# KBL Environmental Ltd. Soil Treatment Facility Inuvik, Northwest Territories



### **2022 Annual Report**

Submitted To: Gwich'in Land and Water Board License Number: G22L1-005 Version Number: V.1.0

March 2023

### **TABLE OF CONTENTS**

1.0	Introduction1
1.1	L. Project Information1
1.2	2. Purpose1
2.0	Licence Schedule 1 – Annual Water Licence Report1
2.1 Inu	1. a) The generator, carrier, volume, and analytical results of soil, snow and water accepted at the uvik Soil Treatment Facility
2.2 Inu	2. 1. b) The generator, carrier, volume, and analytical results of soil, snow and water refused at the uvik Soil Treatment Facility2
2.3 Tre	3. 1. c) The volume, analytical results, carrier, and destination of treated soil removed at the Inuvik Soil eatment Facility2
2.4 Re	1. d) The monthly and annual quantities in cubic meters of all effluent discharged from the Water tention Pond and Water Holding Tanks2
2.5 Po	5. 1. e) The water level and remaining capacity of each of the Water Holding Tanks and Water Retention
2.6	5. 1. f) A description and volume or quantity of process additives used, with MSDS provided2
2.7 dis	7. 1. g) Discharge location(s) and effluent quality test results (raw and summarized data) for each scharge event from the Water Retention Pond and Treated Water Tanks2
2.8 acc	3. 1. h) Tabular summaries of all data generated under the Surveillance Network Program (SNP) in cordance with Part 2, Item 3, and Annex A of this Licence
2.9 and	9. 1. i) Details and results of the Environmental Monitoring Program, in accordance with Part E, Item 6, d Schedule 2 of this Licence
2.1 an	1. j) Laboratory reports for all samples collected for the Surveillance Network Program, attached as appendix
2.1	1. k) For parameters that exhibit on-going exceedances of compliance criteria, provide:3
2.1	1. I) A summary of Construction activities conducted in accordance with Part F of this Licence3
2.1	1. m) A summary of major maintenance activities carried out during previous calender year3
2.1	1. n) A copy of facility inspection reports referred to in Part F, condition 7 of this Licence
an	1. o) A list and description of all Unauthorized Discharges that occurred during the previous endar year, including the date, MWT spill number, volume, location, and summary of the circumstances d follow-up actions taken, and the status (i.e. open or closed), in accordance with the reporting quirements referred to in Part H of this Licence
2.1	
2.1	

2.18. