.0050	0.0050	A355621
Benzo(e)pyrene	mg/kg	<0.0050	0.0050	A355621
Chrysene	mg/kg	<0.0050	0.0050	A355621
Dibenz(a,h)anthracene	mg/kg	<0.0050	0.0050	A355621
Fluoranthene	mg/kg	0.0068	0.0050	A355621
Fluorene	mg/kg	0.29	0.0050	A355621
Indeno(1,2,3-cd)pyrene	mg/kg	<0.0050	0.0050	A355621
1-Methylnaphthalene	mg/kg	0.39 (1)	0.0050	A355621
2-Methylnaphthalene	mg/kg	0.38	0.0050	A355621
Naphthalene	mg/kg	0.29	0.0050	A355621
Phenanthrene	mg/kg	0.28	0.0050	A355621
Perylene	mg/kg	<0.0050	0.0050	A355621
Pyrene	mg/kg	0.018	0.0050	A355621
Quinoline	mg/kg	<0.010	0.010	A355621
Surrogate Recovery (%)				
D10-ANTHRACENE (sur.)	%	91	N/A	A355621
D8-ACENAPHTHYLENE (sur.)	%	80	N/A	A355621
RDI = Reportable Detection Limit	1	-		!

RDL = Reportable Detection Limit

N/A = Not Applicable

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



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Bureau Veritas ID		AFW346		
Sampling Date		2021/09/03 16:08		
COC Number		644511-82-01		
	UNITS	TP21-189-08	RDL	QC Batch
D8-NAPHTHALENE (sur.)	%	62	N/A	A355621
TERPHENYL-D14 (sur.)	%	97	N/A	A355621

RDL = Reportable Detection Limit



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Bureau Veritas ID		AFW342	AFW343	AFW344	AFW345	AFW346		
Sampling Date		2021/09/03 16:04	2021/09/03 16:05	2021/09/03 16:06	2021/09/03 16:07	2021/09/03 16:08		
COC Number		644511-82-01	644511-82-01	644511-82-01	644511-82-01	644511-82-01		
	UNITS	TP21-189-01	TP21-189-03	TP21-189-05	TP21-189-06	TP21-189-08	RDL	QC Batch
Elements								
Elellielle								
Total Fusion Barium (Ba)	mg/kg	6600	5300	910	760	550	50	A358665



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

GENERAL COMMENTS

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

4.3°C
5.3°C
5.7°C
3.0°C
3.3°C
3.3°C
1.7°C
2.3°C

Version #3: Report reissued to amend reporting unit for SO4 & NO3 in mg/kg as per client request.

Version #4: Report reissued to include Chromatogram on sample TP21-184-05/AFW115 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.

Version #5: Report reissued with updated BIC calculation data for sample AFW114 & AFW115 due to calculation error.

Version #6: Report reissued to include Chromatogram interpretation letter on sample TP21-184-05/AFW115 as per client request received 2022/1/12.

Sample AFW115 [TP21-184-05]: The CCME F2-F4 chromatographic peak profile is consistent with biogenic organic material (e.g. peat). Chromatograms of biogenic organic material may contain peak patterns spanning the C18 to C50 range, but they are most commonly characterized by a profile of unevenly distributed sharp peaks between C28 and C34. The impacts are not consistent with a petroleum product or crude oil.

Results relate only to the items tested.



Bureau Veritas Job #: C168138 Report Date: 2022/01/14 GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QUALITY ASSURANCE REPORT

04/06			<u>`</u>					
QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A350635	EC0	Matrix Spike	O-TERPHENYL (sur.)	2021/09/16		96	%	60 - 140
		•	F2 (C10-C16 Hydrocarbons)	2021/09/16		97	%	60 - 140
			F3A (C16-C22)	2021/09/16		110	%	60 - 140
			F3B (C22-C34)	2021/09/16		112	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/16		102	%	60 - 140
A350635	EC0	Spiked Blank	O-TERPHENYL (sur.)	2021/09/16		105	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/16		104	%	60 - 140
			F3A (C16-C22)	2021/09/16		109	%	60 - 140
			F3B (C22-C34)	2021/09/16		105	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/16		106	%	60 - 140
A350635	EC0	Method Blank	O-TERPHENYL (sur.)	2021/09/16		111	%	60 - 140
, 100000	200	memou biank	F2 (C10-C16 Hydrocarbons)	2021/09/16	<10		mg/kg	00 1.0
			F3A (C16-C22)	2021/09/16	<50		mg/kg	
			F3B (C22-C34)	2021/09/16	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/16	<50		mg/kg	
A350635	EC0	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/16	NC		///g/ Ng %	40
A330033	LCU	KFD	F3A (C16-C22)	2021/09/16	36		%	40
			F3B (C22-C34)				% %	
			F4 (C34-C50 Hydrocarbons)	2021/09/16 2021/09/16	102 (1) NC		% %	40 40
A353165	СТІ	Matrix Spike	•		INC	97	% %	75 - 125
	STI	•	Hex. Chromium (Cr 6+)	2021/09/15		96		
A353165	STI	Spiked Blank	Hex. Chromium (Cr 6+)	2021/09/15	-0.000	96	%	80 - 120
A353165	STI	Method Blank	Hex. Chromium (Cr 6+)	2021/09/15	<0.080		mg/kg	25
A353165	STI	RPD	Hex. Chromium (Cr 6+)	2021/09/15	NC	405	%	35
A353452	RSU	Matrix Spike [AFW111-02]	1,4-Difluorobenzene (sur.)	2021/09/17		105	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/17		101	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		106	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		102	%	50 - 140
			Benzene	2021/09/17		101	%	50 - 140
			Toluene	2021/09/17		104	%	50 - 140
			Ethylbenzene	2021/09/17		104	%	50 - 140
			m & p-Xylene	2021/09/17		106	%	50 - 140
			o-Xylene	2021/09/17		105	%	50 - 140
			F1 (C6-C10)	2021/09/17		100	%	60 - 140
A353452	RSU	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/17		101	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/17		98	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		97	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		101	%	50 - 140
			Benzene	2021/09/17		89	%	60 - 130
			Toluene	2021/09/17		92	%	60 - 130
			Ethylbenzene	2021/09/17		94	%	60 - 130
			m & p-Xylene	2021/09/17		96	%	60 - 130
			o-Xylene	2021/09/17		96	%	60 - 130
			F1 (C6-C10)	2021/09/17		106	%	60 - 140
A353452	RSU	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/17		100	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/17		97	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		94	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		100	%	50 - 140
			Benzene	2021/09/17	<0.0050		mg/kg	
			Toluene	2021/09/17	<0.050		mg/kg	
			Ethylbenzene	2021/09/17	<0.010		mg/kg	



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			m & p-Xylene	2021/09/17	<0.040		mg/kg	
			o-Xylene	2021/09/17	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/17	<10		mg/kg	
A353452	RSU	RPD [AFW111-02]	Benzene	2021/09/17	NC		%	50
			Toluene	2021/09/17	NC		%	50
			Ethylbenzene	2021/09/17	NC		%	50
			m & p-Xylene	2021/09/17	NC		%	50
			o-Xylene	2021/09/17	NC		%	50
			F1 (C6-C10)	2021/09/17	NC		%	30
A353455	RSU	Matrix Spike	1,4-Difluorobenzene (sur.)	2021/09/17		103	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/17		101	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		134	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		103	%	50 - 140
			Benzene	2021/09/17		100	%	50 - 140
			Toluene	2021/09/17		103	%	50 - 140
			Ethylbenzene	2021/09/17		102	%	50 - 140
			m & p-Xylene	2021/09/17		105	%	50 - 140
			o-Xylene	2021/09/17		103	%	50 - 140
			F1 (C6-C10)	2021/09/17		83	%	60 - 140
A353455	RSU	Spiked Blank	1,4-Difluorobenzene (sur.)	2021/09/17		100	%	50 - 140
		•	4-Bromofluorobenzene (sur.)	2021/09/17		98	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		97	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		102	%	50 - 140
			Benzene	2021/09/17		89	%	60 - 130
			Toluene	2021/09/17		91	%	60 - 130
			Ethylbenzene	2021/09/17		93	%	60 - 130
			m & p-Xylene	2021/09/17		95	%	60 - 130
			o-Xylene	2021/09/17		95	%	60 - 130
			F1 (C6-C10)	2021/09/17		92	%	60 - 140
A353455	RSU	Method Blank	1,4-Difluorobenzene (sur.)	2021/09/17		99	%	50 - 140
			4-Bromofluorobenzene (sur.)	2021/09/17		97	%	50 - 140
			D10-o-Xylene (sur.)	2021/09/17		101	%	50 - 140
			D4-1,2-Dichloroethane (sur.)	2021/09/17		102	%	50 - 140
			Benzene	2021/09/17	<0.0050		mg/kg	
			Toluene	2021/09/17	<0.050		mg/kg	
			Ethylbenzene	2021/09/17	< 0.010		mg/kg	
			m & p-Xylene	2021/09/17	< 0.040		mg/kg	
			o-Xylene	2021/09/17	<0.020		mg/kg	
			F1 (C6-C10)	2021/09/17	<10		mg/kg	
A353455	RSU	RPD	Benzene	2021/09/17	NC		%	50
			Toluene	2021/09/17	NC		%	50
			Ethylbenzene	2021/09/17	NC		%	50
			m & p-Xylene	2021/09/17	NC		%	50
			o-Xylene	2021/09/17	NC		%	50
			F1 (C6-C10)	2021/09/17	NC		%	30
A354884	LZ0	QC Standard	Saturation %	2021/09/17	-	101	%	75 - 125
A354884	LZ0	RPD	Saturation %	2021/09/17	0.94		%	12
A355312	SEH	Matrix Spike	O-TERPHENYL (sur.)	2021/09/17		137	%	60 - 140
		×	F2 (C10-C16 Hydrocarbons)	2021/09/17		129	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		137	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/03/17		129	%	60 - 140



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A355312	SEH	Spiked Blank	O-TERPHENYL (sur.)	2021/09/17		127	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		105	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		114	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		112	%	60 - 140
A355312	SEH	Method Blank	O-TERPHENYL (sur.)	2021/09/17		133	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/17	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/17	<50		mg/kg	
A355312	SEH	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/17	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/17	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/17	NC		%	40
A355375	RIL	Method Blank	Moisture	2021/09/17	<0.30		%	
A355375	RIL	RPD	Moisture	2021/09/17	1.2		%	20
A355376	RIL	Method Blank	Moisture	2021/09/17	<0.30		%	
A355376	RIL	RPD	Moisture	2021/09/17	3.4		%	20
A355534	CAU	Matrix Spike	O-TERPHENYL (sur.)	2021/09/17		99	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		97	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		102	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		101	%	60 - 140
A355534	CAU	Spiked Blank	O-TERPHENYL (sur.)	2021/09/17		90	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		89	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		94	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		92	%	60 - 140
A355534	CAU	Method Blank	O-TERPHENYL (sur.)	2021/09/17		99	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/17	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/17	<50		mg/kg	
A355534	CAU	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/17	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/17	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/17	NC		%	40
A355564	YML	Method Blank	Moisture	2021/09/17	<0.30		%	
A355564	YML	RPD [AFW117-01]	Moisture	2021/09/17	6.9		%	20
A355591	CAU	Matrix Spike [AFW284-01]	O-TERPHENYL (sur.)	2021/09/17		101	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		NC	%	60 - 140
			F3A (C16-C22)	2021/09/17		79	%	60 - 140
			F3B (C22-C34)	2021/09/17		95	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		110	%	60 - 140
4355591	CAU	Spiked Blank	O-TERPHENYL (sur.)	2021/09/17		95	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		92	%	60 - 140
			F3A (C16-C22)	2021/09/17		95	%	60 - 140
			F3B (C22-C34)	2021/09/17		97	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		94	%	60 - 140
A355591	CAU	Method Blank	O-TERPHENYL (sur.)	2021/09/17		103	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17	<10		mg/kg	
			F3A (C16-C22)	2021/09/17	<50		mg/kg	
			F3B (C22-C34)	2021/09/17	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/17	<50		mg/kg	
A355591	CAU	RPD [AFW284-01]	F2 (C10-C16 Hydrocarbons)	2021/09/19	56 (1)		%	40
			F3A (C16-C22)	2021/09/19	8.6		%	40
			F3B (C22-C34)	2021/09/19	18		%	40



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
Batteri		QC 1 ypc	F4 (C34-C50 Hydrocarbons)	2021/09/19	20	recovery	%	40
A355621	SJ1	Matrix Spike	D10-ANTHRACENE (sur.)	2021/09/17		97	%	50 - 130
7.000022	002	mat in opine	D8-ACENAPHTHYLENE (sur.)	2021/09/17		89	%	50 - 130
			D8-NAPHTHALENE (sur.)	2021/09/17		85	%	50 - 130
			TERPHENYL-D14 (sur.)	2021/09/17		110	%	50 - 130
			Acenaphthene	2021/09/17		87	%	50 - 130
			Acenaphthylene	2021/09/17		86	%	50 - 130
			Acridine	2021/09/17		52	%	50 - 130
			Anthracene	2021/09/17		81	%	50 - 130
			Benzo(a)anthracene	2021/09/17		87	%	50 - 130
			Benzo(b&j)fluoranthene	2021/09/17		79	%	50 - 130
			Benzo(k)fluoranthene	2021/09/17		80	%	50 - 130
			Benzo(g,h,i)perylene	2021/09/17		69	%	50 - 130
			Benzo(c)phenanthrene	2021/09/17		85	%	50 - 130
			Benzo(a)pyrene	2021/09/17		78	%	50 - 130
			Benzo(e)pyrene	2021/09/17		73	%	50 - 130
			Chrysene	2021/09/17		86	%	50 - 130
			Dibenz(a,h)anthracene	2021/09/17		71	%	50 - 130
			Fluoranthene	2021/09/17		91	%	50 - 130
			Fluorene	2021/09/17		87	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2021/09/17		78	%	50 - 130
			1-Methylnaphthalene	2021/09/17		67	%	50 - 130
			2-Methylnaphthalene	2021/09/17		83	%	50 - 130
			Naphthalene	2021/09/17		79	%	50 - 130
			Phenanthrene	2021/09/17		88	%	50 - 130
			Perylene	2021/09/17		82	%	50 - 130
			Pyrene	2021/09/17		86	%	50 - 130
			Quinoline	2021/09/17		97	%	50 - 130
A355621	SJ1	Spiked Blank	D10-ANTHRACENE (sur.)	2021/09/18		99	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2021/09/18		94	%	50 - 130
			D8-NAPHTHALENE (sur.)	2021/09/18		91	%	50 - 130
			TERPHENYL-D14 (sur.)	2021/09/18		111	%	50 - 130
			Acenaphthene	2021/09/18		92	%	50 - 130
			Acenaphthylene	2021/09/18		91	%	50 - 130
			Acridine	2021/09/18		65	%	50 - 130
			Anthracene	2021/09/18		86	%	50 - 130
			Benzo(a)anthracene	2021/09/18		94	%	50 - 130
			Benzo(b&j)fluoranthene	2021/09/18		86	%	50 - 130
			Benzo(k)fluoranthene	2021/09/18		91	%	50 - 130
			Benzo(g,h,i)perylene	2021/09/18		92	%	50 - 130
			Benzo(c)phenanthrene	2021/09/18		88	%	50 - 130
			Benzo(a)pyrene	2021/09/18		91	%	50 - 130
			Benzo(e)pyrene	2021/09/18		83	%	50 - 130
			Chrysene	2021/09/18		91	%	50 - 130
			Dibenz(a,h)anthracene	2021/09/18		90	%	50 - 130
			Fluoranthene	2021/09/18		96	%	50 - 130
			Fluorene	2021/09/18		94	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2021/09/18		88	%	50 - 130
			1-Methylnaphthalene	2021/09/18		71	%	50 - 130
			2-Methylnaphthalene	2021/09/18		89	%	50 - 130
			Naphthalene	2021/09/18		84	%	50 - 130



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
		40.770	Phenanthrene	2021/09/18		90	%	50 - 130
			Perylene	2021/09/18		88	%	50 - 130
			Pyrene	2021/09/18		92	%	50 - 130
			Quinoline	2021/09/18		94	%	50 - 130
A355621	SJ1	Method Blank	D10-ANTHRACENE (sur.)	2021/09/18		80	%	50 - 130
			D8-ACENAPHTHYLENE (sur.)	2021/09/18		88	%	50 - 130
			D8-NAPHTHALENE (sur.)	2021/09/18		83	%	50 - 130
			TERPHENYL-D14 (sur.)	2021/09/18		105	%	50 - 130
			Acenaphthene	2021/09/18	< 0.0050		mg/kg	
			Acenaphthylene	2021/09/18	< 0.0050		mg/kg	
			Acridine ,	2021/09/18	<0.010		mg/kg	
			Anthracene	2021/09/18	< 0.0040		mg/kg	
			Benzo(a)anthracene	2021/09/18	<0.0050		mg/kg	
			Benzo(b&j)fluoranthene	2021/09/18	<0.0050		mg/kg	
			Benzo(k)fluoranthene	2021/09/18	<0.0050		mg/kg	
			Benzo(g,h,i)perylene	2021/09/18	<0.0050		mg/kg	
			Benzo(c)phenanthrene	2021/09/18	<0.0050		mg/kg	
			Benzo(a)pyrene	2021/09/18	<0.0050		mg/kg	
			Benzo(e)pyrene	2021/09/18	<0.0050		mg/kg	
			Chrysene	2021/09/18	<0.0050		mg/kg	
			Dibenz(a,h)anthracene	2021/09/18	<0.0050		mg/kg	
			Fluoranthene	2021/09/18	<0.0050		mg/kg	
			Fluorene	2021/09/18	<0.0050		mg/kg	
			Indeno(1,2,3-cd)pyrene	2021/09/18	<0.0050		mg/kg	
			1-Methylnaphthalene	2021/09/18	<0.0050		mg/kg	
			2-Methylnaphthalene	2021/09/18	<0.0050		mg/kg	
			Naphthalene	2021/09/18	<0.0050		mg/kg	
			Phenanthrene	2021/09/18	<0.0050		mg/kg	
			Perylene	2021/09/18	<0.0050		mg/kg	
			Pyrene	2021/09/18	<0.0050		mg/kg	
			Quinoline	2021/09/18	< 0.010		mg/kg	
A355621	SJ1	RPD	Acenaphthene	2021/09/17	NC		%	50
.000022	002	2	Acenaphthylene	2021/09/17	NC		%	50
			Acridine	2021/09/17	NC		%	50
			Anthracene	2021/09/17	NC		%	50
			Benzo(a)anthracene	2021/09/17	NC		%	50
			Benzo(b&j)fluoranthene	2021/09/17	9.4		%	50
			Benzo(k)fluoranthene	2021/09/17	11		%	50
			Benzo(g,h,i)perylene	2021/09/17	18		%	50
			Benzo(c)phenanthrene	2021/09/17	NC		%	50
			Benzo(a)pyrene	2021/09/17	36		%	50
			Benzo(e)pyrene	2021/09/17	3.7		%	50
			Chrysene	2021/09/17	NC		%	50
			Dibenz(a,h)anthracene	2021/09/17	NC		%	50
			Fluoranthene	2021/09/17	2.4		%	50
			Fluorene	2021/09/17	NC		%	50
			Indeno(1,2,3-cd)pyrene	2021/09/17	22		%	50
			1-Methylnaphthalene	2021/09/17	NC		% %	50
			2-Methylnaphthalene	2021/09/17	NC		%	50
			Naphthalene	2021/09/17	NC		% %	50
			Phenanthrene				% %	
			riienanunene	2021/09/17	NC		70	50



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Perylene	2021/09/17	39		%	50
			Pyrene	2021/09/17	7.3		%	50
			Quinoline	2021/09/17	NC		%	50
A355623	CAU	Matrix Spike	O-TERPHENYL (sur.)	2021/09/17		91	%	60 - 140
		•	F2 (C10-C16 Hydrocarbons)	2021/09/17		79	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		76	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		73	%	60 - 140
A355623	CAU	Spiked Blank	O-TERPHENYL (sur.)	2021/09/17		99	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		85	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		83	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		80	%	60 - 140
A355623	CAU	Method Blank	O-TERPHENYL (sur.)	2021/09/17		85	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/17	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/17	<50		mg/kg	
A355623	CAU	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/17	3.9		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/17	22		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/17	NC		%	40
A355624	MAE	Method Blank	Moisture	2021/09/17	< 0.30		%	
A355624	MAE	RPD	Moisture	2021/09/17	9.3		%	20
A355625	GG3	Matrix Spike	O-TERPHENYL (sur.)	2021/09/17		86	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		82	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		87	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		85	%	60 - 140
A355625	GG3	Spiked Blank	O-TERPHENYL (sur.)	2021/09/17		91	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17		89	%	60 - 140
			F3 (C16-C34 Hydrocarbons)	2021/09/17		93	%	60 - 140
			F4 (C34-C50 Hydrocarbons)	2021/09/17		91	%	60 - 140
A355625	GG3	Method Blank	O-TERPHENYL (sur.)	2021/09/17		98	%	60 - 140
			F2 (C10-C16 Hydrocarbons)	2021/09/17	<10		mg/kg	
			F3 (C16-C34 Hydrocarbons)	2021/09/17	<50		mg/kg	
			F4 (C34-C50 Hydrocarbons)	2021/09/17	<50		mg/kg	
A355625	GG3	RPD	F2 (C10-C16 Hydrocarbons)	2021/09/17	NC		%	40
			F3 (C16-C34 Hydrocarbons)	2021/09/17	NC		%	40
			F4 (C34-C50 Hydrocarbons)	2021/09/17	NC		%	40
A355626	MAE	Method Blank	Moisture	2021/09/17	<0.30		%	
A355626	MAE		Moisture	2021/09/17	9.7		%	20
A355882	PC5	Matrix Spike	Total Antimony (Sb)	2021/09/17		113	%	75 - 125
			Total Arsenic (As)	2021/09/17		103	%	75 - 125
			Total Barium (Ba)	2021/09/17		NC	%	75 - 125
			Total Beryllium (Be)	2021/09/17		114	%	75 - 125
			Total Cadmium (Cd)	2021/09/17		101	%	75 - 125
			Total Chromium (Cr)	2021/09/17		108	%	75 - 125
			Total Cobalt (Co)	2021/09/17		104	%	75 - 125
			Total Copper (Cu)	2021/09/17		104	%	75 - 125
			Total Lead (Pb)	2021/09/17		97	%	75 - 125
			Total Mercury (Hg)	2021/09/17		94	%	75 - 125
			Total Molybdenum (Mo)	2021/09/17		105	%	75 - 125
			Total Nickel (Ni)	2021/09/17		107	%	75 - 125
			Total Selenium (Se)	2021/09/17		109	%	75 - 125
			Total Silver (Ag)	2021/09/17		102	%	75 - 125



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

			•	E REPORT(CONT'D)				
QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
Dateii		Qc 1 ypc	Total Thallium (TI)	2021/09/17	Value	94	%	75 - 125
			Total Tin (Sn)	2021/09/17		104	%	75 - 125
			Total Uranium (U)	2021/09/17		93	%	75 - 125
			Total Vanadium (V)	2021/09/17		121	%	75 - 125
			Total Zinc (Zn)	2021/09/17		112	%	75 - 125
A355882	PC5	QC Standard	Total Antimony (Sb)	2021/09/17		119	%	15 - 182
7.00002	1 03	QC Standard	Total Arsenic (As)	2021/09/17		97	%	53 - 147
			Total Barium (Ba)	2021/09/17		88	%	80 - 119
			Total Cadmium (Cd)	2021/09/17		91	%	72 - 128
			Total Chromium (Cr)	2021/09/17		91	%	59 - 141
			Total Cobalt (Co)	2021/09/17		94	%	58 - 142
			Total Copper (Cu)	2021/09/17		100	%	83 - 117
			Total Lead (Pb)	2021/09/17		103	%	79 - 121
			Total Lead (FB) Total Molybdenum (Mo)	2021/09/17		103	%	67 - 133
			•			107		79 - 121
			Total Nickel (Ni)	2021/09/17			%	
			Total Silver (Ag)	2021/09/17		84	%	47 - 153
			Total Tin (Sn)	2021/09/17		98	%	67 - 133
			Total Uranium (U)	2021/09/17		100	%	77 - 123
			Total Vanadium (V)	2021/09/17		96	%	79 - 121
			Total Zinc (Zn)	2021/09/17		101	%	79 - 121
A355882	PC5	Spiked Blank	Total Antimony (Sb)	2021/09/17		108	%	80 - 120
			Total Arsenic (As)	2021/09/17		97	%	80 - 120
			Total Barium (Ba)	2021/09/17		90	%	80 - 120
			Total Beryllium (Be)	2021/09/17		105	%	80 - 120
			Total Cadmium (Cd)	2021/09/17		94	%	80 - 120
			Total Chromium (Cr)	2021/09/17		98	%	80 - 120
			Total Cobalt (Co)	2021/09/17		98	%	80 - 120
			Total Copper (Cu)	2021/09/17		100	%	80 - 120
			Total Lead (Pb)	2021/09/17		91	%	80 - 120
			Total Mercury (Hg)	2021/09/17		92	%	80 - 120
			Total Molybdenum (Mo)	2021/09/17		97	%	80 - 120
			Total Nickel (Ni)	2021/09/17		96	%	80 - 120
			Total Selenium (Se)	2021/09/17		103	%	80 - 120
			Total Silver (Ag)	2021/09/17		95	%	80 - 120
			Total Thallium (TI)	2021/09/17		90	%	80 - 120
			Total Tin (Sn)	2021/09/17		94	%	80 - 120
			Total Uranium (U)	2021/09/17		88	%	80 - 120
			Total Vanadium (V)	2021/09/17		98	%	80 - 120
			Total Zinc (Zn)	2021/09/17		100	%	80 - 120
A355882	PC5	Method Blank	Total Antimony (Sb)	2021/09/17	<0.50		mg/kg	
			Total Arsenic (As)	2021/09/17	<1.0		mg/kg	
			Total Barium (Ba)	2021/09/17	<1.0		mg/kg	
			Total Beryllium (Be)	2021/09/17	< 0.40		mg/kg	
			Total Cadmium (Cd)	2021/09/17	< 0.050		mg/kg	
			Total Chromium (Cr)	2021/09/17	<1.0		mg/kg	
			Total Cobalt (Co)	2021/09/17	<0.50		mg/kg	
			Total Copper (Cu)	2021/09/17	<1.0		mg/kg	
			Total Lead (Pb)	2021/09/17	<0.50		mg/kg	
			Total Mercury (Hg)	2021/09/17	<0.050		mg/kg	
			Total Molybdenum (Mo)	2021/09/17	<0.40		mg/kg	
			Total Nickel (Ni)	2021/09/17	<1.0		mg/kg	



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Selenium (Se)	2021/09/17	<0.50		mg/kg	
			Total Silver (Ag)	2021/09/17	<0.20		mg/kg	
			Total Thallium (Tl)	2021/09/17	<0.10		mg/kg	
			Total Tin (Sn)	2021/09/17	<1.0		mg/kg	
			Total Uranium (U)	2021/09/17	<0.20		mg/kg	
			Total Vanadium (V)	2021/09/17	<1.0		mg/kg	
			Total Zinc (Zn)	2021/09/17	<10		mg/kg	
A355882	PC5	RPD	Total Antimony (Sb)	2021/09/17	NC		%	30
			Total Arsenic (As)	2021/09/17	0.75		%	30
			Total Barium (Ba)	2021/09/17	1.4		%	35
			Total Beryllium (Be)	2021/09/17	NC		%	30
			Total Cadmium (Cd)	2021/09/17	5.9		%	30
			Total Chromium (Cr)	2021/09/17	2.7		%	30
			Total Cobalt (Co)	2021/09/17	1.4		%	30
			Total Copper (Cu)	2021/09/17	2.4		%	30
			Total Lead (Pb)	2021/09/17	1.2		%	35
			Total Mercury (Hg)	2021/09/17	NC		%	35
			Total Molybdenum (Mo)	2021/09/17	NC		%	35
			Total Nickel (Ni)	2021/09/17	5.7		%	30
			Total Selenium (Se)	2021/09/17	NC		%	30
			Total Silver (Ag)	2021/09/17	NC		%	35
			Total Thallium (Tl)	2021/09/17	NC		%	30
			Total Tin (Sn)	2021/09/17	NC		%	35
			Total Uranium (U)	2021/09/17	0.28		%	30
			Total Vanadium (V)	2021/09/17	1.4		%	30
			Total Zinc (Zn)	2021/09/17	0.38		%	30
A357683	JAB	Matrix Spike	Soluble Boron (B)	2021/09/19		96	%	75 - 125
A357683	JAB	QC Standard	Soluble Sulphate (SO4)	2021/09/19		110	%	75 - 125
A357683	JAB	Spiked Blank	Soluble Boron (B)	2021/09/19		96	%	80 - 120
A357683	JAB	Method Blank	Soluble Boron (B)	2021/09/19	< 0.10		mg/L	
			Soluble Sulphate (SO4)	2021/09/19	<5.0		mg/L	
A357683	JAB	RPD	Soluble Boron (B)	2021/09/19	21		%	30
			Soluble Sulphate (SO4)	2021/09/19	9.9		%	30
A358665	MPU	QC Standard	Total Fusion Barium (Ba)	2021/09/21		92	%	75 - 125
A358665	MPU	Spiked Blank	Total Fusion Barium (Ba)	2021/09/21		95	%	75 - 125
A358665	MPU	Method Blank	Total Fusion Barium (Ba)	2021/09/21	<50		mg/kg	
A358665	MPU	RPD	Total Fusion Barium (Ba)	2021/09/21	3.7		%	35
A358672	JLJ	Spiked Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/20		100	%	60 - 140
A358672	JLJ	Method Blank	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/20	<500		mg/kg	



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC								
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A358672	JLJ	RPD	F4G-SG (Heavy Hydrocarbons-Grav.)	2021/09/20	22		%	40

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

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

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

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

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

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

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

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

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



Client Project #: 20368099-6000-1001

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

Territories

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

Sampler Initials: PT

VALIDATION SIGNATURE PAGE

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

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

Gita Pokhrel, Laboratory Supervisor

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

Maria Magdalena Florescu, Ph.D., P.Chem., QP, Inorganics Manager

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

permicatalk

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.

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

CUSTODY SEAL					-								
PRESENT	YE	5 N	0 (0015	מוא			CUSTODY SEAL	YES	NO	COOLER	ID		Table on
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CE PRESENT	- V		TEMP	4	1/	3	INTACT			TEMP	1	1	1
USTODY SEAL	V			1	2	3	ICE PRESENT			1	1	2	1
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STODY SEAL	YES	NO	COOLER	ID		A STATE OF THE PARTY OF	CUSTODY SEAL	YES	NO	COOLER ID	-		
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ODY SEAL	YES	NO	COOLER ID	The second of		-	CUSTODY SEAL	YES	NO	COOLER ID		-	3
PRESENT				T	THE R. P. LEWIS CO., LANSING		PRESENT	1		T		1	
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RESENT			- 1	1	2	3	ICE PRESENT	-		LEIVIP	1	2	3

Maxiam A Bureau Veritas Group Company

ADDITIONAL COOLER TEMPERATURE RECORD

CHAIN-OF-CUSTODY RECORD

	COOLER OBSE	RVATIO	NS:				MAXXAM JOB#:								
CHAIN OF CUSTODY #		MC	CAL	-					8						
ge ge	CUSTODY SEAL	YE	S N	O . COOLE	RID	- months	Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Marie Ma	-	CUSTODY SEAL	YE	5 NO	COOLE	RID		Olinett Zanza
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ge	INTACT	1		TEM	0	11			INTACT	+	_	TEMP	, [1	ĺ
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ge	INTACT	1	7	TEMP	12	12	14	l 1	INTACT	+	_	TEMP	1	1	
of	ICE PRESENT	17		7	1	2	3	- 1	CE PRESENT	1	-	-	1	2	3
e .	CUSTODY SEAL	YES	NO	COOLER	RID	A	-	1 6	CUSTODY SEAL	YES	NO	COOLER	ID	-	
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e	INTACT			TEMP		11	141	lf	INTACT	1		TEMP			1
of	ICE PRESENT	17			1	2	3	1	CE PRESENT	1	_	-	1	2	3
e	CUSTODY SEAL	YES	NO	COOLER	ID		-	c	USTODY SEAL	YE5	NO	COOLER	ID	-	- amount
of	PRESENT	11	,		,,,,,	T		-	PRESENT	1	0.000		T	1	1
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	CUSTODY SEAL	YES	NO	COOLER	ID	-		C	USTODY SEAL	YES	NO	COOLER	ID	and the same	Owner
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of	ICE PRESENT	17		7	1	2	3	IC	E PRESENT		-	-	1	2	3
	CUSTODY SEAL .	YE5	NO	COOLER	ID	10		CI	JSTODY SEAL	YES	NO	COOLER	ID	-	-
of	PRESENT				6		,	-	PRESENT	1		-	1	1	
	INTACT	1		TEMP	0	0	-1		INTACT			TEMP	l		
of	ICE PRESENT				1	2	3	ICI	E PRESENT			1	1	2	3
,	CUSTODY SEAL	YES	NO	COOLERI	D	Name of the last		CL	ISTODY SEAL	YES	NO	COOLER	D		
of	PRESENT ·	1			-	1. 1		i	PRESENT	i		1	Ī	T	- Contraction
	INTACT	14		TEMP	5		4		INTACT			TEMP			
of	ICE PRESENT	1		1	1	2	3	ICE	PRESENT			1	1	2	3
·	CUSTODY SEAL	YES	NO	COOLER II)			cu	STODY SEAL	YES	NO	COOLERI	D	d management	COLUMN TO SERVICE STATE OF SERVICE STATE STATE OF SERVICE STATE STATE OF SERVICE STATE STA
of	PRESENT	1			1				PRESENT						
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of .	CUSTODY SEAL	YES	NO	COOLER ID)			CU	STODY SEAL	YES	NO :	COOLER II)		
of	PRESENT	1/			, [1	_		PRESENT	-	DESCRIPTION OF THE PERSON OF T		The same of the same of		
	INTACT	1/		TEMP	1 1	21	2		INTACT-			TEMP			
_ of	ICE PRESENT	1/	_		1	2	3	ICE	PRESENT		-		1	2	3
25	CUSTODY SEAL	YES	NO	COOLER ID			-	CUS	TODY SEAL	YES .	NO.	COOLER ID)		
of	PRESENT				- 80	1	i i		PRESENT	-					-
of	INTACT			TEMP		1	1		INTACT			TEMP		100	
	ICE PRESENT				1	. 2	3	ICE I	PRESENT				1	2	3
	RECEIVED BY (SI	GN & P	RINT)	Witness Trees		-	***********	DATE (YY	YY/N	IM/D	D)	TIME (н:мм)
	1.	The second	00000000	T	/\1		1	THE STREET, SALES	-	Street, Square,	ACCOUNTS ON	-	Marketon Court	CONTROL OF THE	and the same
	Thi			ı	A	Cia	110		12021	100	1/		11	:40	

,t						35										dia,				
BUREA		Bureau Veritas Laboratories 4000 19st N.E. Calgary, Alberta Canad	la T2E 6P8	Tel.(403) 291-	-3077 Toll-free:800-5	63-6266 Fax	(403) 2	291-9468	www.bvlabs	i.com					60	4		CHAIN (DF CUSTODY RECORD	Page / of 4
MACHINE MAC		INVOICE TO:				REPO	RT TO:			-				PROJECT	INFORMA	TION:			Laboratory Use	Only:
Company Nan	ne: #254 GOLDI	ER ASSOCIATES LTD.		Company Na	ame. #6340 GC	LDER AS	SOC	IATES	LTD.			Quotation #		C0048)				BV Labs Job #:	Bottle Order #:
Attention:	ACCOUNTS			Attention.	Aurelie Bel	100000000000000000000000000000000000000						P.O. #:			99-700				c 10012 &	
Address:	2800, 700 -2n			Address:	2800, 700		_					Project:		203680	99-600	0-1001			C 168138	644511
Tell	(905) 567-610		06	_	(403) 299-5	Name of the last	VV2	-				Project Nam	e:						COC #:	Project Manager:
Tel: Email:	-	ntspayableinvoices@golder.com	00	Tel: Email:	abellavano		.com	_ Fax: _				Site #: Sampled By							C#644511-85-01	Carmen McKay
Regulatory	Critoria:									LYSIS REQUESTED (PLEASE BE SPECIFIC) Turnaround Time (TAT) Re								nuired:		
			emen	1:,	0 1							T	A DECIDAL						Please provide advance notice for ru	
AT	1		Sh	cildere	Bgolder. G Facility C 59541	m.	-	Soils	Soil			LO CO	. <u>s</u>		/AT1			U. 101 W. (1111)	(Standard) TAT:	M
CC CC	CME		1 4	7			7.1		_			Fusion um)	F2 i		ME	MS			pplied if Rush TAT is not specified): ITAT = 5-7 Working days for most tests	
□ Ott	her		uplant	6:	tacility c	ode	Itered ? (Y/N)	eta	F1-F4	ysis		ing	F1-F2		00)	GC/MS		0.0000000000000000000000000000000000000	ote: Standard TAT for certain tests are > 5 days - c	ontact your Project Manager for
				412	59546	£	tered	2	and F	in se	ate	o us	and		tals	by (<u>o</u>		cific Rush TAT (if applies to entire submission	n)
							IH PI	ılate	×ar	LE /	/ nit	5 F	ĕ	Vate	M Me	ater	Sample	Date Rec	quired:	
1971 -	SAMPLES MUST BE	KEPT COOL (< 10°C) FROM TIME OF SAM	PLING UNTI	IL DELIVERY	TO BV LABS		s Fie	Regulated Metals -	BTE	SCA 2+F	ate	m or	ш	ne V	lated	3	S P	Rush Conf	firmation Number:	all lab for #)
Sam	nple Barcode Label	Sample (Location) Identification	Date	e Sampled	Time Sampled	Matrix	Metai	AT1	AT1 BTEX (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fus Extraction (True Barium)	CCME BTEX and F	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by	Limited	# of Bottle		iii lab lor #)
1	1/1	TP21-183-02	07	Sep 2021		Soil			Y	×		1	0,2	-	<u></u>			3		
2	7		V5 .	John John		3011	\vdash		1			-							Received in Yel	owknife
		TP21-183-04		-	10:02				X	X		-						3	By: JMera	Tr. C
3		TP21-184-02			10:30				X									3		
1		TP21-184-04			10:35				X	X								3	SEP 10 2	
5		TP21-184-05			10:38				X	Y								3	Lee ACT	<i>y</i> e
6		TP21-185-02			08:49				X	1								3	Temp:	
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	-\\\	TP21 - 185 - 05	-	1	09:00	1			X	×							X	3	Headspace mey be fro	
2	V	TP21-185-04		V	08:52	V			X	X								3		
10																				
	· RELINQUISHED BY:	Time				(Signatu				Date: (YY/M		Time		s used and			Laboratory Use Only			
A	PETER TAN 21/09/03					HL 1	Alic	19	in		20	11/09/	11			Tim	e Sensitive	- Marin and the Marin and Committee	ustody Seal Intact on Cooler?	
· UNLESS OTHER	RWISE AGREED TO IN WR	TING, WORK SUBMITTED ON THIS CHAIN OF CU	STODY IS SUR	SJECT TO BY I	ABS' STANDARD TERM	S AND CONDIT	IONS. S	SIGNING O	THIS CHAIR	OF CUSTO	DA DOCTIV	IENT IS ACUA	IOWI EDCA	ENT AND AC	CEDTANCE	OF OUR TO	DING WILLIO	H ARE AVA	SEE ACTR [Yes No
WWW.BVLABS.CO	OM/TERMS-AND-CONDITION	ONS. IQUISHER TO ENSURE THE ACCURACY OF THE C										LITTIO ACK	VYLEDGM	LIST AND AC	OLF IMNUE	OF OUR IE	rmo whic	n ARE AVAIL	ABLE FOR VIEWING AT	e: BV Labs Yellow: Client
" ALL SAMPLES	ARE HELD FOR 60 DAYS	AFTER SAMPLE RECEIPT, FOR SPECIAL REQUES	TS CONTACT	YOUR PROJEC	CT MANAGER						1100									

Bureau Veritas Canada (2019) Inc.

																			148
BUREAU VERITAS		Bureau Veritas Laboratories 4000 19st N.E. Caigary, Alberta Canada	T2E 6P8 Tel:(403) 29	1-3077 Toll-free:800-	563-6266 Fax:	(403) 2	91-9468 v	www.bvlabs	com								CHAIN C	F CUSTODY RECORD	Page 2 of
aca-stratar.com		INVOICE TO:			REPOR	T TO:							PROJECT	INFORMA	ATION:			Laboratory Use	Only:
Company Name:	#254 GOLDE	R ASSOCIATES LTD.	Company I	Jame: #6340 G0	OLDER ASS	SOCI	ATES L	TD.			Quotation #:	c	C00480)				BV Labs Job #:	Bottle Order #:
Attention:	ACCOUNTS F	PAYABLE	Attention	Aurelie Be	lavance					-	P.O. #:		203680	99-700	0-1001			- · · · · · · · · · · · · · · · · · · ·	
Address:	2800, 700 -2nd	d Street SW	Address:	2800, 700	-2nd Street	SW					Project:		203680	99-600	0-1001			(168138	644511
1233313000	CALGARY AB	T2P 2W2		CALGARY	AB T2P 2V	V2					Project Nam	e:						COC #:	Project Manager:
Tel:	(905) 567-610	0 Ext: 1167 Fax: (403) 299-560	6 Tel:	(403) 299-	5600		Fax:				Site #:								Carmen McKay
Email:	canadaaccour	ntspayableinvoices@golder.com	Email:	abellavan	ce@golder.	com					Sampled By:							C#644511-86-01	Carrier McKay
Regulatory Cr	iteria:		Spe	ecial Instructions		1 1			ANA	LYSIS R	EQUESTED	(PLEASE	BE SPECIF	FIC)			1	Turnaround Time (TAT) Re	quired:
														_			No.	Please provide advance notice for n	ush projects
LI ATI	192					~	Soils	Soil			5	.⊑		AT				(Standard) TAT:	
CCM CCM	E					Z	1	2.			Fusion um)			ME/	IS I			oplied if Rush TAT is not specified): TAT = 5-7 Working days for most tests.	
VA						5	tals	F1-F4	.s		ariun	7		S	CA			ote: Standard TAT for certain tests are > 5 days -	contact your Project Manager for
Other	r					pa	Metals	11.	alys	<u>a</u>	usir Ba	Ja B		sls (S S		details		199 199
						ille	ted	and	A in	itra	P Sur	a ×	Ē	leta	ar b	ple	COURSES NO. NO. NO.	cific Rush TAT (if applies to entire submissi	on)
						e	ula	×	F3B F	U / 0	100	E E	Wai	pg Se	Nate	San	Date Req	irmation Number:	
5 - S	AMPLES MUST BE	KEPT COOL (< 10°C) FROM TIME OF SAME	LING UNTIL DELIVER	Y TO BV LABS		S L	Regulated	8 (8	SC/	nate	E io	Ш	ue	solv	i.i.	ba	Rusii Guiii		call lab for #)
Const.	e Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metais	AT1	AT1 BTEX (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP using Fus Extraction (True Barium)	CCME BTEX and F1-F2 Water	Routine Water	Regulated Metals (CCME/AT1) - Dissolved	PAH in Water by GC/MS	Limited Sample	# of Bottle	Comments	
			_		-	-	4	X			ш ш	03	ш.		-		3		
1 N	A_{+}	TP21-186-02	03 Sep 202		Sil									14					
2		TP21-186-04		10:48				×	X								3		
à		TB1-186-06		10:50				X									3		
9		TP21-186-01		10:45				×	X								3	Received in	rellowknite
5		TP21 - 159 - 06		13:48				X	-								3	By: Smer	1:00 AM
		Th: 1/2 25	+	13:56	++-			X	~								3	SEP 10	
		1/21-160 - 05						-	^								1	521 /	
		TP21-160-06	1	13:57	11/			X									3	Temp:	/ /
3	V	TP21-160-07	V	13:58	V			X									3	romp.	
9																	8		
10					1														
	RELINQUISHED BY:	(Signature/Print) Date (1)	(Y/MM/DD) Tim		RECEIVE	D BY:	(Signatur	re/Print)			Date: (YY/N	MM/DD)	Time		rs used and			Laboratory Use Only	
K	- PET	TER TAN 21/0	9/03 17:	00	ALL	Alro	cia	Lih		2	02/10	9/11	14:4	not	submitted	Time	Sensitive		Custody Seal Intact on Cooler?
		t	,															SEE ACTR	Yes No
	ISE AGREED TO IN WRI	ITING, WORK SUBMITTED ON THIS CHAIN OF CUS	TODY IS SUBJECT TO BY	LABS' STANDARD TER	MS AND CONDIT	IONS. S	SIGNING O	F THIS CHAIR	N OF CUSTO	DY DOCUI	MENT IS ACK	NOWLEDGM	ENT AND A	CCEPTANC	E OF OUR TE	RMS WHICH	H ARE AVAIL	ABLE FOR VIEWING AT	hite: BV Labs Yellow: Client
· IT IS THE RESPON	ISIBILITY OF THE RELI	NOUISHER TO ENSURE THE ACCURACY OF THE C			HAIN OF CUSTO	DY MAY	RESULT II	N ANALYTICA	AL TAT DELA	YS.									
" ALL SAMPLES AF	RE HELD FOR 60 DAYS	AFTER SAMPLE RECEIPT, FOR SPECIAL REQUEST	S CONTACT YOUR PROJ	ECT MANAGER															

Bureau Veritas Canada (2019) Inc.

BUREAU VERITAS	. E	Bureau Veritas Laboratories 4000 19st N.E. Calgary, Alberta Cana	da T2E 6P8	Tel:(403) 291-	3077 Toll-free:800-	563-6266 Fax:	(403) 2	291-9468	www.bylabs.	com							С	HAIN OI	F CUSTODY RECORD	Page 3 of 4
VERTITAS		INVOICE TO:				REPOR	T TO:				Т			PROJECT	INFORMA	TION:			Laboratory Use	Only:
- W	#254 GOLDE	R ASSOCIATES LTD.		Company Na	#6340 G	OLDER AS:		ATES	TD.			Quotation #:		C00480	COLON ASSAULT OF				BV Labs Job #:	Bottle Order #:
Company Name: Attention:	ACCOUNTS P			Attention:	Aurelie Be					-		Quotation #:		203680		0-1001		-	100 1200	
Address:	2800, 700 -2nd			Address:	2800, 700	-2nd Street	SW					Project:		203680	99-600	0-1001			(168178	644511
	CALGARY AB					AB T2P 2\	N2					Project Nam	e:						COC#:	Project Manager:
Tel	(905) 567-610		806	Tel:	(403) 299-			_ Fax: _				Site #:								Carmen McKay
Email:	canadaaccoun	tspayableinvoices@golder.com		Email:	abellavan	ce@golder.	com					Sampled By							C#644511-84-01	
Regulatory Cr	iteria:			Spec	ial Instructions					ANA	ALYSIS R	EQUESTED	(PLEASE	BE SPECIF	IC)				Turnaround Time (TAT) Re	equired:
ITA IT			00 00	or analy	se TP21-	80-05		10							£				Please provide advance notice for r	ush projects
			00	, , ,	(10.		-	Soils	Soil			Fusion um)	.⊑	0	I/AI				Standard) TAT: plied if Rush TAT is not specified):	
CCW	E						7		.⊑	200		Fug.	-F2	3	CME	W.		Standard	TAT = 5-7 Working days for most tests.	E.A.
Othe	r						0	Metals	F1-F4	ysis		using Fusi e Barium)	E	30	Ö	GC,		Please not details	e: Standard TAT for certain tests are > 5 days -	contact your Project Manager for
L 3000							tere	∑ 2	and F	In s	rate	P us	BTEX and F1-F2	1	etals	in Water by GC/MS	e	Job Speci	ific Rush TAT (if applies to entire submissi	ion)
							d Fi	late	a	3B)	nit.	S F	X	1	M M	ater	Sample	Date Requ	uired	
	3140 E0 14 10 T DE 1	KEPT COOL (< 10°C) FROM TIME OF SA	ani me ilin	בווי סבו ועיבטע	TO BYLARS		Fie	Regulated	BTEX s)	CAI 2+F	ate	n or	E B		atec	3	Q S	Rush Confir	mation Number:	(call lab for #)
	AMPLES MUST BE F	REPTICOUL (< 10°C) FROM TIME OF SA	WPLING DN	TIL DELIVERT	TO BY LABS .		Metals	AT1 B	AT1 B (Vials)	BtC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	Barium on ICP us Extraction (True E	CCME I	1	Regulated Metals (CCME/AT1) - Dissolved	PAH	Limited	# of Bottles		
Sampl	e Barcode Label	Sample (Location) Identification	Da	ite Sampled	Time Sampled	Matrix	Σ	A	AS	B F	S	8 0	ō≥	4	œ 7	ā.		(II)	Comment	
1	IA.	TP21-187-02	03 !	Sep 2021	14:28	SOIL			X									3		
2		TP21-187-04			14:29				X									3		
2		TP21-187-06			14:35				X									3		
4		7P21-80 - 05			14:50				No.					1				3	total former	for Receipt
5		7921-80-06			14:52				♠ X					40)				3	AF	,
5		TP21-188-02			15:07				X	×								3	Received in Ye	
2		TP21-188-04			15:08				X	X								3	By: J.ne.	
3	. /	TP21-188-06			15:13	1/			X									3	© G: 0	10 Am
2	V	TA21-187-03		\vee	14:28	V			X									3	JE1 102	cirl
10																			Temp:	T.
	RELINQUISHED BY:	(Signature/Print) Date	(YY/MM/DE			RECEIVE	D BY	(Signatu		-		Date: (YY/N		Time		s used and			Laboratory Use Only	
1	PAT	TER TAN 21/	09/0	3 17:	00	the		Alic	ia Liv	1	2	021/00	7/11	4:40	not	submitted	Time	Sens:tive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
/				3271															SE ACTR	Yes No
WWW.BYLABS.CO	W/TERMS-AND-CONDITI											MENT IS ACK	NOWLEDGN	MENT AND A	CEPTANC	OF OUR TE	RMS WHICH	ARE AVAIL	ABLE FOR VIEWING AT	Thite: BV Labs Yellow: Client
		NQUISHER TO ENSURE THE ACCURACY OF TH AFTER SAMPLE RECEIPT, FOR SPECIAL REQU				HAIN OF CUSTO	DY MA	Y RESULT	IN ANALYTICA	AL TAT DEL	AYS.									
LILE STATE LEG A			The state of the s	THE RESERVE OF THE PROPERTY OF	SHARE STANDARD STANDA															

Bureau Veritas Canada (2019) Inc.

BURE	PANUN	Bureau Veritas Laboratories 4000 19st N.E, Calgary, Alberta C	anada T2E 6P8	8 Tel.(403) 291-3	0077 Toll-free:800-5	63-6266 Fax:(403) 29	91-9468 w	ww.bvlabs	.com							C	CHAIN (OF CUSTODY RECORD	Page of 4
TRUM, SEARCH	1257	INVOICE TO:		T		REPORT	T TO:							PROJECT	INFORMA	TION:			Laboratory Use	Only:
Company N	ame #254 GOLDI	ER ASSOCIATES LTD.		Company Na	me: #6340 GC	LDER ASS	SOCI	ATES L	TD.			Quotation #:		C00480)				BV Labs Job #:	Bottle Order #:
Attention:	ACCOUNTS I	PAYABLE		Attention:	Aurelie Bel	avance						P.O. #:		203680	99-7000	0-1001			1100120	
Address:	2800, 700 -2n	d Street SW		Address:	2800, 700 -	2nd Street	SW					Project:		203680	99-6000	0-1001			C16.8 1.5X	644511
	CALGARY A	D 5000 10000000			CALGARY		V2					Project Name	9:	-					COC #:	Project Manager:
Tel:	(905) 567-610			Tel:	(403) 299-5			_Fax:				Site #:								Carmen McKay
Email:	canadaaccou	ntspayableinvoices@golder.co	m	Email:	abellavano	e@golder.d	com					Sampled By:							C#644511-82-01	
Regulato	ry Criteria:			Specia	al Instructions					ANA	LYSIS R	EQUESTED	(PLEASE	BE SPECI	FIC)				Turnaround Time (TAT) Re	equired:
	ATI CCME Dither						ield Filtered ? (Y / N)	Regulated Metals - Soils	AT1 BTEX and F1-F4 in Soil (Vials)	BIC SCALE Analysis (F2/F2+F3B) in soil	Sulphate / nitrate	on ICP using Fusion on (True Barium)	BTEX and F1-F2 in	Water	Regulated Metals (CCME/AT1) - Dissolved	- 501	Limited Sample	(will be a Standard Please n details Job Spe Date Res	Please provide advance notice for n (Standard) TAT: upplied if Rush TAT is not specified): if TAT = 5.7 Working days for most tests ote: Standard TAT for certain tests are > 5 days ctific Rush TAT (if applies to entire submissi quired: firmation Number:	contact your Project Manager for
	SAMPLES MUST BE	KEPT COOL (<10°C) FROM TIME OF		TIL DELIVERY	Time Sampled	Matrix	Metals F	AT1 Re	AT1 BT (Vials)	SIC SC, F2/F2+	Sulphat	Barium on Extraction (CCME BTEX &	Routine Water	Regulat Dissol	PAH	imited	# of Bottl	- (6	(call lab for #)
		TA					H	-	10		1000	_	0 2	-	- Lan. 1	1000		4.		
7	NA.	1/21-187-0	03	Sep 2021	16:04	SOZL		X	X		X	X				X		44	699	
1	ſ	TB4-189-0	3	1	16:05			X	X		X	X				X		4 +		
		70 120 2	6	_	W 5	-					X	V							1)	
/		1121-101-0	2	\perp	16:06			X	X			X				X		4+6	. 1)	
4	1	TP21-189-0	6	1.	16:07			X	X		X	X				X		4tB	6	V 2 (2)
5	1//	TP21-189-0		V	16:08	W		X	×		V	1				~		4+13	I TOCCIVEU III	Yellowknife
		1121-101-0	0	· ·	16.00	-			/		_	X				X		116	AS BY: J. Wic	9:30 Am
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	RELINQUISHED BY		até: (YY/MM/D		_	RECEIVE			1 -			Date: (YY/M		Time		s used and	Time	Sensitive	Laboratory Use Only	
1	FETE	IR TAN 21	09/23	17:	0	ALL	111	icia	Lin		2	021/09	///	14:40)	CLDIIIICGU	Г	Sananive		Custody Seal Intact on Cooler?
· UNI EEE OF	EDIMINE ACREED TO 111 III	ITING WORK PURMITTER ON THE STATE	E CHETODY IS S	CUR LECT TO PY	DOLCTANDADD TEXT	E AND CONDITI	ONE C	ICNING OF	THIS CLISS	V OF CUETO	DV DOC:	TENT IP ACUS	NOW! EDON	FAIT AND A	OCCUTANO.	OF OUR TO	TARE MILLO	LARE AVA	SEE ACTR	Yes No
MINDA DVI ADS	COMPENSATIONS AND CONDITION	ITING, WORK SUBMITTED ON THIS CHAIN O	AL COSTODY IS S	DODUECT TO BY LA	ADO STANDARD TERM	S AND CONDITIO	UNS. S	HO DINING OF	I HIS CHAI	V OF CUSTO	ווייים וייי	MENT IS ACK!	NOWLEDGN	IENT AND A	LEPIANCE	OF OUR TE	TIMO WHICH	ARE AVA	LABLE FOR VIEWING AT	hite BV Lahs Yellow: Client

Bureau Veritas Canada (2019) Inc.

* 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 80 DAYS AFTER SAMPLE RECEIPT, FOR SPECIAL REQUESTS CONTACT YOUR PROJECT MANAGER

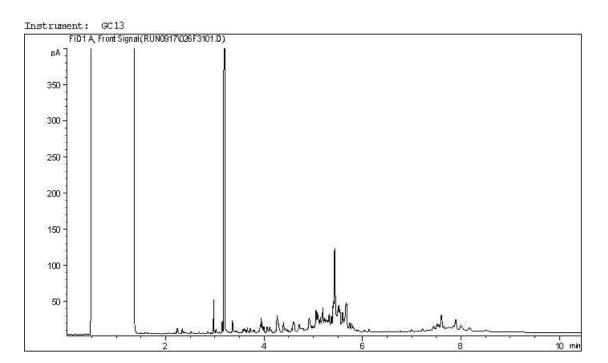
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-183-04

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

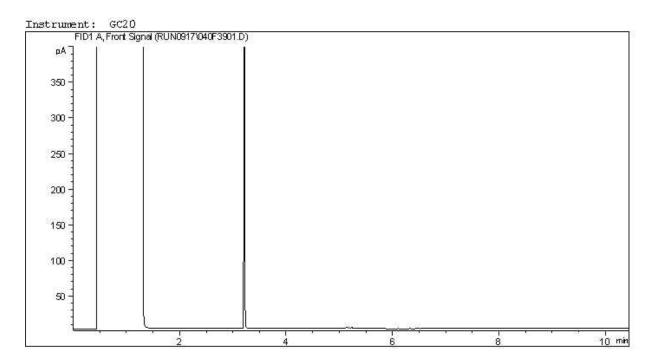
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

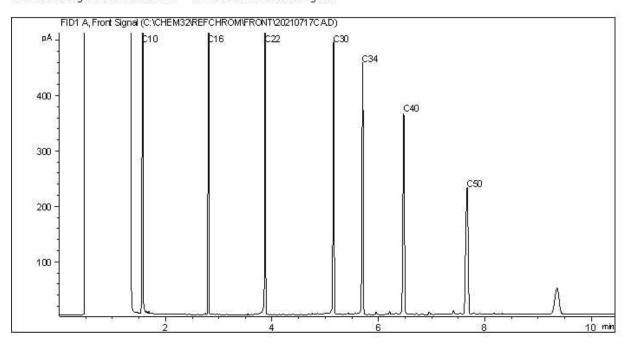
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-184-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

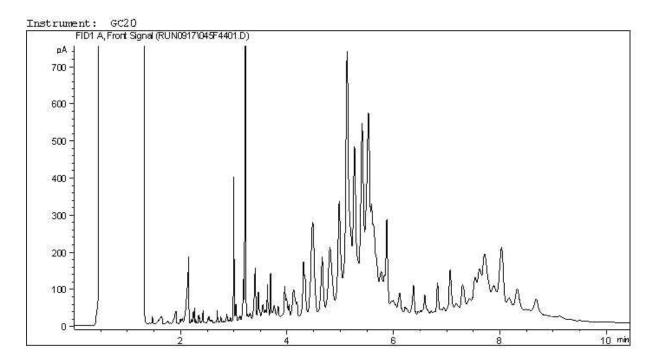
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

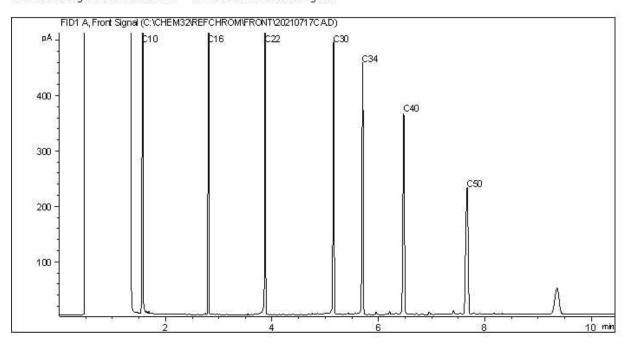
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-184-04

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

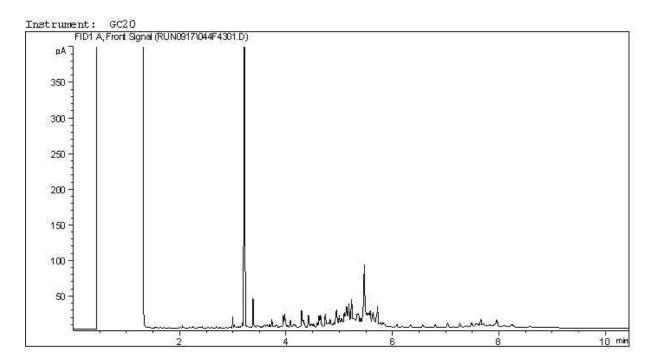
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

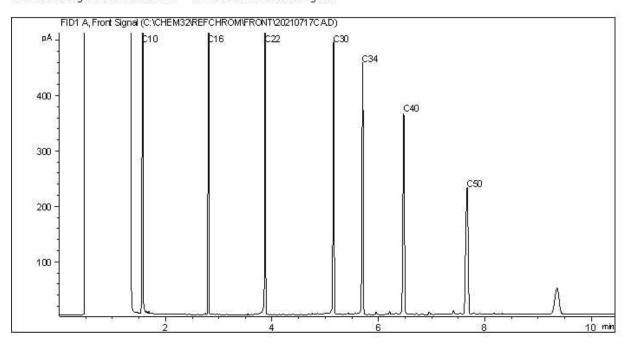
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-184-05

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

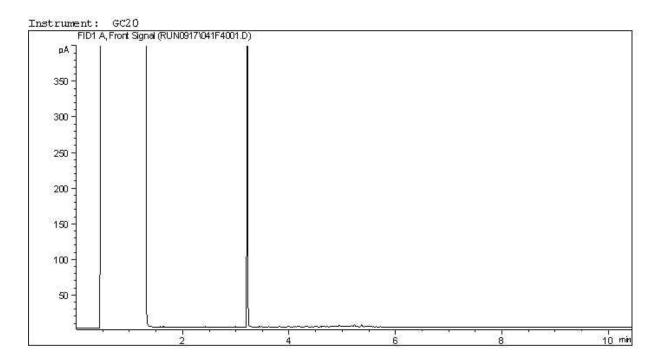
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

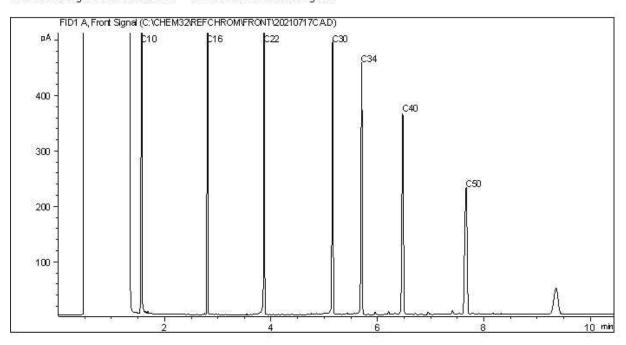
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-185-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	-	C12	Diesel:	cs -	C22
Varsol:	c8	_	C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7	_	C16	Crude Oils:	c3 -	C60+

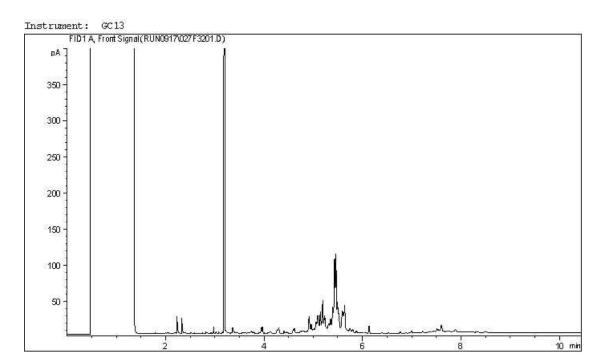
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-185-03

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	4	C60+

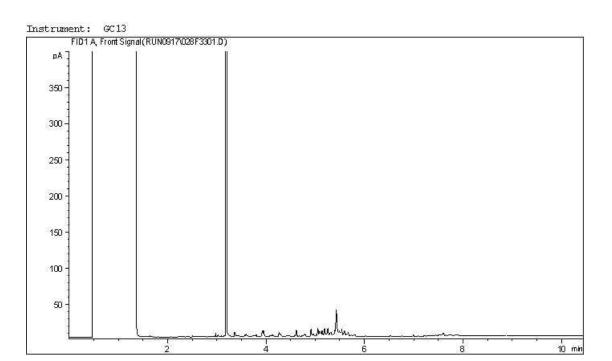
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-185-05

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

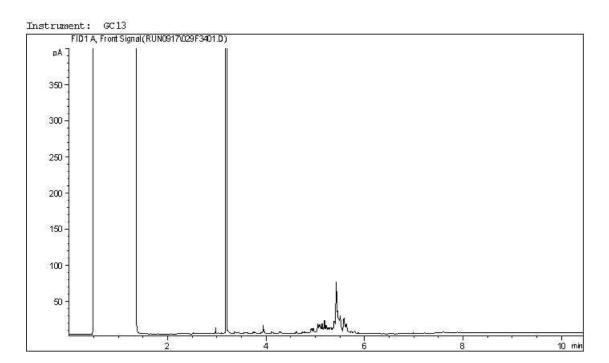
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-185-04

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	170	C12	Diesel:	c8	1	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

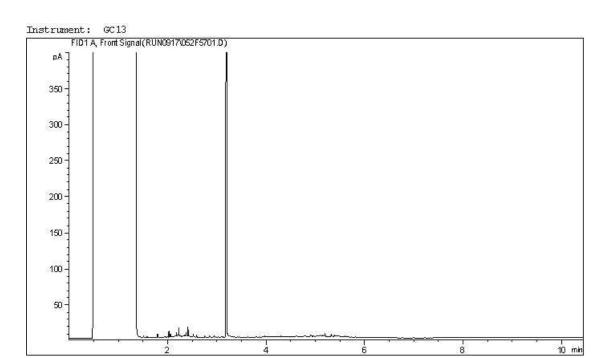
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Client Project #: 20368099-6000-1001

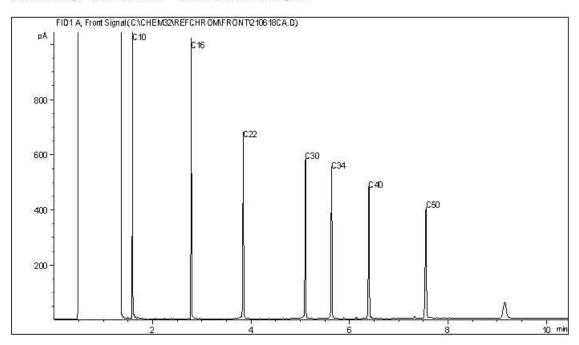
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-186-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

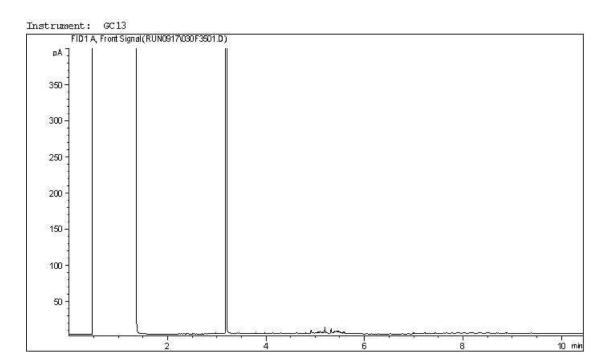
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-186-04

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	170	C12	Diesel:	c8	1	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-186-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

FID1 A, Front Signal (RUN0917053F5301.D)

pA

350

250

150

150

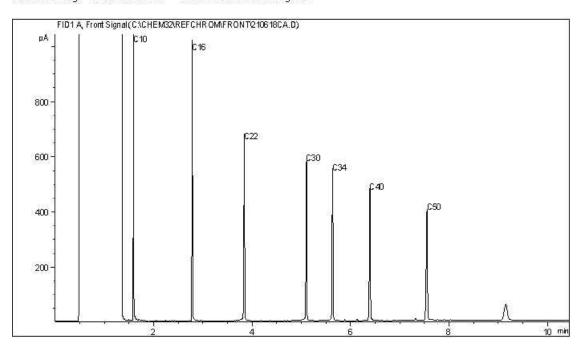
200

150

20

4
6
8
10 min

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+

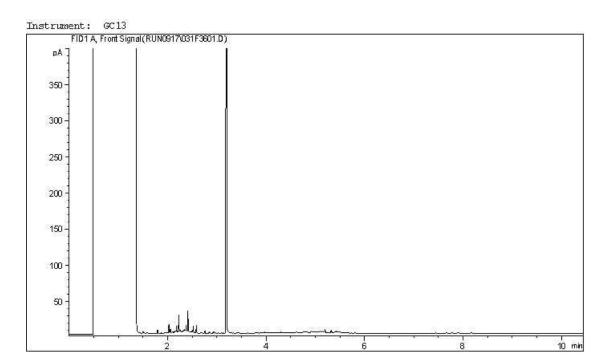
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-186-01

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

 Gasoline:
 C4 - C12
 Diesel:
 C8 - C22

 Varsol:
 C8 - C12
 Lubricating Oils:
 C20 - C40

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

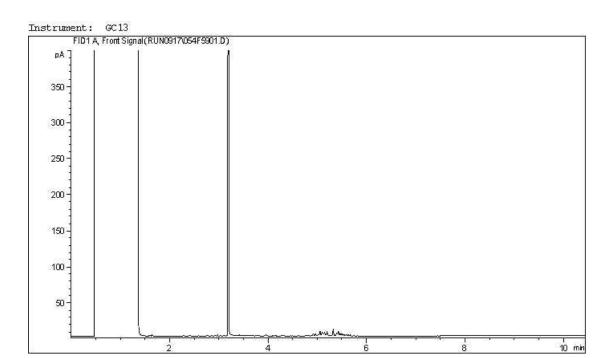
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

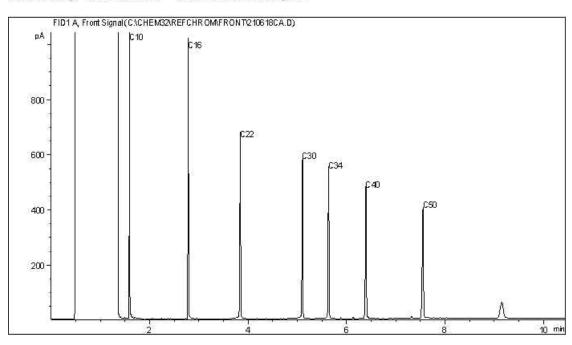
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-159-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 -	- C12	Diesel:	c8 -	C22
Varsol:	c8 -	- C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7 -	- c16	Crude Oils:	c3 -	C60+

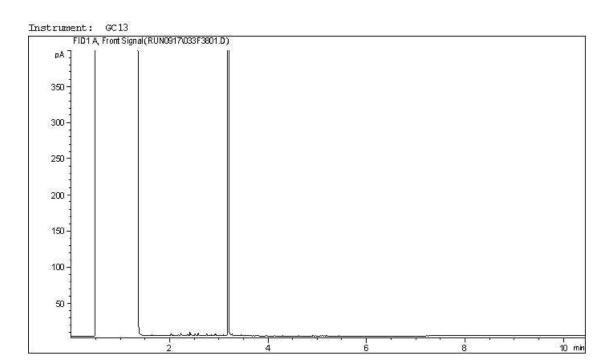
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-160-05

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 -	- C12	Diesel:	c8 -	C22
Varsol:	c8 -	- C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7 -	- c16	Crude Oils:	c3 -	C60+

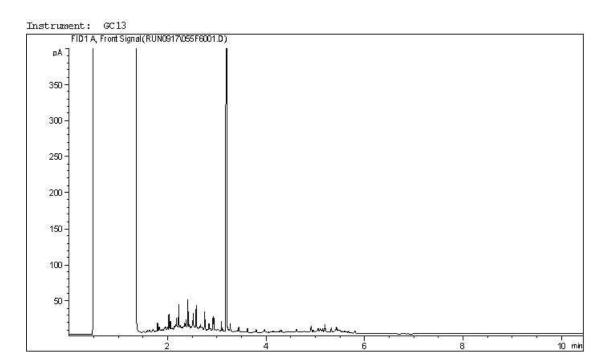
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

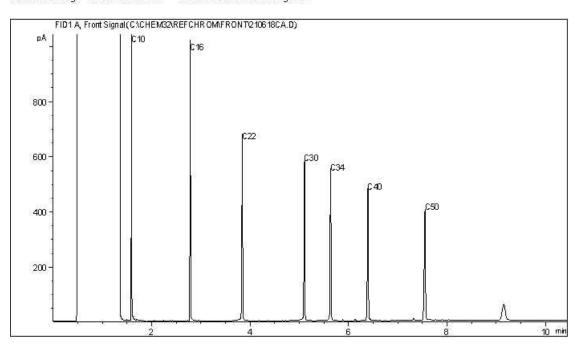
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-160-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4 -	- C12	Diesel:	c8 -	C22
Varsol:	c8 -	- C12	Lubricating Oils:	c20 -	C40
Kerosene:	c7 -	- c16	Crude Oils:	c3 -	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

10 min

Client ID: TP21-160-07

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

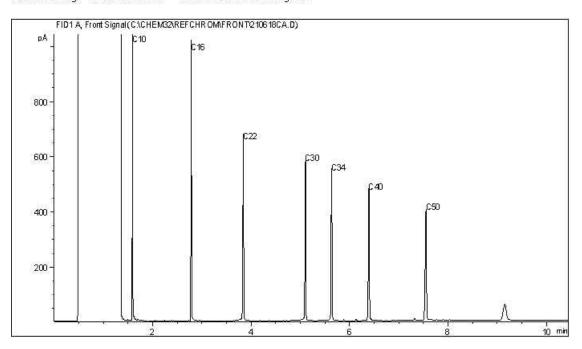
Instrument: GC13

FID1 A Front Signal(RUN0917056F6101.D)

pA

300
250
150
100
90-

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+

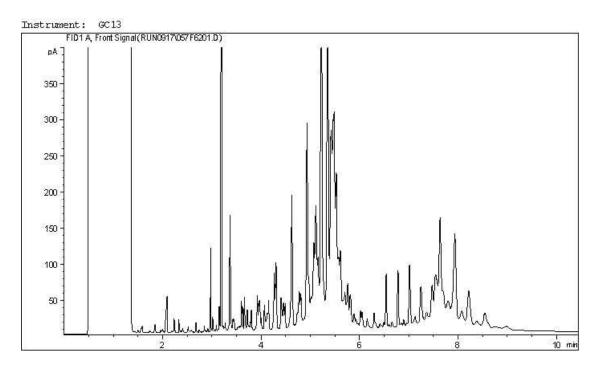
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

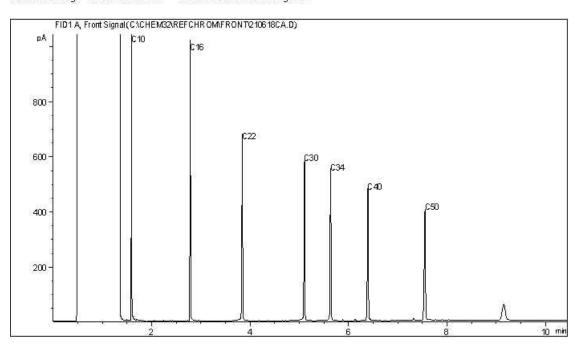
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-187-02

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

10 min

Client ID: TP21-187-04

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13

FID1 A Front Signal(RUN0917059F6401.D)

pA

300
250
150
100
50-

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+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

10 min

Client ID: TP21-187-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

Instrument: GC13

FID1 A Front Signal(RUN0917060F6501.D)

pA

300
250
150
100
50-

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+

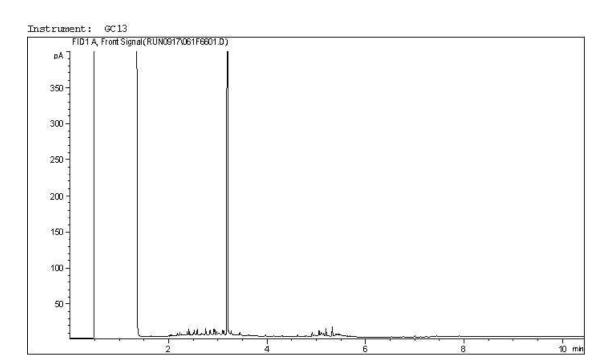
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

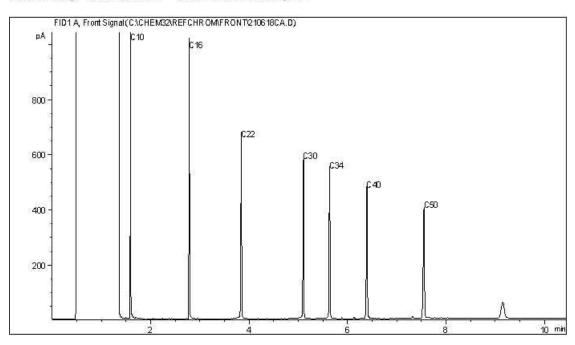
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-80-05

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

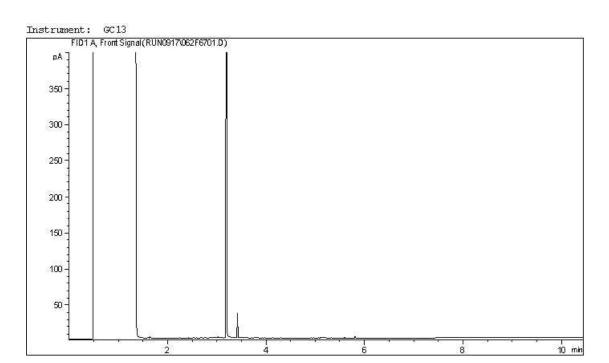
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

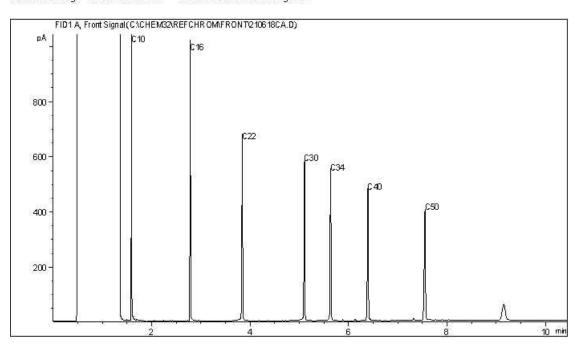
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-80-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

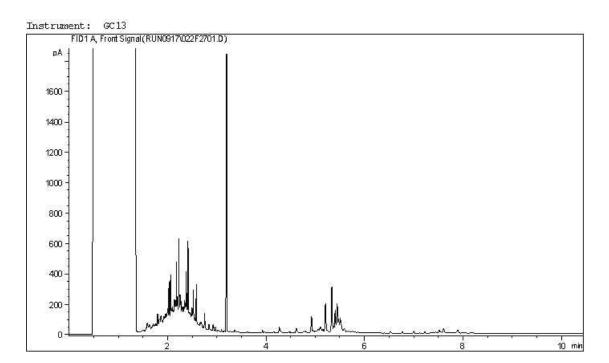
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-188-02

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

Bureau Veritas Job #: C168138 Report Date: 2022/01/14

Bureau Veritas Sample: AFW284 Lab-

Dup

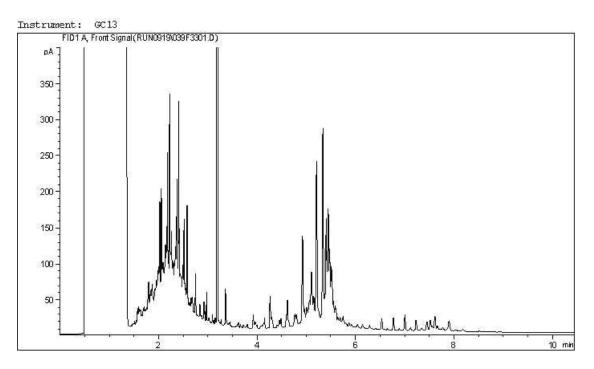
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-188-02

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4	170	C12	Diesel:	c8	1	C22
Varsol:	c8	Η.	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3		C60+

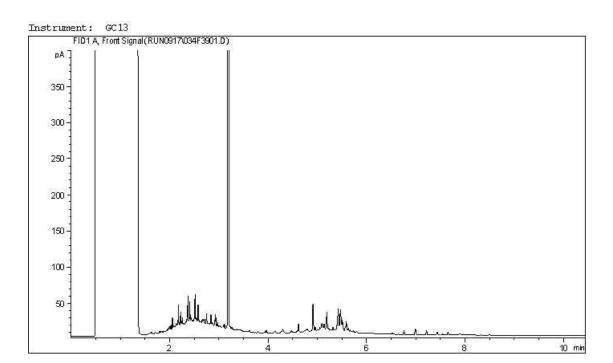
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

Client ID: TP21-188-04

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



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

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

14 min

Client ID: TP21-188-06

CCME Hydrocarbons (F2-F4 in soil) Chromatogram

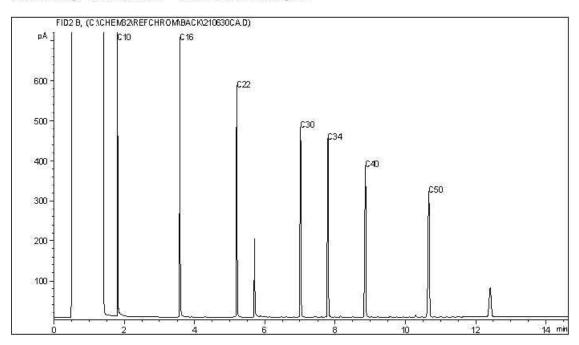
Instrument: GC12

FID2 B, (RUN091708984601.D)

pA

330
250
150
100
50 -

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+

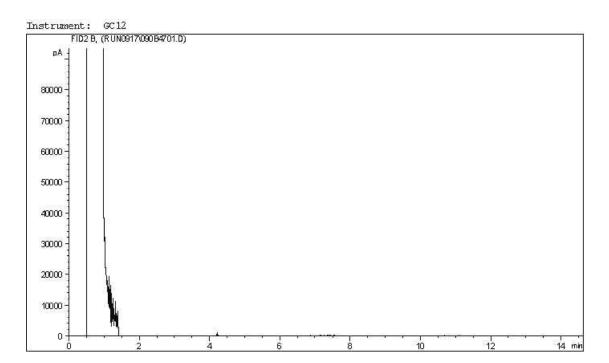
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

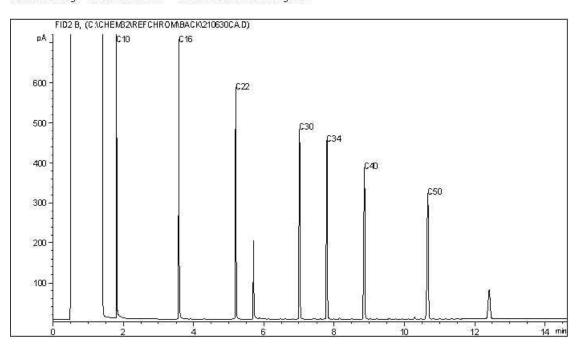
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-187-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4	1	C12	Diesel:	c8		C22
Varsol:	c8	: -) :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	_	C16	Crude Oils:	C3 -	_	C60+

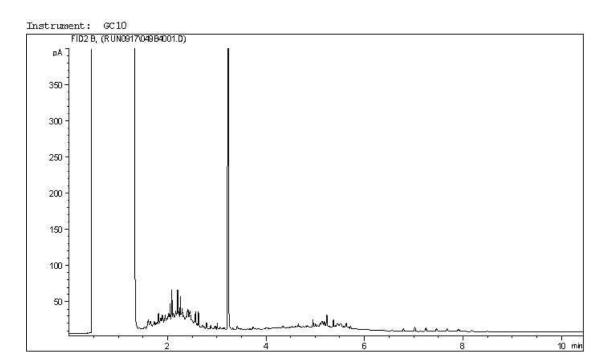
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

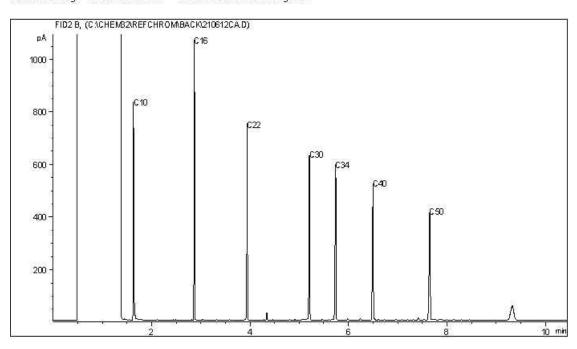
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-189-01

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4		C12	Diesel:	c8	T	C22
Varsol:	c8	: :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

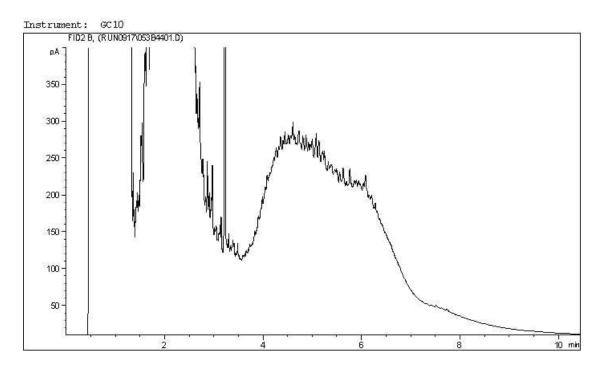
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

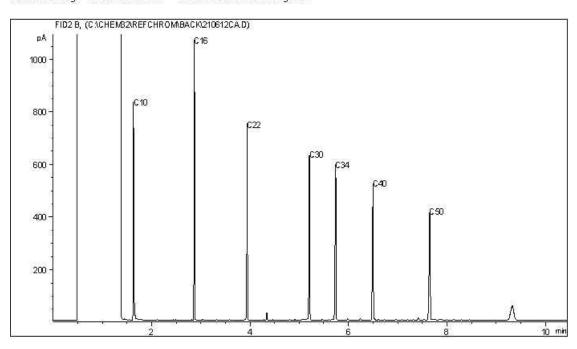
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-189-03

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	C4		C12	Diesel:	c8	T	C22
Varsol:	c8	$(\frac{1}{2})^{\frac{1}{2}}$	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

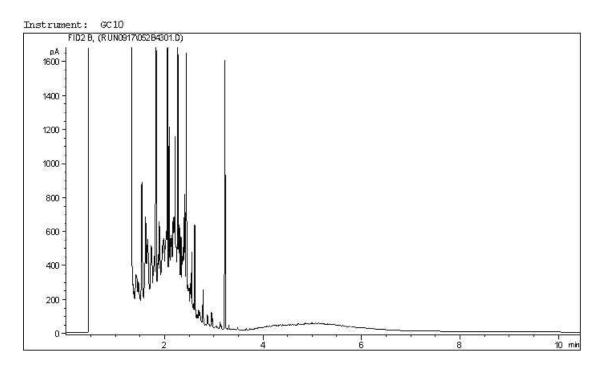
GOLDER ASSOCIATES LTD.

Client Project #: 20368099-6000-1001

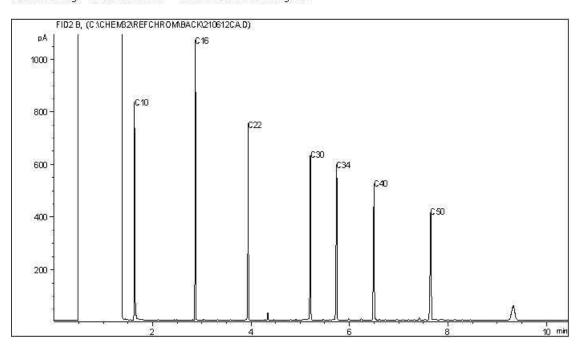
Site Reference: Camp Farewell and Unipkat I-22, Northwest Territories

Client ID: TP21-189-08

CCME Hydrocarbons (F2-F4 in soil) Chromatogram



Carbon Range Distribution - Reference Chromatogram



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline:	c4		C12	Diesel:	c8	T	C22
Varsol:	c8	: :	C12	Lubricating Oils:	C20	-	C40
Kerosene:	c7	4	C16	Crude Oils:	C3	_	C60+

GOLDER DATA QUALITY REVIEW CHECKLIST

Site Location: Camp Farewell				Sampling Date: September 3, 2021			
Golder Project Number: 20368099-6000-1001				Laboratory: Bureau Veritas Edmonton			
Lab Submission Number:	C168138		-				
Was the Cooler Received at the lab under a sealed and intact custody seal? Was proper chain of custody of the samples documented and kept? Were sample temperatures acceptable when they reached lab?: Were all samples analyzed and extracted within hold times?: Has lab warranted all tests were in statistical control in CoA?: Was sufficient sample provided for the requested analysis? Has lab warranted all samples were analyzed with limited headspace present?: Yes Yes Yes							
Are All Laboratory QC Within Ac	ceptance	Criteria (Y	es, No, N	Not Applicable)?			
Surrogate Recovery Method Blank Concentration	Yes	No X	NA	Comments All remaining laboratory QC results are within acceptance criteria, please see QA/QC			
Laboratory Duplicate RPD Matrix Spike Recovery Blank Spike Recovery	X X X	X		appendix.			
Are All Field QC Samples Within	Alert Lim	nits (Yes, N	Io, Not A	applicable)?			
Field Blank Concentration Trip Blank Concentration Field Duplicate RPD	Yes	No	NA X X X	Comments No field QC samples were collected.			
Is data considered reliable (Yes/No If answer is "No" or "Suspect", de			ationale:	Yes			
Data Reviewed by (Print):		bert er 27, 2021	-	Data Reviewed by (Signature):			

APPENDIX F

Biogenic Interference Calculation and Chromatogram Interpretation



Evaluation for Biogenic Organic Compound Contributions

Chromatograms and petroleum hydrocarbon (PHC) data from the 2021 soil sampling event at the Site were reviewed for the presence of natural biogenic organic compounds (BOCs). In accordance with the Alberta Land Policy 2018-1 (Biogenic Interference Calculation [BIC] Scale for Delineating Petroleum Hydrocarbons [PHC] in Organic Soils and Compost) (GoA 2018), BIC calculations and chromatogram interpretations were completed and reviewed to determine the likely origin of PHC Fraction F3 exceedances in soil.

1.0 BIC CALCULATIONS

The 2018-1 policy provides guidance for identifying false exceedances of the PHC Fraction F3 guideline. In order to apply the BIC under the Alberta regulatory framework (GoA 2018), some conditions must be met:

- Concentration of PHC Fraction F2 must be below 30 milligrams per kilogram (mg/kg) and do not exceed the guideline.
- Concentration of PHC Fraction F4 is detectable but not above the guideline.
- PHC Fraction F3 is detectable and exceeds the Alberta Tier 1 guideline (300 mg/kg).
- Greater than 85% of PHC Fraction F3 occurs in the F3b range (C22 C34).

The BIC focuses on PHC Fraction F2 and F3b concentrations and percentages, as shown in the following formula:

$$BIC = \frac{|PHC F2|}{(PHC F2) + (PHCF3b)} \times 100$$

When F2 concentrations are reported as less than the reportable detection limit (RDL), the PHC Fraction F2 concentrations are calculated as half the RDL concentration.

Samples with BIC values of <10% indicate potentially false exceedances of the PHC Fraction F3 guideline, while samples with BIC values of ≥10% indicate potentially true PHC Fraction F3 exceedances. The BIC results should be used in conjunction with chromatogram analysis to provide correct conclusions.

Laboratory analysis for BIC was completed on approximately 10% of the sample locations in 2021.

2.0 CHROMATOGRAMS

The chromatogram interpretations were requested on select samples which fit the BIC criteria under the Alberta framework. The interpretations were completed by Bureau Veritas Laboratories on January 12, 2022, in accordance with analytical specifications required by the prescriptive and performance-based elements of the Canadian Council of the Ministers of the Environment (CCME) Tier 1 protocols (CCME 2001) for hydrocarbon determination in soil samples. The interpretation methods and chromatogram results are attached.

3.0 SUMMARY OF RESULTS

Numerous samples collected did not meet the criteria for the BIC. A summary of the results for these samples is found in Table F1, attached.



Table 1, below, summarizes the results of the BIC and chromatogram analyses completed on samples which met the BIC criteria.

Table 1: BIC and Chromatogram Analysis

Sample Location	Depth (mbgs)	F2 (C10-C16) (mg/kg)	F3 (C16-C34) (mg/kg)	F3b (C22 - C34) (mg/kg)	BIC (%)	Chromatogram Interpretation
TP21-10	0.5	<38	550	550	3.8	Biogenic origin
TP21-32	1.0	30	510	510	6.5	Biogenic origin
TP21-49	1.0	23	760	760	3.2	Biogenic origin
TP21-62	0.3	28	410	410	7.6	Biogenic origin
TP21-79	0.7	23	540	540	4.4	Biogenic origin
TP21-83	1.0	28	590	590	5.1	Biogenic origin
TP21-128	0.3	25	450	450	6.0	Biogenic origin
TP21-147	0.15	<10	420	420	1.3	Lubricating oil
TP21-157	0.7	28	510	510	5.2	Biogenic origin
TP21-184	1.0	23	410	410	6.3	Biogenic origin

Notes: (a) Chromatogram interpretation not requested because F3 concentration was below the applied guideline mbgs – metres below ground surface

It is concluded from the chromatogram review and BIC data that the elevated PHC Fraction F3 concentrations in nine soil samples were due to BOCs. It is concluded from the chromatogram review that petrogenic PHC was present in TP21-147.

4.0 REFERENCES

CCME (Canadian Council of the Ministers of the Environment). 2001. Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil – Tier I Method. 2001.

GoA (Government of Alberta). 2018. Land Policy 2018-1: BIC Scale for Delineating Petroleum Hydrocarbons in Organic Soils and Compost. April 3, 2018.

Attachments

Table F1 – Summary of BIC Inapplicable Soil Samples

Chromatogram Interpretations

Table F1
Summary of Biogenic Interference Calculation Inapplicable Soil Samples
Camp Farewell, Inuvialuit Settlement Region, Northwest Territories
Shell Canada Limited

Location	Depth (mbgs)	F2 (C10-C16) (mg/kg)	F3 (C16-C34) (mg/kg)	F3b (C22 - C34) (mg/kg)	BIC calculated (yes/no)	Comment
TP21-BH19-39	0.5	<10	<71	<50	no	F3 not detected
TD24 TD40 00	0.5	170	400	220	no	F2 >30 mg/kg
TP21-TP19-08	0.7	37	1,800	1,600	no	F2 >30 mg/kg
TP21-TP19-11	1	95	1,500	1,300	no	F2 >30 mg/kg
TP21-TP19-19	1	<23	290	290	no	F3 below 300 mg/kg
TP21-TP19-24	1	<10	<50	<50	no	F3 not detected
TP21-13	0.5	180	3,100	74	no	F2 >30 mg/kg
TP21-16	0.5	51	710	710	no	F2 >30 mg/kg
TP21-19	1.5	25	69	<50	no	F3b is less than 85% of F3
1721-19	1.5	25	69	<50	no	F3 below 300 mg/kg
TD24.26	0.3	320	430	160	no	F2 >30 mg/kg
TP21-36	0.5	300	370	180	no	F2 >30 mg/kg
TP21-39	1	41	600	540	no	F2 >30 mg/kg
TP21-41	1	150	490	340	no	F2 >30 mg/kg
TP21-46	0.7	120	2,300	2,000	no	F2 >30 mg/kg
	0.5	60	400	50		F2 >30 mg/kg
TD04.50	0.5	63	120	<50	no	F3 below 300 mg/kg
TP21-59	0.7	45	110	51		F3b is less than 85% of F3
		45			no	F2 >30 mg/kg
TP21-73	1	<10	100	79	no	F3b is less than 85% of F3
	0.5	470	070	200	no	F2 <30 mg/kg
TP21-74	0.5	170	370	200	no	F3b is less than 85% of F3
	1	<10	<71	<50	no	F3 not detected
TP21-77	0.7	110	2,500	2,200	no	F2 >30 mg/kg
TP21-80	1	42	760	730	no	F2 >30 mg/kg
TP21-93	1.5	<10	<50	<50	no	F3 not detected
TD04 400	0.7	440	200	000		F2 >30 mg/kg
TP21-106	0.7	110	390	230	no	F3b is less than 85% of F3
TP21-114	0.7	29	270	230	no	F3 below 300 mg/kg
TP21-132	0.7	14	100	100	no	F3 below 300 mg/kg
						F2 >30 mg/kg
TP21-133	0.5	120	240	180	no	F3 below 300 mg/kg
						F3b is less than 85% of F3
TP21-139	0.15	30	130	130	no	F3 below 300 mg/kg
	0.3	10,000	1,200	790	no	F2 >30 mg/kg
TD04.440						F2 >30 mg/kg
TP21-149	0.7	4,700	280	150	no	F3 below 300 mg/kg
						F3b is less than 85% of F3
Units	mbgs	mg/kg	mg/kg	mg/kg	-	-
Criteria ^(a)	-	150	400	-	-	-

Notes

(a) Government of Northwest Territories (GNWT). 2003. Environmental Guideline for Contaminated Site Remediation. November 2003.

BIC - biogenic interference calculation

F2, F3, F3b - petroleum hydrocarbon fractions 2, 3 and 3b

 $\ensuremath{\mathsf{mbgs}}$ - $\ensuremath{\mathsf{metres}}$ below ground surface

mg/kg - milligrams per kilogram

> - greater than

< - less than

- not available

Table F1
Summary of Biogenic Interference Calculation Inapplicable Soil Samples
Camp Farewell, Inuvialuit Settlement Region, Northwest Territories
Shell Canada Limited

Location	Depth (mbgs)	F2 (C10-C16) (mg/kg)	F3 (C16-C34) (mg/kg)	F3b (C22 - C34) (mg/kg)	BIC calculated (yes/no)	Comment
	0.5	4,800	230	<50	no	F2 >30 mg/kg
TP21-152	0.5	4,000	230	<50	no	F3 below 300 mg/kg
	1	13	<71	<50	no	F3 not detected
TP21-160	1	12	<71	<50	no	F3 not detected
TP21-165	0.5	92	1,400	1,200	no	F2 >30 mg/kg
TP21-183	0.3	110	1,300	1,200	no	F2 >30 mg/kg
TP21-184	0.7	570	9,800	8,600	no	F2 >30 mg/kg
	0.5	25	250	250	no	F3 below 300 mg/kg
TP21-185	0.7	<30	210	210	no	F3 below 300 mg/kg
	1	<23	<160	<120	no	F3 not detected
TP21-186	0.15	30	<71	<50	no	F3 not detected
1721-100	0.7	30	<71	<50	no	F3 not detected
TP21-188	0.3	2,200	950	700	no	F2 >30 mg/kg
1721-100	0.7	260	410	240	no	F2 >30 mg/kg
Units	mbgs	mg/kg	mg/kg	mg/kg	-	-
Criteria ^(a)	-	150	400	-	-	-

Notes

(a) Government of Northwest Territories (GNWT). 2003. Environmental Guideline for Contaminated Site Remediation. November 2003.

BIC - biogenic interference calculation

F2, F3, F3b - petroleum hydrocarbon fractions 2, 3 and 3b

mbgs - metres below ground surface

mg/kg - milligrams per kilogram

> - greater than

< - less than

- not available

Page 2 of 2 Golder



January 14, 2022

GOLDER ASSOCIATES LTD.

2800, 700 -2nd Street SW CALGARY, AB, T2P 2W2

Attention: Aurelie Belavance

Re: Chromatogram Interpretation of Project: 20368099-6000-1001

Bureau Veritas Job Nos.: C161006, C161010, C162508, C162661, C162662, C164643, C164648 and C168138

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

Analytical Method

Petroleum hydrocarbon analyses at Bureau Veritas are conducted in accordance with the analytical specifications required by the prescriptive and performance-based (where appropriate) elements of the CCME Tier I protocols for hydrocarbon determination¹ in soil samples.

Chromatogram Interpretation

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

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



Data Interpretation

Table 1. Qualitative Data Summary – Chromatogram Interpretation

Lab ID	Sample ID	Chromatogram Interpretation		
AEF035	TP21-157-04	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		
AEF094	TP21-79-04	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.		
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.		
AEO227	TP21-49-05			
AEP003	TP21-62-02	The CCME F2-F4 chromatographic peak profile is consistent with biogenic		
AEP026	TP21-32-05	organic material (e.g. peat). Chromatograms of biogenic organic material		
AEP063	TP21-128-02	may contain peak patterns spanning the C18 to C50 range, but they are most commonly characterized by a profile of unevenly distributed sharp		
AFA026	TP21-83-05	peaks between C28 and C34. The impacts are not consistent with a		
AFA081	TP21-10-03	petroleum product or crude oil		
AFW115	TP21-184-05			

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

Sincerely,

Bureau Veritas Laboratories

Michael Sheppard, B.Sc., QP Consulting Scientist Environmental Services Scott Cantwell, CET, B.Sc., P.Chem. Director and General Manager – Western Canada Environmental Services

Disclaimer

Hydrocarbon Resemblance

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

APPENDIX G

Quality Assurance/Quality Control



Quality Assurance/Quality Control

In conjunction with the field investigations completed to date, a quality assurance/quality control (QA/QC) program was implemented to ensure the integrity of the soil, groundwater and/or soil vapour sampling and analytical testing results.

1.0 FIELD PROGRAM

All sampling activities were completed in accordance with Golder's Technical Field Procedures by trained Golder personnel. All field activities were documented in field notes and results were recorded on standard field forms. All reusable field equipment involved in the sampling and monitoring of soil, groundwater and surface water was decontaminated between sampling locations in accordance with Golder's Technical Procedures. Soil samples were collected using appropriate handling protocols and were placed in sample containers provided by Bureau Veritas Laboratories (BVL).

Soil samples are not directly contacted by hand. To help prevent cross-contamination, stainless steel sampling instruments and a new pair of clean nitrile gloves are used for the collection of each sample. Soil samples that were collected for field methanol preservation were collected using a dedicated, disposable Terra Core™ soil sampling device.

All soil, groundwater and surface water samples are placed in laboratory-supplied containers suitable for the analytes, and where applicable, the appropriate laboratory-supplied preservative is added to the samples, as outlined in the following table.

Analyte	Laboratory Containers	Preservative	Field Filtered						
Soil samples	Soil samples								
BTEX and PHC Fractions F1 to F4	1 x 120-mL jars 2 x 40-mL clear glass vials	No preservative Methanol	n/a						
PAHs	2 x 125-mL jars	No preservative	n/a						
Metals	2 x 250-mL jars or plastic bag	No preservative	n/a						
VOCs	1 x 120-mL jars 2 x 40-mL clear glass vials	No preservative Methanol	n/a						
Groundwater samples									
BTEX and PHC Fraction F1	2 x 40-mL clear glass vials	Sodium bisulphate	No						
PHC Fraction F2	2 x 100-mL amber glass	Sodium bisulphate	No						
Routine potability parameters	500-mL HDPE	No preservative	No						
	250-mL HDPE	No preservative	No						
	125-mL HDPE	Nitric acid	Yes						
Dissolved metals	125-mL HDPE	Nitric acid	Yes						



Analyte	Laboratory Containers	Preservative	Field Filtered
PAHs	2 x 100-mL amber glass	Sodium bisulphate	No
Surface water samples			
BTEX and PHC Fraction F1	2 x 40-mL clear glass vials	Sodium bisulphate	No
PHC Fraction F2	2 x 100-mL amber glass	Sodium bisulphate	No
Routine potability parameters	500-mL HDPE	No preservative	No
	250-mL HDPE	No preservative	No
	125-mL HDPE	Nitric acid	Yes
Total metals	125-mL HDPE	No preservative	Yes
PAHs	2 x 100-mL amber glass	Sodium bisulphate	No

Notes:

BTEX – benzene, toluene, ethylbenzene, xylenes; HDPE – high density polyethylene; mL – millilitre; L – litre; n/a – not applicable; PAH – polycyclic aromatic hydrocarbon; PHC – petroleum hydrocarbon; VOC – volatile organic compound

Soil, groundwater and surface water samples were given unique identification numbers and the soil and groundwater sampling containers were preserved in ice-filled coolers to maintain temperatures below 10°C. Samples were logged onto formal chain-of-custody documents and transported to BVL for chemical analysis. BVL is accredited by the Standards Council of Canada.

Blind field duplicate soil, groundwater and surface water samples are submitted for analysis. Trip and field blanks are submitted for analysis, as necessary, to evaluate the potential for cross contamination during the sampling and transportation of the samples. Submission of blind field duplicate QC samples was at a minimum rate of 10% of total samples.

2.0 LABORATORY PROGRAM

The laboratory QA/QC program included adherence to laboratory sampling and analysis protocols (e.g., hold times, sample containers, preservatives, detection limits and approved methodology) and the analysis of laboratory method blanks, laboratory control sample (blank spike), laboratory sample duplicates, surrogate recovery and matrix spikes.

Laboratory method blank samples are free of the target analytes and are analyzed through the same analytical method than the test samples. Method blank results are used to detect interferences or impurities introduced by the laboratory equipment, reagents, or solvents.

Laboratory control samples are fortified with a known concentration of the select target analytes and then analyzed through the same analytical method than the test samples. Laboratory control samples are used to monitor the analyte recovery and validate the calibration of the instrumentation.

For laboratory duplicate samples, a second aliquot from a randomly selected sample within an analytical batch is processed through the same analytical method. Laboratory duplicate sample results are used to evaluate the reproducibility of the analytical method.



Surrogate recovery is analyzed for organics parameters by spiking samples with known quantities of surrogate chemicals which have similar chemical properties to the parameters being analyzed. The reported recovery provides an indication of the analytical method accuracy for that sample.

Matrix spikes were conducted by adding known concentrations of the analyte of interest to a sample to evaluate the effects of the sample matrix on the analytical method.

3.0 DATA RECEPTION

Once laboratory analytical results were received, Golder completed a review of field and laboratory quality. This included review of laboratory QC performance to confirm results are within acceptance criteria, as well as evaluation of field duplicate and blank results to confirm they were within alert limits. Upon receipt of the analytical results, relative percent difference (RPD) values between the original samples and their blind field duplicates were calculated as follows:

RPD% =
$$\frac{|S - D|}{\frac{1}{2}(S + D)} \times 100$$

Where: RPD = relative percent difference

S = sample value

D = blind field duplicate or replicate value.

Since analytical error increases near the reportable detection limit (RDL), an RPD was only calculated where the concentrations of both the original and blind field duplicate samples were greater than five times the RDL. The calculated RPDs were then compared to parameter specific alert limits.

Exceedances of the QC acceptance or alert criteria were investigated with the laboratory and, if warranted, a corrective action report was requested from the laboratory.

4.0 DATA QUALITY REVIEW RESULTS

Results of the data quality review are summarized in Table G1. The RPD calculations and QC results are presented in Tables G2 to G7.

Sixty-three field duplicate soil samples were collected and submitted to the laboratory as part of the soil investigation. One field duplicate, two field blanks and one trip blank were also submitted to the laboratory as part of the surface water QC program.

Based on the data quality review, 75 data quality issues have been identified. Sample heterogeneity was the cause of numerous data quality issues. Where heterogeneity led to differences in concentrations of a parameter in a sample and its corresponding duplicate that straddled the guideline value (one sample above and one below the guideline value), the highest, most conservative value was selected for the interpretation of the results. Those test pit locations were considered to exceed the guideline as a conservative measure. Hold times were exceeded for numerous samples due to the challenges of sample submission from the remote Site. None of the data quality issues had a material effect on the interpretation of the data collected during this investigation

The issues are discussed in detail in Table G1.

5.0 SUMMARY OF RESULTS

Based on the review of the laboratory and field QA/QC results, the data presented in this report are considered to be reliable.



Table G1 Summary of Quality Control Sample Results Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

BVL Job Number	Matrix	BVL Sample ID Affected	Test Affected	Data Quality Issue	Comments
C160616	Soil	n/a	n/a	No data quality issues were identified.	The data are considered reliable.
C160993	Soil	AEE832	F3B (C22-C34)	Matrix spike recovery for F3B (C22-C34) (58%) below the acceptance criteria of (60-140%) due to matrix interference.	This data quality issue may represent a potential low bias for this sample. There is no applicable guideline for F3B (C22-C34) therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F3B (C22-C34) data reported can be considered reliable.
		AEE874, AEE875 and AEE876	Chromium and Vanadium	Matrix spike recovery for chromium (134%) and vanadium (161%) exceeded the acceptance criteria of (75-125%) for batch A333424.	This data quality issue may represent a potential high bias for this sample. Chromium and vanadium in the samples were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the chromium and vanadium data reported can be considered reliable.
C161006	Soil	AEF028, AEF035, AEF043 and AEF047	F3B (C22-C34)	Matrix spike recovery for F3B (C22-C34) (58%) below the acceptance criteria of (60-140%) for batch A330260.	This data quality issue may represent a potential low bias for this sample. There is no applicable guideline for F3B (C22-C34) therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F3B (C22-C34) data reported can be considered reliable.
		AEF024 and AEF025	Chromium and Vanadium	Matrix spike recovery for chromium (134%) and vanadium(161%) exceeded the acceptance criteria of (75-125%) for batch A333424.	This data quality issue may represent a potential high bias for this sample. Chromium and vanadium in the samples were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the chromium and vanadium data reported can be considered reliable.
		AEF044 and AEF046	F2 (C10-C16)	Field duplicate samples TP21-149-05 and DUP A exceed the alert limit for F2 (C10-C16) (114%).	A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. F2 (C10-C16) concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F2 (C10-C16) data reported can be considered reliable.
C161010	Soil	AEF097, AEF099, AEF101, AEF102 and AEF103	F3B (C22-C34)	Matrix spike recovery for F3B (C22-C34) (58%) below the acceptance criteria of (60-140%) for batch A330260.	This data quality issue may represent a potential low bias for this sample. There is no applicable guideline for F3B (C22-C34) therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F3B (C22-C34) data reported can be considered reliable.
		AEF071, AEF072 and AEF073	Chromium, Nickel and Vanadium	Matrix spike recovery for chromium (142%), nickel (132%) and vanadium(177%) exceeded the acceptance criteria of (75-125%) for batch A331374.	This data quality issue may represent a potential high bias for this sample. Chromium, nickel and vanadium in the samples were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the chromium, nickel and vanadium data reported can be considered reliable.
		AEF071, AEF072 and AEF073	Zinc	Spiked blank recovery for zinc (121%) exceeded the acceptance criteria of (80-120%) for batch A331374.	This data quality issue may represent a potential high bias for this sample. Zinc in the samples were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the zinc data reported can be considered reliable.
		AEF073	Benzene	Qualifying ion (Benzene) is outside of the acceptance criteria.	This data quality issue may represent a potential high bias for this sample. Benzene concentration in the sample was below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Benzene data reported can be considered reliable.
		AEF097	m & p-Xylene	Qualifying ion (m & p-Xylene) is outside of the acceptance criteria.	This data quality issue may represent a potential high bias for this sample. There is no applicable guideline for m & p-Xylene however total xylenes is the sum of m & p-Xylene and o-Xylene. The total xylenes result is above the regulatory guidelines, therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the data reported can be considered reliable.

Notes:

BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

CCME - Canadian Council of the Ministers of the Environment

F1, F2, F3, F3A, F3B, F4 - petroleum hydrocarbon fractions 1, 2, 3, 3A, 3B and 4 $\,$

n/a - not applicable

PHC - petroleum hydrocarbon

RPD - relative percent difference

TCLP - toxicity characteristic leaching procedure

VOC - volatile organic compound

Table G1 Summary of Quality Control Sample Results Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

BVL Job Number	Matrix	BVL Sample ID Affected	Test Affected	Data Quality Issue	Comments
C162508	Soil	AEO138	Benzene	Qualifying ion (Benzene) is outside of the acceptance criteria.	This deviation may represent a potential high bias for this sample. Benzene concentration in the sample was below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Benzene data reported can be considered reliable.
		AEO189	Ethylbenzene	Qualifying ion (Ethylbenzene) is outside of the acceptance criteria.	This deviation may represent a potential high bias for this sample. Ethylbenzene concentration in the sample was below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Ethylbenzene data reported can be considered reliable.
		AEO191	Benzene	Qualifying ion (Benzene) is outside of the acceptance criteria.	This deviation may represent a potential high bias for this sample. Benzene concentration in the sample was above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Benzene data reported can be considered reliable.
		AEO131 and AEO144	VOC/BTEX/F1	Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.	VOC/BTEX/F1 was submitted in methanol vials that contained less methanol than required, therefore glass jars were used for VOC/BTEX/F1 analysis. This does not have any direct affect on the integrity of the sample, thus the data are considered reliable.
		AEO191 and AEO138	F1 (C6-C10) - BTEX	Field duplicate samples TP21-13-05 and DUP J exceed the alert limit for F1 (C6-C10) - BTEX (87%).	A quality check of the data yielded similar results. F1 (C6-C10) - BTEX concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F1 (C6-C10) - BTEX data reported can be considered reliable.
			F2 (C10-C16)	Field duplicate samples TP21-13-05 and DUP J exceed the alert limit for F2 (C10-C16) (105%).	A quality check of the data yielded similar results. The F2 (C10-C16) concentration observed in the sample met the regulatory guideline, while the field duplicate result exceeded the guideline. Thus, this F2 (C10-C16) data for this sample pair should be considered suspect. This test pit location is considered exceeding the guideline for F2 as a conservative measure.
C162523	Soil	n/a	n/a	No data quality issues were identified.	The data are considered reliable.
C162535	Soil	AEO363	o-Xylene	Qualifying ion (o-Xylene) is outside of the acceptance criteria.	This data quality issue may represent a potential high bias for this sample. There is no applicable guideline for o-Xylene however total xylenes is the sum of m & p-Xylene and o-Xylene. The total xylenes result is below the regulatory guidelines, therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the data reported can be considered reliable.
		AEO368, AEO388 and AEO399	VOC/BTEX/F1	Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.	VOC/BTEX/F1 was submitted in methanol vials that contained less methanol than required, therefore glass jars were used for VOC/BTEX/F1 analysis. This does not have any direct affect on the integrity of the sample, thus the data are considered reliable.

Notes:

BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

 $\ensuremath{\mathsf{CCME}}$ - Canadian Council of the Ministers of the Environment

F1, F2, F3, F3A, F3B, F4 - petroleum hydrocarbon fractions 1, 2, 3, 3A, 3B and 4 $\,$

n/a - not applicable

PHC - petroleum hydrocarbon RPD - relative percent difference

TCLP - toxicity characteristic leaching procedure

VOC - volatile organic compound

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Table G1 Summary of Quality Control Sample Results Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

BVL Job Number	Matrix	BVL Sample ID Affected	Test Affected	Data Quality Issue	Comments
C162661	Soil	AEP028 and AEP030	o-Xylene	Qualifying ion (o-Xylene) is outside of the acceptance criteria.	This data quality issue may represent a potential high bias for this sample. There is no applicable guideline for o-Xylene however total xylenes is the sum of m & p-Xylene and o-Xylene. The total xylenes result is below the regulatory guidelines, therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the data reported can be considered reliable.
		AEP012, AEP013 and AEP018	F3B (C22-C34)	Matrix spike recovery for F3B (C22-C34) (58%) below the acceptance criteria of (60-140%) for batch A330260.	This data quality issue may represent a potential low bias for this sample. There is no applicable guideline for F3B (C22-C34) therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F3B (C22-C34) data reported can be considered reliable.
		AEP016 and AEP036	VOC/BTEX/F1	Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.	VOC/BTEX/F1 was submitted in methanol vials that contained less methanol than required, therefore glass jars were used for VOC/BTEX/F1 analysis. This does not have any direct affect on the integrity of the sample, thus the data are considered reliable.
		AEP006 and AEP035	F2	Field duplicate samples TP21-63-03 and DUP U exceed the alert limit for F2 (97%).	A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. The F2 concentration observed in the field duplicate met the regulatory guideline, while the sample result exceeded the guideline. Thus, these F2 data for this sample pair should be considered suspect. This test pit location is considered exceeding the guideline for F2 as a conservative measure.
			F2-F4	Sample was analyzed past method specified hold time for CCME Hydrocarbons (F2-F4 in soil).	This may increase the uncertainty associated with the data. Thus, these data should be considered suspect. Exceeding the hold time would be expected to decrease the concentration of hydrocarbons in the sample due to potential offgassing. The sample TP21-63-03 exceeded the guideline for F2 indicating that this issue did not have a material effect on the interpretation of the data.
C162662	Soil	n/a	n/a	No data quality issues were identified.	The data are considered reliable.
C162768	Soil	AEP501	PHC	Surrogate recovery for D10-o-Xylene (157%) exceeded the acceptance criteria (50-140%) for batch A336426.	This data quality issue may represent a potential high bias for this parameter. However, since the results were below the reportable detection limit, there is no impact on data quality. Under these circumstances, the data reported can be considered reliable.
		AEP489, AEP509 and AEP532	VOC/BTEX/F1	Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.	VOC/BTEX/F1 was submitted in methanol vials, however they leaked in transit. Therefore glass jars were used for VOC/BTEX/F1 analysis. This does not have any direct affect on the integrity of the sample, thus the data are considered reliable.
		AEP523, AEP524 and AEP525	Soluble Nitrate plus Nitrite	Matrix spike recovery for soluble nitrate plus nitrite (51%) below the acceptance criteria of (75-125%) for batch A337225.	This data quality issue may represent a potential low bias for this sample. There is no applicable guideline for soluble nitrate plus nitrite therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the soluble nitrate plus nitrite data reported can be considered reliable.

Notes:

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F1, F2, F3, F3A, F3B, F4 - petroleum hydrocarbon fractions 1, 2, 3, 3A, 3B and 4 $\,$

n/a - not applicable

PHC - petroleum hydrocarbon RPD - relative percent difference

TCLP - toxicity characteristic leaching procedure

VOC - volatile organic compound

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Table G1 Summary of Quality Control Sample Results Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

BVL Job Number	Matrix	BVL Sample ID Affected	Test Affected	Data Quality Issue	Comments
C164600	Groundwater	AEZ785, AEZ786, AEZ788, AEZ789 and AEZ791	F4	Matrix spike recovery for F4 (144%) exceeded the acceptance criteria of (60-140%) for batch A339935.	This data quality issue may represent a potential high bias for this sample. F4 in the samples were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F4 data reported can be considered reliable.
		AEZ787 and AEZ790	Dissolved Nitrate plus Nitrite	Matrix spike recovery for Dissolved Nitrate plus Nitrite (133%) exceeded the acceptance criteria of (80-120%) for batch A340069.	This data quality issue may represent a potential high bias for this sample. There is no applicable guideline for Dissolved Nitrate plus Nitrite therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Dissolved Nitrate plus Nitrite data reported can be considered reliable.
		AEZ785 and AEZ790	Aluminum	Spiked blank recovery for Aluminum (121%) exceeded the acceptance criteria of (80-120%) for batch A340771.	This data quality issue may represent a potential high bias for this sample. Aluminum in the samples were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Aluminum data reported can be considered reliable.
		AEZ785	Barium	Matrix spike recovery for Barium (9.5%) below the acceptance criteria of (80-120%) for batch A343870.	This data quality issue may represent a potential low bias for this sample. Barium in the sample was below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Barium data reported can be considered reliable.
			Silicon	Matrix spike recovery for Silicon (78%) below the acceptance criteria of (80-120%) for batch A343870.	This data quality issue may represent a potential low bias for this sample. There is no applicable guideline for silicon therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the silicon data reported can be considered reliable.
		AEZ790	Barium	Matrix spike recovery for Barium (9%) below the acceptance criteria of (80-120%) for batch A341798.	This data quality issue may represent a potential low bias for this sample. Groundwater from this well, sampled in 2019 (IEG 2020), had a comparable barium concentration (also below guideline), therefore there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the data reported can be considered reliable.
C164643	Soil	n/a	n/a	No data quality issues were identified.	The data are considered reliable.
C164647	Soil	AFA046	o-Xylene	Qualifying ion (o-Xylene) is outside of the acceptance criteria.	This data quality issue may represent a potential high bias for this sample. There is no applicable guideline for o-Xylene however total xylenes is the sum of m & p-Xylene and o-Xylene. The total xylenes result is below the regulatory guidelines, therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the data reported can be considered reliable.
		AFA065 and AFA066	F2 and F3	Field duplicate samples TP21-175-02 and DUP-BB exceed the alerts limit for F2 (67%) and F3 (100%).	A quality check of the data yielded similar results. F2 and F3 concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F2 and F3 data reported can be considered reliable.
		AFA068 and AFA070	F2	Field duplicate samples TP21-176-02 and DUP-CC exceed the alert limit for F2 (74%).	A quality check of the data yielded similar results. F2 concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F2 data reported can be considered reliable.

Notes:

 $\label{eq:BTEX} \textbf{BTEX - benzene, toluene, ethylbenzene, xylenes}$

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F1, F2, F3, F3A, F3B, F4 - petroleum hydrocarbon fractions 1, 2, 3, 3A, 3B and 4 $\,$

n/a - not applicable

PHC - petroleum hydrocarbon RPD - relative percent difference

TCLP - toxicity characteristic leaching procedure

VOC - volatile organic compound

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Table G1 Summary of Quality Control Sample Results Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

G4%). met the regulatory guideline, while the field duplicate result exceeded the guideline. Thus, these F2 data for this sample in soluble considered suspect. This test pit location is considered exceeding the guideline for F2 as a conservative measure.	BVL Job Number	Matrix	BVL Sample ID Affected	Test Affected	Data Quality Issue	Comments
AFA097 BUP FF exceed the alert limit for F2 (94%). Since General Communication General Commu	C164648	Soil	AFA064	F4	the acceptance criteria of (60-140%) due	in the sample and laboratory duplicate were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F4 data reported
C164652 Wood All VOC/BTEX/F1 Sample received was not in compliance with CCME sampling requirements for UC/BTEX/F1 mas not submitted in methanol vials, therefore glass jars were used for VOC/BTEX/F1 analysis. This does not have any direct affect on the integrity of the sample, thus the data are considered reliable. F2				F2	DUP FF exceed the alert limit for F2	is believed to be the root cause. The F2 concentration observed in the sample met the regulatory guideline, while the field duplicate result exceeded the guideline. Thus, these F2 data for this sample pair should be considered suspect. This test pit location is considered exceeding the guideline for F2 as a
with CCME sampling requirements for VOC/BTEX/FT analysis. This does not have any direct affect on the integrity of the sample, thus the data are considered reliable. AFA127 F2 Matrix duplicate RPD for F2 (117%) exceed the acceptance criteria (40%) due to sample non homogeneity. AFA138 M	C164651	Soil	n/a	n/a	No data quality issues were identified.	The data are considered reliable.
exceed the acceptance criteria (40%) due to sample non homogeneity. AFA138 M & p-Xylene Qualifying ion (m & p-Xylene) is outside of the acceptance criteria. AFA139 and AFA144 AFA144 O-Xylene AFA136 and AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA136 and AFA136 AFA137 and AFA136 and AFA136 AFA138 and AFA138 AFA148 and AFA149 AFA148 and AFA149 and AFA149 AFA149 and AFA149 and AFA149 AFA140 and AFA140 and AFA149 AFA140 and AFA140 and AFA141 AFA140 and AFA1	C164652	Wood	All	VOC/BTEX/F1	with CCME sampling requirements for	used for VOC/BTEX/F1 analysis. This does not have any direct affect on the
the acceptance criteria. Sample. There is no applicable guideline for m & p-Xylene however total xylenes is the sum of m & p-Xylene. The total xylenes result is below the regulatory guidelines, therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the data reported can be considered reliable. AFA139 and AFA144	C164653	Soil	AFA127	F2	exceed the acceptance criteria (40%) due	concentrations were below the regulatory guideline in both the sample and the lab duplicate, indicating that the data quality issue will not have a material effect on the interpretation of the results for this parameter.
AFA144 AFA145 AFA146 AFA136 AFA136 Ethylbenzene Field duplicate samples TP21-22-05 and DUP-GG exceed the alert limit for Ethylbenzene (127%). Xylenes (Total) and F2 AFA136 mid AFA141 AFA140 and AFA141 AFA140 and AFA141 AFA146 AFA147 AFA146 AFA146 AFA147 AFA146 AFA147 AFA147 AFA147 AFA147 AFA147 AFA148 AFA148 AFA148 AFA148 AFA148 AFA149 AFA149 AFA149 AFA149 AFA140 and AFA141 AFA140 AFA141 AFA141 AFA140 AFA140 AFA141 AFA140 AFA140 AFA140 AFA140 AFA140 AFA141 AFA140 AFA141 AFA140 AFA14			AFA138	m & p-Xylene		sample. There is no applicable guideline for m & p-Xylene however total xylenes is the sum of m & p-Xylene and o-Xylene. The total xylenes result is below the regulatory guidelines, therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under
AFA136 DUP-GG exceed the alert limit for Ethylbenzene (127%). Simple and the field duplicate were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Ethylbenzene data reported can be considered reliable. Xylenes (Total) and F2 DUP-GG exceed the alert limits for Xylenes (Total) (131%) and F2 (192%). A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. The Xylenes (Total) and F2 concentrations observed in the sample met the regulatory guideline, while the field duplicate result exceeded the guideline. Thus, these Xylenes (Total) and F2 data for this sample pair should be considered suspect. This test pit location is considered exceeding the guideline for xylenes and F2 as a conservative measure. AFA140 and AFA141 F2 Field duplicate samples TP21-23-06 and DUP-HH exceed the alert limit for F2 (105%). A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. F2 concentrations in both the sample and the believed to be the root cause. F2 concentration in both the sample and the believed to be the root cause. F2 concentration in both the sample and the limit for F2 (105%). In the three will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F2 data reported can be considered reliable.				o-Xylene	, , , ,	sample. There is no applicable guideline for o-Xylene however total xylenes is the sum of m & p-Xylene and o-Xylene. The total xylenes result is below the regulatory guidelines, therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these
DUP-GG exceed the alert limits for Xylenes (Total) (131%) and F2 (192%). DUP-GG exceed the alert limits for Xylenes (Total) (131%) and F2 (192%). Served in the sample met the regulatory guideline, while the field duplicate result exceeded the guideline. Thus, these Xylenes (Total) and F2 data for this sample pair should be considered suspect. This test pit location is considered exceeding the guideline for xylenes and F2 as a conservative measure. AFA140 and AFA141 F2 Field duplicate samples TP21-23-06 and DUP-HH exceed the alert limit for F2 (105%). A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. F2 concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F2 data reported can be considered reliable.				Ethylbenzene	DUP-GG exceed the alert limit for	is believed to be the root cause. Ethylbenzene concentrations in both the sample and the field duplicate were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Ethylbenzene data reported can
AFA141 DUP-HH exceed the alert limit for F2 is believed to be the root cause. F2 concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F2 data reported can be considered reliable.					DUP-GG exceed the alert limits for	is believed to be the root cause. The Xylenes (Total) and F2 concentrations observed in the sample met the regulatory guideline, while the field duplicate result exceeded the guideline. Thus, these Xylenes (Total) and F2 data for this sample pair should be considered suspect. This test pit location is considered exceeding the guideline for xylenes and F2
C164860 Soil n/a n/a No data quality issues were identified. The data are considered reliable.				F2	DUP-HH exceed the alert limit for F2	is believed to be the root cause. F2 concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter.
	C164860	Soil	n/a	n/a	No data quality issues were identified.	The data are considered reliable.

Notes:

 ${\sf BTEX-benzene,\,toluene,\,ethylbenzene,\,xylenes}$

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F1, F2, F3, F3A, F3B, F4 - petroleum hydrocarbon fractions 1, 2, 3, 3A, 3B and 4 $\,$

n/a - not applicable

PHC - petroleum hydrocarbon RPD - relative percent difference

TCLP - toxicity characteristic leaching procedure

VOC - volatile organic compound

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Table G1 Summary of Quality Control Sample Results Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

BVL Job Number	Matrix	BVL Sample ID Affected	Test Affected	Data Quality Issue	Comments
C164989	Soil	AFC350	F2	Matrix spike recovery for F2 (56%) below the acceptance criteria of (60-140%) due to matrix interference.	This data quality issue may represent a potential low bias for this sample. The F2 concentration observed in the sample met the regulatory guideline, while the laboratory duplicate result exceeded the guideline. Thus, these F2 data for this sample pair should be considered suspect. Another sample from this location (TP21-41) exceeds the applied guideline for PHC F2. Therefore this issue will not have a material effect on the interpretation of the results.
			F3A (C16-C22)	Matrix spike recovery for F3A (C16-C22) (52%) below the acceptance criteria of (60-140%) due to matrix interference.	This data quality issue may represent a potential low bias for this sample. There is no applicable guideline for F3A (C16-C22) therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F3A (C16-C22) data reported can be considered reliable.
			F2-F4, F3A and F3B	Sample was analyzed past method specified hold time for CCME Hydrocarbons (F2-F4) and F3A/B in soil (TP21-41).	This may increase the uncertainty associated with the data. Thus, these data should be considered suspect. Another sample from this location (TP21-41) exceeds the applied guideline for PHC F2. Therefore, this issue will not have a material effect on the interpretation of the results.
		AFC301, AFC382 and AFC385	VOC/BTEX/F1	Sample received was not in compliance with CCME sampling requirements for VOC/BTEX/F1 in soil.	VOC/BTEX/F1 was submitted in methanol vials, however the vials leaked during transit. Therefore glass jars were used for VOC/BTEX/F1 analysis. This does not have any direct affect on the integrity of the sample, thus the data are considered reliable.
		AFC301	F2-F4	Sample was analyzed past method specified hold time for CCME Hydrocarbons (F2-F4 in soil).	This may increase the uncertainty associated with the data. Thus, these data should be considered suspect. Exceeding the hold time would be expected to decrease the concentration of hydrocarbons in the sample due to potential offgassing. The sample exceeds the guideline for F3 indicating that this issue did not have an effect on the interpretation of the data.
		AFC322 and AFC387	Toluene	Field duplicate samples TP21-36-05 and DUP W exceed the alert limit for toluene (108%).	A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. Toluene concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Toluene data reported can be considered reliable.
		AFC329 and AFC388	Ethylbenzene	Field duplicate samples TP21-38-05 and DUP X exceed the alert limits for ethylbenzene (116%).	A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. Ethylbenzene concentrations in both the sample and the field duplicate were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Ethylbenzene data reported can be considered reliable.
			Total Xylenes	Field duplicate samples TP21-38-05 and DUP X exceed the alert limits for total xylenes (102%).	A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. Total Xylenes concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Total Xylenes data reported can be considered reliable.
			F1 (C6-C10) - BTEX	Field duplicate samples TP21-38-05 and DUP X exceed the alert limits for F1 (C6-C10) - BTEX (84%).	A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. The F1 (C6-C10) - BTEX concentration observed in the sample met the regulatory guideline, while the field duplicate result exceeded the guideline. Thus, these F1 (C6-C10) - BTEX data for this sample pair should be considered suspect. This test pit location is considered exceeding the guideline for F1 as a conservative measure.
C165063	Soil	n/a	n/a	No data quality issues were identified.	The data are considered reliable.

Notes:

BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

CCME - Canadian Council of the Ministers of the Environment

F1, F2, F3, F3A, F3B, F4 - petroleum hydrocarbon fractions 1, 2, 3, 3A, 3B and 4 $\,$

n/a - not applicable

PHC - petroleum hydrocarbon RPD - relative percent difference

TCLP - toxicity characteristic leaching procedure

VOC - volatile organic compound

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Table G1 Summary of Quality Control Sample Results Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

BVL Job Number	Matrix	BVL Sample ID Affected	Test Affected	Data Quality Issue	Comments
C167904	Surface Water	AFU653 and AFU655	PAH	Surrogate recovery for terphenyl-d14 (147% and 140%) exceeded the acceptance criteria (50-130%) for batch A352619.	This data quality issue may represent a potential high bias for the parameters in this test in this sample. All results were below guidelines, indicating that there will not be a material effect on the interpretation of the results of these parameter. Under these circumstances, the data reported can be considered reliable.
		AFU654	Total Aluminum	Laboratory duplicate RPD for total aluminum (37%) exceed the acceptance criteria (20%) due to sample non homogeneity.	This may increase the uncertainty associated with these results. Total Aluminum concentration was above the regulatory guideline in the sample, indicating that the data quality issue will not have a material effect on the interpretation of the results for this parameter. Under these circumstances, the Total Aluminum data reported can be considered reliable.
			Total Titanium	Laboratory duplicate RPD for total titanium (43%) exceed the acceptance criteria (20%) due to sample non homogeneity.	This may increase the uncertainty associated with these results. There is no applicable guideline for total titanium therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the total titanium data reported can be considered reliable.
		AFU656 and AFU657	Nitrate and Nitrite	Sample analyzed past method specified hold time for Nitrate and Nitrite.	This may increase the uncertainty of test results but does not necessarily imply that results are compromised. The data are considered reliable.
		AFU653, AFU654 and AFU655	PAH	Matrix spike recovery for terphenyl-d14 (173%) exceeded the acceptance criteria (50-130%) for batch A352619.	This data quality issue may represent a potential high bias for the parameters in this test in this sample. All results were below guidelines, indicating that there will not be a material effect on the interpretation of the results of these parameter. Under these circumstances, the data reported can be considered reliable.
				Spiked blank recovery for terphenyl-d14 (151%) exceeded the acceptance criteria (50-130%) for batch A352619.	This data quality issue may represent a potential high bias for the parameters in this test in this sample. All results were below guidelines, indicating that there will not be a material effect on the interpretation of the results of these parameter. Under these circumstances, the data reported can be considered reliable.
				Method blank concentration for terphenyl- d14 (152%) exceeded the acceptance criteria (50-130%) for batch A352619.	This data quality issue may represent a potential high bias for the parameters in this test in this sample. All results were below guidelines, indicating that there will not be a material effect on the interpretation of the results of these parameter. Under these circumstances, the data reported can be considered reliable.
		AFU653	Total Silicon	Matrix spike recovery for total silicon (128%) exceeded the acceptance criteria of (80-120%) due to matrix interference.	This data quality issue may represent a potential high bias for this sample. There is no applicable guideline for total silicon therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the total silicon data reported can be considered reliable.
		AFU653 and AFU654	Total Aluminum	Field duplicate samples SW21-01 and DUP A exceed the alert limit for Total Aluminum (67%).	A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. Total Aluminum concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Total Aluminum data reported can be considered reliable.
	Groundwater	AFU651	BTEX/F1-F2	Sample was analyzed past method specified hold time (monitoring well P06-07)	This may increase the uncertainty associated with the data. Thus, these data should be considered suspect. The analytical results for this sample are generally consistent with the results from the previous sampling event (no exceedances of PHC parameters) (IEG 2020). Therefore the results are considered reliable.
C167913	Soil	AFU762	F3B (C22-C34)	Laboratory duplicate RPD recovery for F3B (C22-C34) (102%) exceeded the acceptance criteria of (40%) due to sample non homogeneity.	This data quality issue may represent a potential high bias for this sample. There is no applicable guideline for F3B (C22-C34) therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F3B (C22-C34) data reported can be considered reliable.

Notes

 ${\sf BTEX}\mbox{ - benzene, toluene, ethylbenzene, xylenes}$

BVL - Bureau Veritas Laboratories

CCME - Canadian Council of the Ministers of the Environment

F1, F2, F3, F3A, F3B, F4 - petroleum hydrocarbon fractions 1, 2, 3, 3A, 3B and 4 $\,$

n/a - not applicable

PHC - petroleum hydrocarbon RPD - relative percent difference

TCLP - toxicity characteristic leaching procedure

VOC - volatile organic compound

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Table G1 Summary of Quality Control Sample Results Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

BVL Job Number	Matrix	BVL Sample ID Affected	Test Affected	Data Quality Issue	Comments
C167916	Soil	AFU827 and AFU828	Vanadium	Matrix spike recovery for vanadium(139%) exceeded the acceptance criteria of (75-125%) for batch A354079.	This data quality issue may represent a potential high bias for this sample. Vanadium in the samples were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the vanadium data reported can be considered reliable.
C167920	Soil	AFU891	Benzene	Qualifying ion (Benzene) is outside of the acceptance criteria.	This deviation may represent a potential high bias for this sample. Benzene concentration in the sample was below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Benzene data reported can be considered reliable.
		AFU888 and AFU889	F2 (C10-C16)	Field duplicate samples TP21-180-03 and DUP III exceed the alert limit for F2 (C10-C16) (67%).	A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. F2 (C10-C16) concentrations in both the sample and the field duplicate were above the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F2 (C10-C16) data reported can be considered reliable.
			F3 (C16-C34)	Field duplicate samples TP21-180-03 and DUP III exceed the alert limit for F3 (C16-C34) (83%).	A quality check of the data yielded similar results. Sample non-homogeneity is believed to be the root cause. The F3 (C16-C34) concentration observed in the sample met the regulatory guideline, while the field duplicate result exceeded the guideline. Thus, these F3 (C16-C34) data for this sample pair should be considered suspect. This test pit location is considered exceeding the guideline for F3 as a conservative measure.
C168138	Soil	AFW344, AFW345, AFW346	Benzene	Qualifying ion (Benzene) is outside of the acceptance criteria.	This data quality issue may represent a potential high bias for this sample. Benzene concentrations in the samples were below the regulatory guideline, indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Benzene data reported can be considered reliable.
		AFW345	PHC	Surrogate recovery for D10-o-Xylene (172%) exceeded the acceptance criteria (50-140%) due to matrix interference.	This data quality issue may represent a potential high bias for the parameters in this test in this sample. All results were either below or well above guidelines, indicating that there will not be a material effect on the interpretation of the results of these parameter. Under these circumstances, the data reported can be considered reliable.
		AFW114 and AFW115	F3B (C22-C34)	Laboratory duplicate RPD for F3B (C22-C34) (102%) exceeded the acceptance criteria of (40%) for batch A350635.	This may increase the uncertainty associated with these results. There is no applicable guideline for F3B (C22-C34) therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the F3B (C22-C34) data reported can be considered reliable.
		AFW284	F2 (C10-C16 Hydrocarbons)	Laboratory duplicate RPD for F2 (C10-C16 Hydrocarbons) (56%) exceeded the acceptance criteria of (40%) for batch A355591.	This may increase the uncertainty associated with these results. F2 concentrations were above the regulatory guideline in both the sample and the lab duplicate, indicating that the data quality issue will not have a material effect on the interpretation of the results for this parameter. Under these circumstances, the F2 data reported can be considered reliable.
		AFW344 and AFW345	Acenaphthene and Acenaphthylene	Qualifying ion (Acenaphthene and Acenaphthylene) is outside of the acceptance criteria.	This data quality issue may represent a potential high bias for this sample. There is no applicable guideline for Acenaphthene and Acenaphthylene therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Acenaphthene and Acenaphthylene data reported can be considered reliable.
		AFW346	Acenaphthene, Acenaphthylene and 1 Methylnaphthalene	Qualifying ion (Acenaphthene, Acenaphthylene and 1-Methylnaphthalene) is outside of the acceptance criteria.	This data quality issue may represent a potential high bias for this sample. There is no applicable guideline for Acenaphthene, Acenaphthylene and 1-Methylnaphthalene therefore indicating that there will not be a material effect on the interpretation of the results of this parameter. Under these circumstances, the Acenaphthene, Acenaphthylene and 1-Methylnaphthalene data reported can be considered reliable.

Notes:

 ${\sf BTEX}\mbox{ - benzene, toluene, ethylbenzene, xylenes}$

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F1, F2, F3, F3A, F3B, F4 - petroleum hydrocarbon fractions 1, 2, 3, 3A, 3B and 4 $\,$

n/a - not applicable

PHC - petroleum hydrocarbon

RPD - relative percent difference

TCLP - toxicity characteristic leaching procedure

VOC - volatile organic compound

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Table G2 Summary of Field Duplicate Sample Results - Soil Petroleum Hydrocarbons Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location				TP21-149-06	DUP A		TP21-111-05	DUP B		TP21-112-06	DUP C	
Sample Depth (mbgs)	Units	Alert	RDL	1.2	1.2	RPD	1.0	1.0	RPD	1.5	1.5	RPD
Sample Collection Date	Units	Limit	KDL	14-Aug-2021	14-Aug-2021	%	15-Aug-2021	15-Aug-2021	%	16-Aug-2021	16-Aug-2021	%
BVL Sample ID				AEF044	AEF046		AEF088	AEF089		AEE879	AEE880	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	0.026	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	0.13	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	150	<10	n/c	<10	<10	n/c	10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	4,000	1,100	<u>114</u>	11	<10	n/c	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	540	120	n/c	<50	₋ <50	n/c	<50	_ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	240	<50	n/c	<50	<50	n/c	<50	<50	n/c

Sample Location				TP21-BH19-39-06	DUP D		TP21-TP19-17-03	DUP E		TP21-74-03	DUP F	
Sample Depth (mbgs)	Unita	Alert	RDL	1.5	1.5	RPD	0.5	0.5	RPD	0.5	0.5	RPD
Sample Collection Date	Units	Limit	KDL	17-Aug-2021	17-Aug-2021	RPD	17-Aug-2021	17-Aug-2021	KPD	17-Aug-2021	17-Aug-2021	KPD
BVL Sample ID				AEO257	AEO258		AEO274	AEO276		AEO316	AEO318	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	0.0082	0.01	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	0.38	0.28	30	0.35	0.19	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	0.064	0.036	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	0.55	0.27	68
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	16	17	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	220	190	15	220	170	26
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	<50	n/c	580	540	7	460	370	22
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	150	130	n/c	120	77	n/c

Sample Location				TP21-50-04	DUP G		TP21-82-06	DUP H		TP21-13-05	DUP I	
Sample Depth (mbgs)	Units	Alert	RDL	0.7	0.7	RPD	1.5	1.5	RPD	1.0	1.0	RPD
Sample Collection Date	Units	Limit	KDL	18-Aug-2021	18-Aug-2021	KPD	18-Aug-2021	18-Aug-2021	KPD	19-Aug-2021	19-Aug-2021	%
BVL Sample ID				AEO387	AEO389		AEO385	AEO368		AEO191	AEO138	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	0.55	0.48	14
Toluene	mg/kg	>100%	0.05	0.2	0.35	n/c	<0.050	<0.050	n/c	6.3	5.3	17
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	27	22	20
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	130	120	8
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	12	n/c	<10	<10	n/c	5,600	2,200	<u>87</u>
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	150	190	24	<10	<10	n/c	140	450	<u>105</u>
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	310	380	20	<50	₋ <50	n/c	110	_ 280	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	67	71	n/c	<50	<50	n/c	<50	100	n/c

Notes:

Bold/Underline - RPD exceeds alert limit BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

F1, F2, F3, F4 - petroleum hydrocarbon fractions 1, 2, 3 and 4 $\,$

mbgs - metres below ground surface mg/kg - milligrams per kilogram

n/c - not calculated

RDL - reportable detection limit

RPD - relative percent difference

> - greater than

< - less than

 $\mathsf{RPD} \text{ is not calculated if either the original or field duplicate sample has a result less than 5X the \mathsf{RDL}$

Table G2 Summary of Field Duplicate Sample Results - Soil Petroleum Hydrocarbons Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location				TP21-TP19-24-05	DUP J		TP21-138-06	DUP K		TP21-146-05	DUP L	
Sample Depth (mbgs)	Units	Alert	RDL	1.0	1.0	RPD	1.5	1.5	RPD	1.0	1.0	RPD
Sample Collection Date	Units	Limit	KDL	19-Aug-2021	19-Aug-2021	%	19-Aug-2021	19-Aug-2021	KPD	19-Aug-2021	19-Aug-2021	KPD
BVL Sample ID				AEO134	AEO153		AEO152	AEO192		AEO185	AEO229	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	0.01	0.012	n/c
Toluene	mg/kg	>100%	0.05	0.22	0.36	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	0.02	0.034	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.045	0.049	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	<10	13	n/c	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	<50	n/c	<50	_ <50	n/c	<50	₋ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Sample Location				TP21-139-05	DUP M		TP21-141-06	DUP N		TP21-BH19-110-05	DUP O	
Sample Depth (mbgs)	Units	Alert	RDL	1.0	1.0	RPD	1.5	1.5	222	1	1	RPD
Sample Collection Date		Limit	KDL	20-Aug-2021	20-Aug-2021	KPD	20-Aug-2021	20-Aug-2021	RPD	21-Aug-2021	21-Aug-2021	KPD
BVL Sample ID				AEP045	AEP046		AEP052	AEP053		AEP502	AEP503	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	0.024	n/c	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	16	11	n/c	18	19	n/c	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	72	66	n/c	130	99	n/c	<50	_ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Sample Location				TP21-125-04	DUP P		TP21-95-03	DUP Q		TP21-92-06	DUP R	
Sample Depth (mbgs)	Units	Alert	RDL	0.7	0.7	RPD	0.5	0.5	RPD	1.5	1.5	RPD
Sample Collection Date	Units	Limit	KDL	21-Aug-2021	21-Aug-2021	KPD	21-Aug-2021	21-Aug-2021	KPD	21-Aug-2021	21-Aug-2021	KPD
BVL Sample ID				AEP508	AEP509		AEP516	AEP519		AEP528	AEP529	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	<10	24	n/c	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	₋ <50	n/c	<50	86	n/c	<50	□ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Notes:

<u>Bold/Underline</u> - RPD exceeds alert limit BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

F1, F2, F3, F4 - petroleum hydrocarbon fractions 1, 2, 3 and 4 $\,$

mbgs - metres below ground surface mg/kg - milligrams per kilogram

n/c - not calculated

RDL - reportable detection limit

RPD - relative percent difference

> - greater than

< - less than

RPD is not calculated if either the original or field duplicate sample has a result less than 5X the RDL

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Table G2 Summary of Field Duplicate Sample Results - Soil Petroleum Hydrocarbons Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location				TP21-60-06	DUP S		TP21-32-04	DUP T		TP21-63-03	DUP U	
Sample Depth (mbgs)	Units	Alert	RDL	1.3	1.3	RPD	0.7	0.7	RPD	0.5	0.5	
Sample Collection Date		Limit	KDL	22-Aug-2021	22-Aug-2021	KPD	22-Aug-2021	22-Aug-2021	KPD	22-Aug-2021	22-Aug-2021	RPD
BVL Sample ID				AEP017	AEP036		AEP025	AEP037		AEP006	AEP035	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	0.016	0.022	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	0.28	0.33	16	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	6.1	6.7	9	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	32	35	9	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	800	640	22	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	6,900	4,300	46	230	80	<u>97</u>
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	67	76	n/c	650	800	21	290	_ 130	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	130	240	n/c	<50	<50	n/c

Sample Location				TP21-35-05	DUP V		TP21-36-05	DUP W		TP21-38-05	DUP X	
Sample Depth (mbgs)	Units	Alert	RDL	1.0	1.0	RPD	1.0	1.0	RPD	1.0	1.0	RPD
Sample Collection Date	Units	Limit	KDL	23-Aug-2021	23-Aug-2021	KPD	23-Aug-2021	23-Aug-2021	KPD	23-Aug-2021	23-Aug-2021	KPD
BVL Sample ID				AFC308	AFC386		AFC322	AFC387		AFC329	AFC388	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.013	<0.015	n/c	0.024	0.092	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	1.7	5.7	108	0.68	1.6	81
Ethylbenzene	mg/kg	>100%	0.01	0.014	<0.010	n/c	0.073	0.22	n/c	0.17	0.64	<u>116</u>
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	0.63	1.8	n/c	1.3	4	<u>102</u>
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<20	<30	n/c	86	210	<u>84</u>
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	66	39	n/c	53	75	n/c	930	990	6
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	62	_ 73	n/c	500	470	n/c	530	_ 480	10
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	150	71	n/c

Sample Location				TP21-52-05	DUP Y		TP21-55-03	DUP Z		TP21-162-02	DUP-AA	
Sample Depth (mbgs)	Units	Alert	RDL	1.0	1.0	RPD	0.5	0.5	DDD	0.3	0.3	222
Sample Collection Date	Units	Limit	KDL	23-Aug-2021	23-Aug-2021	KPD	24-Aug-2021	24-Aug-2021	RPD	24-Aug-2021	24-Aug-2021	RPD
BVL Sample ID				AFC385	AFC389		AFA049	AFA050		AFA058	AFA059	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.028	< 0.033	n/c
Toluene	mg/kg	>100%	0.05	<0.050	0.16	n/c	0.097	<0.050	n/c	30	38	24
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	<0.055	<0.065	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.25	<0.29	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<24	<65	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	38	180	n/c	360	160	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	₋ <50	n/c	120	190	n/c	4,500	_ 3,100	37
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	1,600	1,100	37

Notes:

<u>Bold/Underline</u> - RPD exceeds alert limit BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

F1, F2, F3, F4 - petroleum hydrocarbon fractions 1, 2, 3 and 4 $\,$

mbgs - metres below ground surface mg/kg - milligrams per kilogram

n/c - not calculated

RDL - reportable detection limit

RPD - relative percent difference

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RPD is not calculated if either the original or field duplicate sample has a result less than 5X the RDL

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Table G2 Summary of Field Duplicate Sample Results - Soil Petroleum Hydrocarbons Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location				TP21-175-02	DUP-BB		TP21-176-02	DUP-CC		TP21-11-06	DUP DD	
Sample Depth (mbgs)	Units	Alert	RDL	0.3	0.3	RPD	0.3	0.3	RPD	1.5	1.5	
Sample Collection Date	Units	Limit	KUL	24-Aug-2021	24-Aug-2021	KPD	24-Aug-2021	24-Aug-2021	KPD	26-Aug-2021	26-Aug-2021	RPD
BVL Sample ID				AFA065	AFA066		AFA068	AFA070		AFA078	AFA079	
Benzene	mg/kg	>100%	0.005	<0.027	<0.018	n/c	<0.0050	<0.0050	n/c	0.0076	0.0076	n/c
Toluene	mg/kg	>100%	0.05	<0.080	<0.080	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.054	<0.035	n/c	0.055	0.055	0	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.24	<0.16	n/c	0.26	0.28	7	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<54	51	n/c	14	19	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	430	860	<u>67</u>	180	390	<u>74</u>	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	5,700	_ 1,900	<u>100</u>	1,200	1,700	34	<50	_ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	2,100	520	n/c	450	670	39	<50	<50	n/c

Sample Location				TP21-08-05	DUP EE		TP21-06-03	DUP FF		TP21-22-05	DUP-GG	
Sample Depth (mbgs)	Units	Alert	RDL	1.0	1.0	RPD	0.5	0.5	200	1.0	1.0	200
Sample Collection Date	Units	Limit	KDL	26-Aug-2021	26-Aug-2021	KPD	26-Aug-2021	26-Aug-2021	RPD	27-Aug-2021	27-Aug-2021	RPD
BVL Sample ID				AFA087	AFA091		AFA096	AFA097		AFA135	AFA136	
Benzene	mg/kg	>100%	0.005	0.064	0.077	18	<0.0050	<0.0050	n/c	0.088	0.091	3
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.050	n/c	0.074	0.14	n/c
Ethylbenzene	mg/kg	>100%	0.01	0.13	0.14	7	<0.010	<0.010	n/c	0.065	0.29	<u>127</u>
Xylenes (Total)	mg/kg	>100%	0.045	0.052	0.056	n/c	<0.045	<0.045	n/c	0.25	1.2	<u>131</u>
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	14	14	n/c	11	42	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	72	200	94	64	3,300	192
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	₋ <50	n/c	190	310	n/c	<50	₋ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Sample Location				TP21-23-06	DUP-HH		TP21-34-05	DUP-II		TP21-67-06	DUP-JJ	
Sample Depth (mbgs)	Units	Alert	RDL	1.5	1.5	RPD	1.0	1.0	RPD	1.4	1.4	RPD
Sample Collection Date	Units	Limit	KDL	27-Aug-2021	27-Aug-2021	KPD	27-Aug-2021	27-Aug-2021	KPD	28-Aug-2021	28-Aug-2021	KPD
BVL Sample ID				AFA140	AFA141		AFA125	AFA126		AFA008	AFA009	
Benzene	mg/kg	>100%	0.005	0.56	0.23	84	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	0.073	0.086	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	0.6	0.56	7	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	1.2	0.59	68	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	44	230	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	190	610	<u>105</u>	<10	<10	n/c	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	94	120	n/c	<50	<50	n/c	<50	□ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Notes:

Bold/Underline - RPD exceeds alert limit BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

F1, F2, F3, F4 - petroleum hydrocarbon fractions 1, 2, 3 and 4

mbgs - metres below ground surface mg/kg - milligrams per kilogram

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RDL - reportable detection limit

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Table G2 Summary of Field Duplicate Sample Results - Soil Petroleum Hydrocarbons Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location				TP21-70-06	DUP-KK		TP21-84-05	DUP-LL		TP21-90-04	DUP-MM	
Sample Depth (mbgs)	Units	Alert	RDL	1.5	1.5	RPD	1.0	1.0	RPD	0.7	0.7	RPD
Sample Collection Date	Units	Limit	KDL	28-Aug-2021	28-Aug-2021	KPD	28-Aug-2021	28-Aug-2021	KPD	29-Aug-2021	29-Aug-2021	KPD
BVL Sample ID				AFA016	AFA017		AFA032	AFA033		AFB113	AFB066	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	0.0099	0.016	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	0.1	0.13	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	0.021	0.028	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	0.048	0.18	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<24	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	49	97	n/c	67	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	<50	n/c	520	₋ 360	36	220	_ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	150	71	n/c	<50	<50	n/c

Sample Location				TP21-104-03	DUP NN		TP21-117-03	DUP OO		TP21-118-06	DUP PP	
Sample Depth (mbgs)	Unita	Alert	DD.	0.5	0.5	200	0.5	0.5	222	1.5	1.5	222
Sample Collection Date	Units	Limit	RDL	31-Aug-2021	31-Aug-2021	RPD	31-Aug-2021	31-Aug-2021	RPD	31-Aug-2021	31-Aug-2021	RPD
BVL Sample ID				AFU722	AFU724		AFU726	AFU728		AFU731	AFU732	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	23	54	n/c	10	<10	n/c	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	130	170	n/c	<50	<50	n/c	<50	_ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Sample Location				TP21-119-03	DUP QQ		TP21-120-04	DUP RR		TP21-121-05	DUP SS	
Sample Depth (mbgs)	Units	Alert	RDL	0.5	0.5	RPD	0.7	0.7	RPD	1.0	1.0	RPD
Sample Collection Date	Units	Limit	KDL	31-Aug-2021	31-Aug-2021	KPD	31-Aug-2021	31-Aug-2021	KPD	31-Aug-2021	31-Aug-2021	KPD
BVL Sample ID				AFU734	AFU735		AFU738	AFU739		AFU744	AFU745	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	0.079	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	51	68	29	<10	<10	n/c	15	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	200	180	n/c	81	<50	n/c	340	□ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	64	<50	n/c	<50	<50	n/c	54	<50	n/c

Notes:

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Table G2 Summary of Field Duplicate Sample Results - Soil Petroleum Hydrocarbons Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location				TP21-122-06	DUP TT		TP21-129-03	DUP UU		TP21-130-04	DUP VV	
Sample Depth (mbgs)	Units	Alert	RDL	1.5	1.5	RPD	0.5	0.5	RPD	0.7	0.7	RPD
Sample Collection Date		Limit	KUL	31-Aug-2021	31-Aug-2021	KPD	31-Aug-2021	31-Aug-2021	KPD	31-Aug-2021	31-Aug-2021	KPD
BVL Sample ID				AFU748	AFU749		AFU751	AFU752		AFU755	AFU756	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	10	16	n/c	130	160	21
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	<50	n/c	<50	60	n/c	190	200	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Sample Location				TP21-134-04	DUP WW		TP21-134-06	DUP XX		TP21-135-03	DUP YY	
Sample Depth (mbgs)	Units	Alert	RDL	0.7	0.7	RPD	1.5	1.5	200	0.5	0.5	222
Sample Collection Date	Units	Limit	KDL	1-Sep-2021	1-Sep-2021	KPD	1-Sep-2021	1-Sep-2021	RPD	1-Sep-2021	1-Sep-2021	RPD
BVL Sample ID				AFU857	AFU864		AFU858	AFU859		AFU861	AFU863	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	35	79	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	₋ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Sample Location				TP21-135-05	DUP ZZ		TP21-177-02	DUP AAA		TP21-177-04	DUP BBB	
Sample Depth (mbgs)	Units	Alert	RDL	1.0	1.0	RPD	0.3	0.3	RPD	0.7	0.7	RPD
Sample Collection Date	Units	Limit	KDL	1-Sep-2021	1-Sep-2021	KPD	1-Sep-2021	1-Sep-2021	KPD	1-Sep-2021	1-Sep-2021	KPD
BVL Sample ID				AFU862	AFU865		AFU868	AFU869		AFU870	AFU871	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.010	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.10	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.021	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.093	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<21	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	52	36	n/c	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	<50	n/c	850	720	17	<50	₋ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	290	240	n/c	<50	<50	n/c

Notes:

Bold/Underline - RPD exceeds alert limit BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

F1, F2, F3, F4 - petroleum hydrocarbon fractions 1, 2, 3 and 4

mbgs - metres below ground surface mg/kg - milligrams per kilogram

n/c - not calculated

RDL - reportable detection limit

RPD - relative percent difference

> - greater than

< - less than

RPD is not calculated if either the original or field duplicate sample has a result less than 5X the RDL

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Table G2 Summary of Field Duplicate Sample Results - Soil Petroleum Hydrocarbons Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location				TP21-178-02	DUP CCC		TP21-178-04	DUP DDD		TP21-178-06	DUP EEE	
Sample Depth (mbgs)	Units	Alert	RDL	0.3	0.3	RPD	0.7	0.7	RPD	1.5	1.5	DDD
Sample Collection Date		Limit	KUL	1-Sep-2021	1-Sep-2021	KPD	1-Sep-2021	1-Sep-2021	KPD	1-Sep-2021	1-Sep-2021	RPD
BVL Sample ID				AFU872	AFU873		AFU874	AFU875		AFU876	AFU877	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	10	n/c	<10	<10	n/c	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Sample Location				TP21-179-02	DUP FFF		TP21-179-04	DUP GGG		TP21-179-06	DUP HHH	
Sample Depth (mbgs)	Units	Alert	DD.	0.3	0.3	222	0.7	0.7	222	1.5	1.5	
Sample Collection Date	Units	Limit	RDL	1-Sep-2021	1-Sep-2021	RPD	1-Sep-2021	1-Sep-2021	RPD	1-Sep-2021	1-Sep-2021	RPD
BVL Sample ID				AFU881	AFU882		AFU883	AFU884		AFU885	AFU886	
Benzene	mg/kg	>100%	0.005	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	<0.050	<0.050	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	<0.010	<0.010	n/c	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	<0.045	<0.045	n/c	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	_ <50	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	<50	<50	n/c	<50	<50	n/c	<50	<50	n/c

Sample Location				TP21-180-03	DUP III		TP21-181-04	DUP JJJ		TP21-182-02	DUP KKK	
Sample Depth (mbgs)	Units	Alert	RDL	0.5	0.5	RPD	0.7	0.7	RPD	0.3	0.3	RPD
Sample Collection Date	Ullits	Limit	KDL	1-Sep-2021	1-Sep-2021	KPD	1-Sep-2021	1-Sep-2021	KPD	1-Sep-2021	1-Sep-2021	KFU
BVL Sample ID				AFU888	AFU889		AFU893	AFU898		AFU895	AFU896	
Benzene	mg/kg	>100%	0.005	0.071	<0.0050	n/c	<0.0050	<0.0050	n/c	<0.0050	<0.0050	n/c
Toluene	mg/kg	>100%	0.05	0.24	<0.050	n/c	<0.050	<0.050	n/c	<0.050	<0.050	n/c
Ethylbenzene	mg/kg	>100%	0.01	0.026	<0.010	n/c	<0.010	<0.010	n/c	<0.010	<0.010	n/c
Xylenes (Total)	mg/kg	>100%	0.045	0.15	<0.045	n/c	<0.045	<0.045	n/c	<0.045	<0.045	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/kg	>60%	10	<10	<10	n/c	<10	<10	n/c	<10	<10	n/c
F2 (C ₁₀ -C ₁₆)	mg/kg	>60%	10	190	380	<u>67</u>	<10	<10	n/c	11	18	n/c
F3 (C ₁₆ -C ₃₄)	mg/kg	>60%	50	320	770	<u>83</u>	<50	<50	n/c	180	□ 300	n/c
F4 (C ₃₄ -C ₅₀)	mg/kg	>60%	50	240	370	n/c	<50	<50	n/c	<50	100	n/c

Notes:

Bold/Underline - RPD exceeds alert limit BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

F1, F2, F3, F4 - petroleum hydrocarbon fractions 1, 2, 3 and 4 $\,$

mbgs - metres below ground surface mg/kg - milligrams per kilogram

n/c - not calculated

RDL - reportable detection limit

RPD - relative percent difference

> - greater than

< - less than

RPD is not calculated if either the original or field duplicate sample has a result less than 5X the RDL

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Table G3

Summary of Field Duplicate Sample Results - Surface Water Petroleum Hydrocarbon Parameters Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location				SW21-01	DUP A	
Sample Collection Date	Units	Alert Limit	RDL	1-Sep-21	1-Sep-21	RPD %
BVL Sample ID		Liiiik		AFU653	AFU654	,,,
Benzene	mg/L	>60%	0.0004	<0.00040	<0.00040	n/c
Toluene	mg/L	>60%	0.0004	<0.00040	<0.00040	n/c
Ethylbenzene	mg/L	>60%	0.0004	<0.00040	<0.00040	n/c
Xylenes (Total)	mg/L	>60%	0.0008	<0.00080	<0.00080	n/c
F1 (C ₆ -C ₁₀) - BTEX	mg/L	>60%	0.1	<0.10	<0.10	n/c
F2 (C ₁₀ -C ₁₆)	mg/L	>60%	0.1	<0.10	<0.10	n/c

Notes:

Bold/Underlined - RPD exceeds alert limit

BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

F1, F2 - petroleum hydrocarbon fractions 1 and 2

mg/L - milligrams per litre

n/c - not calculated

RDL - reportable detection limit

RPD - relative percent difference

> - greater than

< - less than

RPD is not calculated if either the original or field duplicate sample has a result less than 5X the RDL

Table G4

Summary of Field Duplicate Sample Results - Surface Water Polycyclic Aromatic Hydrocarbon Parameters Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location		Alert Limit	RDL	SW21-01	DUP A	RPD %
Sample Collection Date	Units			1-Sep-21	1-Sep-21	
BVL Sample ID		Lillin		AFU653	AFU654	
Low Molecular Weight PAHs	μg/L	>60%	0.2	<0.20	<0.20	n/c
High Molecular Weight PAHs	μg/L	>60%	0.05	<0.050	<0.050	n/c
Total PAH	μg/L	>60%	0.2	<0.20	<0.20	n/c
B(a)P Total Potency Equivalents	μg/L	>60%	0.01	<0.010	<0.010	n/c
Acenaphthene	μg/L	>60%	0.1	<0.10	<0.10	n/c
Acenaphthylene	μg/L	>60%	0.1	<0.10	<0.10	n/c
Acridine	μg/L	>60%	0.04	<0.040	<0.040	n/c
Anthracene	μg/L	>60%	0.01	<0.010	<0.010	n/c
Benzo(a)anthracene	μg/L	>60%	0.0085	<0.0085	<0.0085	n/c
Benzo(b&j)fluoranthene	μg/L	>60%	0.0085	<0.0085	<0.0085	n/c
Benzo(k)fluoranthene	μg/L	>60%	0.0085	<0.0085	<0.0085	n/c
Benzo(g,h,i)perylene	μg/L	>60%	0.0085	<0.0085	<0.0085	n/c
Benzo(c)phenanthrene	μg/L	>60%	0.05	<0.050	<0.050	n/c
B(a)P	μg/L	>60%	0.0075	<0.0075	<0.0075	n/c
Benzo(e)pyrene	μg/L	>60%	0.05	<0.050	<0.050	n/c
Chrysene	μg/L	>60%	0.0085	<0.0085	<0.0085	n/c
Dibenz(a,h)anthracene	μg/L	>60%	0.0075	<0.0075	<0.0075	n/c
Fluoranthene	μg/L	>60%	0.01	<0.010	<0.010	n/c
Fluorene	μg/L	>60%	0.05	<0.050	<0.050	n/c
Indeno(1,2,3-cd)pyrene	μg/L	>60%	0.0085	<0.0085	<0.0085	n/c
1-Methylnaphthalene	μg/L	>60%	0.1	<0.10	<0.10	n/c
2-Methylnaphthalene	μg/L	>60%	0.1	<0.10	<0.10	n/c
Naphthalene	μg/L	>60%	0.1	<0.10	<0.10	n/c
Phenanthrene	μg/L	>60%	0.05	<0.050	<0.050	n/c
Perylene	μg/L	>60%	0.05	<0.050	<0.050	n/c
Pyrene	μg/L	>60%	0.02	<0.020	<0.020	n/c
Quinoline	μg/L	>60%	0.2	<0.20	<0.20	n/c

Notes:

Bold/Underlined - RPD exceeds alert limit

B(a)P - benzo(a)pyrene

BVL - Bureau Veritas Laboratories

n/c - not calculated

RDL - reportable detection limit

RPD - relative percent difference

> - greater than

< - less than

μg/L - micrograms per litre

 $\label{eq:RPD} \textbf{RPD is not calculated if either the original or field duplicate sample has a result less than 5X the RDL \\$

Table G5

Summary of Field Duplicate Sample Results - Surface Water Routine Potability Parameters Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location	Units	Alert Limit		SW21-01	DUP A	RPD %
Sample Collection Date			RDL	6-Sep-21	6-Sep-21	
BVL Sample ID				AFU656	AFU657	
Dissolved Nitrate (N)	mg/L	>40%	0.01	<0.010	<0.010	n/c
Dissolved Nitrate (NO ₃)	mg/L	>40%	0.044	<0.044	<0.044	n/c
Dissolved Nitrite (NO ₂)	mg/L	>40%	0.033	<0.033	< 0.033	n/c
Calculated Total Dissolved Solids	mg/L	>40%	10	210	210	0
Conductivity	μS/cm	>20%	2	390	380	3
pН	pН	+ or - 0.6	n/a	8.12	8.01	1
Dissolved Chloride (CI)	mg/L	>40%	1	33	31	6
Dissolved Sulphate (SO ₄)	mg/L	>40%	1	45	45	0

Notes:

Bold/Underlined - RPD exceeds alert limit

BVL - Bureau Veritas Laboratories

mg/L - milligrams per litre

n/a - not applicable

n/c - not calculated

RDL - reportable detection limit

RPD - relative percent difference

> - greater than

< - less than

 $\mu S/cm$ - microSiemens per centimetre

RPD is not calculated if either the original or field duplicate sample has a result less than 5X the RDL

Table G6

Summary of Field Duplicate Sample Results - Surface Water Metals Parameters Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Sample Location		Alert Limit		SW21-01	DUP A	RPD %
Sample Collection Date	Units		RDL	1-Sep-21	1-Sep-21	
BVL Sample ID		LIIIII		AFU653	AFU654	
Total Cadmium (Cd)	μg/L	>40%	0.02	0.068	0.063	n/c
Total Aluminum (AI)	mg/L	>40%	0.003	2.2	1.1	67
Total Antimony (Sb)	mg/L	>40%	0.0006	<0.00060	<0.00060	n/c
Total Arsenic (As)	mg/L	>40%	0.0002	0.002	0.0019	5
Total Barium (Ba)	mg/L	>40%	0.01	0.14	0.13	7
Total Beryllium (Be)	mg/L	>40%	0.001	<0.0010	<0.0010	n/c
Total Boron (B)	mg/L	>40%	0.02	0.029	0.026	n/c
Total Calcium (Ca)	mg/L	>40%	0.3	35	34	3
Total Chromium (Cr)	mg/L	>40%	0.001	0.0036	0.003	n/c
Total Cobalt (Co)	mg/L	>40%	0.0003	0.0012	0.00085	n/c
Total Copper (Cu)	mg/L	>40%	0.0002	0.0045	0.0038	17
Total Iron (Fe)	mg/L	>40%	0.06	2.6	2	26
Total Lead (Pb)	mg/L	>40%	0.0002	0.0015	0.0012	22
Total Lithium (Li)	mg/L	>40%	0.02	<0.020	<0.020	n/c
Total Magnesium (Mg)	mg/L	>40%	0.2	15	15	0
Total Manganese (Mn)	mg/L	>40%	0.004	0.072	0.062	15
Total Molybdenum (Mo)	mg/L	>40%	0.0002	0.0025	0.0026	4
Total Nickel (Ni)	mg/L	>40%	0.0005	0.0056	0.0047	17
Total Phosphorus (P)	mg/L	>40%	0.1	<0.10	<0.10	n/c
Total Potassium (K)	mg/L	>40%	0.3	1.1	1	n/c
Total Selenium (Se)	mg/L	>40%	0.0002	0.00046	0.00033	n/c
Total Silicon (Si)	mg/L	>40%	0.1	2	1.5	29
Total Silver (Ag)	mg/L	>40%	0.0001	<0.00010	<0.00010	n/c
Total Sodium (Na)	mg/L	>40%	0.5	19	19	0
Total Strontium (Sr)	mg/L	>40%	0.02	0.24	0.24	0
Total Sulphur (S)	mg/L	>40%	0.2	15	15	0
Total Thallium (TI)	mg/L	>40%	0.0002	<0.00020	<0.00020	n/c
Total Tin (Sn)	mg/L	>40%	0.001	<0.0010	<0.0010	n/c
Total Titanium (Ti)	mg/L	>40%	0.001	0.047	0.034	32
Total Uranium (U)	mg/L	>40%	0.0001	0.0012	0.0011	9
Total Vanadium (V)	mg/L	>40%	0.001	0.0055	0.0042	n/c
Total Zinc (Zn)	mg/L	>40%	0.003	0.015	0.012	n/c

Notes:

Bold/Underlined - RPD exceeds alert limit

BVL - Bureau Veritas Laboratories

mg/L - milligrams per litre

n/c - not calculated

RDL - reportable detection limit

RPD - relative percent difference

> - greater than

< - less than

 $\mu g/L$ - micrograms per litre

RPD is not calculated if either the original or field duplicate sample has a result less than 5X the RDL

Table G7 Summary of Field Blank and Trip Blank Sample Results Camp Farewell, Inuvialuit Settlement Region, Northwest Territories Shell Canada Limited

Parameter				Field Blank	Trip Blank	Field Blank 1-Sep-21 AFU655	
Sample Collection Date	Units	Alert Limit	RDL	29-Aug-21	29-Aug-21		
BVL Sample ID				AEZ791	AEZ789		
Benzene	mg/L	>5X RDL	0.0004	<0.00040	<0.00040	<0.00040	
Toluene	mg/L	>5X RDL	0.0004	<0.00040	<0.00040	<0.00040	
Ethylbenzene	mg/L	>5X RDL	0.0004	<0.00040	<0.00040	<0.00040	
Xylenes (Total)	mg/L	>5X RDL	0.0008	<0.00080	<0.00080	<0.00080	
F1 (C ₆ -C ₁₀) - BTEX	mg/L	>2X RDL	0.1	<0.10	<0.10	<0.10	
F2 (C10-C16)	mg/L	>2X RDL	0.1	<0.10	<0.10	<0.10	

Notes

Bold/Underlined - value exceeds alert limit

BTEX - benzene, toluene, ethylbenzene, xylenes

BVL - Bureau Veritas Laboratories

F1, F2 - petroleum hydrocarbon fractions 1 and 2 $\,$

mg/L - milligrams per litre

RDL - reportable detection limit

> - greater than

< - less than

Alert limit is 5X the RDL for BTEX and 2X the RDL for F1 and F2



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APPENDIX B

Inuvialuit Water Board Licence





July 13, 2017

David A. Brown Staff Environmental Engineer Shell Canada Energy 150 N. Dairy Ashford Road Houston, Texas 77079

Dear Mr. Brown:

Re: N7L1-1834 - Shell Canada Energy, Camp Farewell - Term Amendment of Type "B" Water Licence

The Inuvialuit Water Board (IWB) is pleased to approve a term amendment of Water Licence N7L1-1834 for closure and remediation and post monitoring activities. In this regard, all terms and conditions for N7L1-1834 will remain as originally issued with the exception of:

- 1. the extension of the expiry date to July 17, 2029;
- 2. Part B: General Conditions, Item 12; and
- 3. Part D: Conditions Applying to Waste Disposal, Item 16.

Each of these are detailed in the attached licence amendment.

A copy of the amended Terms and Conditions and all documentation associated with the term amendment of the licence has been filed in the Public Register. Copies are available at the IWB office and on the IWB Electronic Register located on the IWB website: www.inuvwb.ca.

The IWB appreciates the cooperation of Shell Canada Energy in complying with the Terms and Conditions of the Water Licence. Should you have any questions or concerns, please contact Mardy Semmler, Executive Director, at (867) 678-2942.

Sincerely,

Roger Connelly Chairperson

Attachments

Copied to: Lloyd Gruben, ENR Water Resources Officer - Inuvik Region

Inuvialuit Water Board, 125 Mackenzie Road - Professional Building - Suite 302,



INUVIALUIT WATER BOARD LICENCE AMENDMENT

Licensee Shell Canada Energy

Licence Number N7L1-1834

Effective Date of Amendment July 18, 2017

Pursuant to the Waters Act and Waters Regulations the Inuvialuit Water Board hereby grants the following Licence Amendment.

Term of Water Licence

The current expiry date has been extended to July 17, 2029 to ensure consistency with the Closure and Reclamation Plan that includes an eight (8) year monitoring, maintenance, and reporting program following the completion of the permanent closure activities.

Part B: General Conditions

12. Consultation records, including a summary, with the Hunters and Trappers Committee (HTC) of Tuktoyaktuk must be submitted to the IWB at least thirty (30) days prior to conducting any activities at the site.

Part D: Conditions Applying to Waste Disposal

16. A barge waste management and disposal plan must be submitted to the IWB at least thirty (30) days prior to mobilization of the barge to the site.

This Licence is amended and recorded at Inuvik, Northwest Territories.

INUVIALUIT WATER BOARD

Chairperson

Date

PART A: SCOPE AND DEFINITIONS

1. Scope

- a) This Licence entitles Shell Canada Energy to use water and dispose of Waste as an industrial undertaking associated with oil and gas exploration and development in the Mackenzie Delta at Farewell Camp and Stockpile Site (Camp Farewell) located at Latitude 69°12'30" North, and Longitude 135°06'04" West, Northwest Territories;
- b) This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the *Northwest Territories Waters Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be automatically amended to conforming to such Regulations; and
- c) Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.
- d) This Licence is issued subject to the conditions contained herein with respect to the use of Waters as prescribed in Section 8 of the *Act* and the deposit of Waste to any Waters as prescribed in Section 9 of the *Act*.

2. Definitions

In this Licence: N7L1-1834

"Act" means the Northwest Territories Waters Act;

"Analyst" means an Analyst designated by the Minister under Section 35(1) of the Northwest Territories Waters Act;

- "Average Concentration" means the discrete average of up to four (4) consecutive analytical results submitted to the Board in accordance with the sampling and analysis requirements specified in the "Surveillance Network Program";
- "Board" means the Northwest Territories Water Board established under Section 10 of the Northwest Territories Waters Act;
- "Freeboard" means the vertical distance between water line and the lowest elevation of the effective water containment crest on a dam or dyke's upstream slope;
- "Geotechnical Engineer" means a professional engineer registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists whose principal field of specialization is the design and construction of earthworks in a permafrost environment;
- "Greywater" means all liquid Wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet Waste;
- "Inspector" means an Inspector designated by the Minister under Section 35(1) of the Northwest Territories Waters Act;
- "Licensee" means the holder of this Licence;
- "Minister" means the Minister of Aboriginal Affairs and Northern Development Canada (AANDC);
- "Modification" means an alteration to a physical work that introduces a new structure or replaces an existing structure and does not alter the purpose or function of the work, but does not include an expansion;
- "Regulations" mean Regulations proclaimed pursuant to Section 33 of the Northwest Territories Waters Act;
- "Sewage" means all toilet Wastes and Greywater;
- "Sewage Treatment Facilities" comprises the area and engineered structures designed to contain Sewage as identified in the project description and also include a Sump constructed of impervious material and/or with an impervious liner;
- "Sump" means an excavation for the purpose of catching or storing water and/or Waste;
- "Waste" means Waste as defined by Section 2 of the Northwest Territories Waters Act;

- "<u>Waste Disposal Facilities</u>" mean all facilities designated for the disposal of Waste and include the Sewage disposal facilities, solid Waste disposal facilities, and bagged toilet Wastes disposal facilities;
- "<u>Water Supply Facilities</u>" mean all facilities designed to collect, treat and supply water for industrial purposes; and
- "<u>Waters</u>" mean Waters as defined by Section 2 of the *Northwest Territories Waters*Act:

PART B: GENERAL CONDITIONS

- 1. The Licensee shall file an Annual Report with the Board not later than March 31st of the year following the calendar year reported which shall contain the following information:
 - a) the monthly and annual quantities in cubic metres of fresh water obtained from all sources;
 - b) the monthly and annual quantities in cubic metres of each and all Waste discharged;
 - c) the location and direction of flow of all Waste discharged to the water or the land;
 - d) a summary of the monthly and annual quantities of Waste stored on site and transported off site;
 - e) the results of sampling carried out under the "Surveillance Network Program";
 - f) a summary of any Modifications carried out on the Water Supply Facilities and Sewage Treatment Facilities, including all associated structures;
 - g) a list of any spills and unauthorized discharges;
 - h) details on the restoration of any Sumps;
 - i) a summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;

- j) a summary of any studies requested by the Board that relate to Waste disposal, water use, or reclamation, and a brief description of any future studies planned;
- k) notation of updates and/or revisions to the approved Spill Contingency Plan, Waste Disposal Facilities operations and maintenance plan, and sewage treatment plan;
- an outline of any spill training and communications exercises carried out;
 and
- m) any other details on water use or Waste disposal requested by the Board within forty-five (45) days before the annual report is due.
- 2. The Licensee shall comply with the "Surveillance Network Program" annexed to this Licence, and any amendment to the said "Surveillance Network Program" as may be made from time to time, pursuant to the conditions of this Licence.
- 3. The "Surveillance Network Program" and compliance dates specified in the Licence may be modified at the discretion of the Board.
- 4. The Licensee shall, within thirty (30) days of the issuance of this Licence, submit to the Board for approval a map or drawing indicating the location of all Surveillance Network Program sampling stations.
- 5. The Licensee shall, within thirty (30) days of the issuance of this Licence, post the necessary signs to identify the stations of the "Surveillance Network Program". All postings shall be located and maintained to the satisfaction of an Inspector.
- 6. Any meters, devices or other such methods used for measuring the volumes of water used or Waste disposed and discharged shall be installed, operated and maintained by the Licensee to the satisfaction of an Inspector.
- 7. The Licensee shall immediately report to the 24 Hour Spill Report Line (867-920-8130) any spills which are reported to, or observed by, the Licensee within the project boundaries.
- 8. All monitoring data shall be submitted in printed form and electronically in spreadsheet format on a diskette or other electronic forms acceptable to the Board.
- 9. All reports shall be submitted to the Board in printed format accompanied by an electronic copy in a common word processing format on diskette or other electronic forms acceptable to the Board.

- 10. Within thirty (30) days of issuance of this Licence, the Licensee shall have posted and shall maintain a security deposit in the amount of Two Million (\$2,000,000.00) Dollars pursuant to Section 17 of the Act and Section 12 of the Regulations, in a form suitable to the Minister. The security deposit shall be maintained until such time as it is fully or in part refunded by the Minister pursuant to Section 17 of the Act.
- 11. The Licensee shall ensure a copy of this Licence is maintained at the site of operation at all times.

PART C: CONDITIONS APPLYING TO WATER USE

- 1. The Licensee shall obtain water from the Middle Channel of the Mackenzie River in winter or the unnamed lake north of the camp in summer as described in the project description, or as otherwise approved by an Inspector.
- 2. The daily quantity of water used for all purposes shall not exceed 150 cubic metres.

PART D: <u>CONDITIONS APPLYING TO WASTE DISPOSAL</u>

- The Licensee shall within thirty (30) days of the issuance of this Licence, submit to the Board for approval an updated operation and maintenance plan for the Waste Disposal Facilities. This plan shall include but not necessarily be limited to details on the design, operational capacity, management and maintenance, and disposal of sludges.
- 2. All Sewage shall be directed to the onsite Sewage Treatment Facilities as approved by an Inspector.
- 3. The Sewage Treatment Facilities shall be maintained and operated in such a manner as to prevent structural failure to the satisfaction of the Inspector.
- 4. All Waste discharged from the onsite Sewage lagoon shall be directed to the channel of the Mackenzie River at a location approved by an Inspector.
- 5. There should be no discharge of floating solids, garbage, grease, free oil or foam.

6. All effluent discharged by the Licensee from the Sewage lagoon at "Surveillance Network Program" Station Number 1834-1 shall meet the following effluent quality requirements:

Sample Parameter	Average Concentration	
BOD ₅	70.0 mg/L	
Total Suspended Solids	70.0 mg/L	
Faecal Coliforms	1 X 10⁴ CFU/dL	
Oil and Grease	5.0 mg/L	
Total Residual Chlorine (TRC)	0.1 mg/L	

- 7. The effluent discharged shall have a pH between six (6) and nine (9) and no visible sheen of oil and grease.
- 8. Introduction of water to Waste for the purpose of achieving effluent quality requirements in Part D, Item 7 is prohibited.
- 9. A Freeboard limit of 1.0 metre shall be maintained at all times in the Sewage lagoon, or as recommended by a qualified Geotechnical Engineer and/or as approved by the Board.
- 10. The Licensee shall advise an Inspector at least five (5) days prior to initiating and decant of the Sewage lagoon.
- 11.All analyses shall be conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of water and Wastewater" or by such other methods as may be approved by an Analyst.
- 12. The Licensee shall contain all contaminated soil or contaminated snow in such a manner as to minimize the potential for migration of contaminants into any Waters, to the satisfaction of an Inspector.
- 13. The Licensee shall store, segregate and dispose of all solid and hazardous Wastes in a manner acceptable to the Inspector.
- 14. Unless authorized by this Licence, the Licensee shall ensure that any Wastes associated with this undertaking do not enter any water body.
- 15. The Licensee shall submit to the Board a copy of each agreement(s) between third parties to store, transport or dispose of Wastes. The copy submitted to the Board shall include, at a minimum, the following:

- a. type of Waste;
- b. quantities of Waste;
- c. disposal location(s), and
- d. proof of acceptance from third parties.

PART E: CONDITIONS APPLYING TO MODIFICATIONS

- 1. The Licensee may, without written approval from the Board, carry out Modifications to the planned undertakings provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a) the Licensee has notified an Inspector in writing of such proposed Modifications at least five (5) days prior to beginning the Modifications;
 - b) such Modifications do not place the Licensee in contravention of either the Licence or the *Act*;
 - c) an Inspector has not, during the five (5) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than five (5) days; and
 - d) an Inspector has not rejected the proposed Modifications.
- 2. Modifications for which all of the conditions referred to in Part F, Item 1 have not been met may be carried out only with written approval from an Inspector.
- 3. The Licensee shall provide to the Board as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modifications.

PART F: CONDITIONS APPLYING TO CONTINGENCY PLANNING

1. The Licensee shall submit to the Board for approval within thirty (30) days of issuance of this Licence an updated Emergency Response & Spill Contingency Plan in accordance, for example, with the *Guidelines for Spill Contingency Planning, April 2007*, developed by AANDC-Water Resources Division.

- 2. The Licensee will maintain a copy of the approved Emergency Response & Spill Contingency Plan onsite in a readily available location, to the satisfaction of an Inspector.
- 3. The Licensee shall ensure that petroleum products, hazardous material and other Wastes associated with the project do not enter any Waters.
- 4. The Licensee shall ensure that all containment berms are constructed of an impermeable material, to the satisfaction of an Inspector.
- 5. The Licensee shall ensure that fuel stored in each tank within the tank farm be no greater than 85% of the tank's capacity to allow for expansion and avoid overflows.
- 6. If, during the period of this Licence, an unauthorised discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a) report the incident immediately via the 24 Hour Spill Reporting Line (867) 920-8130; and
 - b) submit to an Inspector a detailed report on each occurrence not later than thirty (30) days after initially reporting the event.

PART G: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

- 1. The Licensee shall submit to the Board for approval within one (1) year of issuance of this Licence, an updated Interim Abandonment and Restoration Plan including plans for the abandonment and restoration of the Sewage lagoon and a complete Phase II environmental site assessment of Camp Farewell. This assessment will include the full delineation of contamination (soil and water) associated with Camp Farewell operations, located both on and off the gravel base pad.
- 2. The Licensee shall implement this Plan as and when approved by the Board.
- 3. Following approval of the Plan, the Licensee shall review the Abandonment and Restoration Plan every two (2) years and shall modify the Plan as necessary to reflect changes in operations and technology. All proposed Modifications to the Plan shall be submitted to the Board for approval.

Witness

NORTHWEST TERRITORIES WATER BOARD

Chairman

Kyle Schepanow June 6, 2019

IEG Consultants Ltd.

500 – 2618 Hopewell Place NE

Calgary, AB T1Y 7J7

Dear Mr. Schepanow:

Inuvialuit Water Board License N7L1 - 1834 - Shell Canada Energy Camp Farewell

Proposed Amendment to existing Water License Part C, Item 1.

I am writing you regarding Water License N7L1 - 1834. Mr. Kyle Schepanow, representing IEG Consultants representing Shell Canada Energy regarding Water License N7L1 - 1834, requesting an amendment to the water license. Right now the current water license Part C, Item 1 states that

1. The licensee shall obtain water from the Middle Channel of the Mackenzir River in the winter or the unnamed lake north of the camp in summer as described in the project description, or as otherwise approved by an inspector.

The amendment requested would be to withdraw water directly from the Middle Channel of the Mackenzie River during summer activities. The water will be used as a potable water source in the Wurmlinger barge camp at the Site. Activities at the Site will be from approximately June 26 through August 31. 2019, has been approved dated this 6th Day of June 2019.

If you require more information regarding this letter, please call me at the number below.

Water Resources Officer

Environment and Natural Resources

P.O. Box 2749

Inuvik, NT X0E 0T0

Ph: 867 - 678 - 6676

March 23, 2022 20368099-6000

APPENDIX C

Waste Documentation





TOWN OF INUVIK 2 FIRTH ST, PO BOX 1160 INUVIK NT X0E 0T0

> P 867.777.8600 F 867.777.8601 WWW.INUVIK.CA

June 16, 2021

Golder Associates Ltd. 201 Brownlow Avenue Suite 26 Dartmouth, NS B3B 1W2

Attention: Ms. Stephanie Villeneuve

Re: Use of Sewage and Solid Waste Dumping Facilities for Camp Farewell Water License (N7L1-1834)

Ms. Villeneuve:

Please be advised that the Town of Inuvik acknowledges that Golder Associates may use the abovementioned facilities in conjunction with the Camp Farewell Water License (N7L1-1834). As part of this approval Golder Associates or any contractor working on their behalf has acknowledged that there will be a fee for use of these facilities. In addition, they shall inform the Town of Inuvik Director of Public Services when they are to make use of the sewage dumping facility and report the volume of sewage brought in from this project.

The Town will accept in principle the above-mentioned products provided they follow the guidelines and fees as set out in the various Town of Inuvik by-laws. All the waste must be domestic use type only. None of it shall contain any drilling or industrial type waste.

We are required as part of our water license to account for these types of additional wastes entering our sewage lagoon and solid waste site, respectively.

If you have any questions or concerns, please do not hesitate to contact me. Thank-you in advance for your cooperation.

Regards

Town of Inuvik

Grant Hood

Senior Administrative Officer

CC: Rick Campbell – Town of Inuvik – Director of Public Services

Please check one:		
Dumping Fees:	Category	and Fees
Load Type	Garbage	Out of Town Garbage
Extra Large Loads (End dump and any tractor trailer combinations)	□ \$325.00 per load	\$1,000.00 per load
Large Loads (Dump truck and any straight truck combinations)	☐ \$125.00 per load	□ \$800.00 per load
Medium Loads (1 ton units, pick-up and trailer combinations)	\$65.00 per load	☐ \$600.00 per load
Small Loads 1/2 ton up to I ton loads)	□ \$35.00 per load	☐ \$400.00 per load
Oriver:	Print	111111111111111111111111111111111111111
lauled by:	Signature	

Date:Bill to:	(Whiteless of the second	NY.	44565
Please check one	2			
Dumping Fee	s:	Catego	iry	and Fees
Load Type		Garbage		Out of Town Garbage
Extra Large Loa (End dump and any tractor traile combinations)		☐ \$325.00 per loa	d	\$1,000.00 per load
Large Loads (Dump truck and any straight truck combinations)		□ \$125.00 per load		□ \$800.00 per load
Medium Loads (1 ton units, pick-up and trailer combinations)		\$65.00 per load		\$600.00 per load
Small Loads (1/2 ton up to 1 ton loads)	0	\$35.00 per load	0	\$400.00 per load
Driver:	j'i			
The American		Print		
lauled by:	17	Signature		100
	G	ST: \$		
		1 1	-	P1775

Northwind Industries Ltd.

Box 1130, 146 Navy Road
Inuvik, NT X0E 0T0
Tel: (867) 777-2426 Fax: (867) 777-3203
Email: northwind@northwestel.net

TICKET 191071

Client: 802 CARCUP
Project & Location:
Date: Day Pear
Equipment: / Description
Loads (circle): 1 2 3 4 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Operator (print): 16m BALAC
Work Description: (5) Locales of Seutege
1-camp
1- camp 4- yellow tank
Time From: OFFICE USE ONLY
To:Billing Units:
Total Hours: Rates per Unit: \$
Operator Signature:
Client Rep:/

March 23, 2022 20368099-6000

APPENDIX D

Spill Investigation Report





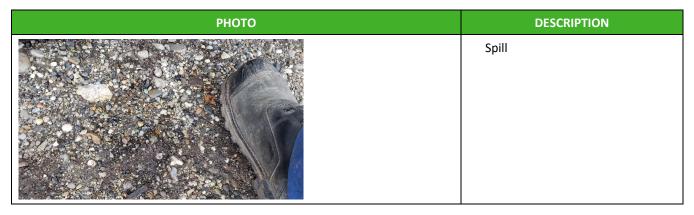
INCIDENT REPORT

DATE:	2021/09/07			PROJECT NO.: 20368099-6000					
TO:	Kyle Th	ompson							
CC:	Chris B	oyd							
FROM:	Aurélie	Bellavance-Godin				EMAIL	: abellavanc	e@gold	ler.com
DIESEI		LL NT DETAILS							
DATE:	2021/	08/30	_	TIME:	15:30	□am ⊠pm	ı Li l	D NO:	555256
PROJECT	CT NO: 20368099-6000		ı	PROJEC	T TITLE:	Camp Farewell Remediation Confirmation Environmental Assessment		ation and	
LOCATION	N: _	Camp Farewell, NW	_ VT		CLIENT:	CLIENT: Shell			
GOLDER F	PM:	Aurélie Bellavance-G	·Godin			CLIENT PM:	Kyle Thomps	Kyle Thompson	
SUBCONT	TRACTOR	R COMPANY:	EGT						
1.1 In	nciden	t Type (Select A	All Tha	t App	oly)				
☐ Near Miss		☐ Injury / Illness		☐ Process / Equipment Damage		oment Damage			
⊠ Environi	mental			Loss of	Process		☐ Securit	У	
□ Vehicle I	Incident			Fire / Ex	xplosion		□ pSIF / S	SIF	
20 16	ACIDEI	NT DESCRIPTIO	NI						

INCIDENT DESCRIPTION

While conducting remedial test pitting on an abandoned oil and gas site, the site supervisor noticed a spill on the ground beside a fuel truck. The spill appeared to be small and came from the fueling nozzle on the fuel truck. Spill was controlled and estimated at 50 ml. The equipment operator had used the fuel truck approximately 1 hour before the spill was noticed. He did not notice a leak nor spill at the time. Impacted soil was shoveled (Hole size 0.3 m X 0.3 m; 0.2m Deep) and confined in a lined soil-bag and a soil sample was taken for hydrocarbon analysis for confirmation purposes. Consulted onsite mechanic to determine the best way to stop nozzle from leaking. The nozzle will need to be replaced at the end of the program. However, due to the remote location of the site, the mechanic suggested to wrap absorbent on the nozzle after use. Additionally, the mechanic conducted daily follow ups for the following 3 days. No further spills.

2.1 **Photos / Sketches**





РНОТО	DESCRIPTION
	Containment
	Remediation

2.2 Immediate Actions Taken

Notified equipment owner. Added a spill tray and wrapped the leaking nozzle with absorbent pads.

3.0 INVESTIGATION FINDINGS

All equipment onsite are inspected daily. Additionally, all equipment are inspected before mobbing onsite. Spill trays should be added to all potential spill areas.

4.0 CORRECTIVE ACTIONS

LDB TASK ID	RECOMMENDATION	RESPONSIBLE PERSON	COMPLETION DATE
	Wrap an absorbent pad on the nozzle following use.	P. Tan	2020-08-30
	Adding a spill tray in the nozzle area.	P. Tan	2020-08-30
	Replace nozzle	EGT	End of program



5.0 INVESTIGATION TEAM

NAME	TITLE	COMPANY
Peter Tan	Site Supervisor	Golder
Aurélie Bellavance-Godin	Project Manager	Golder
Lenz Haderlein	Project Director	Golder
Anita L'Arrivee	Regional HSSE Advisor	Golder
Worker	Equipment Operator	EGT

6.0 REPORT SIGNOFF

PROJECT DIRECTOR'S ACCEPTANCE OF FINDINGS AND COMMENTS:							
Name: Lenz Haderlein	Signature:	Date : 2021-09-08					



March 23, 2022 20368099-6000

APPENDIX E

Drills Documentation



- System ID: 62667
- Date/Time: Saturday, August 21, 2021
- Location Type: Drill/Exercise
- Location: Northwest Territories | Territoires du Nord-Ouest
- Location Desc: Shell Camp Farewell
- Work Area: WSP -- Golder -- Golder Canada -- Golder Remediation Program Management
- Work Agreement: Golder Employees
- Reported By: Peter Tan @ 8/22/2021 2:01:21 AM UTC

Items Identified

Туре	Status	Category	Description	Corrected on Inspection?	Immediate / Recommended Actions
PositiveObservation	Closed	Other	Drill was based on the premise of an equipment operator slipping and falling off an IT28 loader while getting out of the machine. A dedicated onsite medic was present. Site is an abandoned oil and gas staging area. Soon after the IP "fell" the wildlife monitor nearby called for help on the radio. The site supervisor followed the steps outlined in the site ERP and called for the site medic to respond to the scene and proceeded to administer emergency first aid for the IP. The medic got suited up, left the barge camp and arrived at the scene (by pick up truck) in 3 mins. Medic conducted his assessment, simulated getting the IP stabilized and strapped in the stretcher. The assumption was that the IP had a spine injury from his fall. 4 Workers carried the stretcher (IP was not on it) down to the dock where the boat operator was standing by (as per the ERP) in preparation for an emergency boat trip to the nearest town (Inuvik). Elapsed time between the call for help and getting the IP (stretcher only) loaded onto the boat was 12 minutes. Learnings and improvements were shared with the crew onsite.	Not Applicable	Not Applicable

General Remarks

Conducted an emergency drill at a remote site in the Northwest Territories, NT. Injured person (IP) fell of a IT28 loader while getting out of the machine.

System ID: 62469

Date/Time: Tuesday, August 17, 2021

Location Type: Drill/Exercise

• Location: Northwest Territories | Territoires du Nord-Ouest

• Location Desc: Shell Camp Farewell

• Work Area: WSP → Golder → Golder Canada → Golder Remediation Program Management

Work Agreement: Golder Employees

• Reported By: Peter Tan @ 8/19/2021 12:44:03 AM UTC

Items Identified

Туре	Status	Category	Description	Corrected on Inspection?	Immediate / Recommended Actions
IdentifiedHazard	Open	Fire / Explosion	An emergency shelter exists onsite in the event the barge experienced a catastrophic failure due to a fire. However, the shelter is not equipped with water and food.	No	Place a flat of water and some canned food in the shed for emergency use.
IdentifiedHazard	Closed	Fire / Explosion	Despite all 10 people making it to the muster point, floor fire-captains were not assigned.	Yes	Assigned floor captains
PositiveObservation	Closed	Fire / Explosion	A surprise fire drill was initiated and a crew of 10 were at the muster point in just under 2 minutes. Site supervisor had a satellite phone and tailgate in hand to do a headcount.	Not Applicable	Not Applicable

General Remarks

Fire Drill to assess readiness and time it takes to get crew aboard a 2 story barge-camp off the barge and to the designated muster point on the beach.



golder.com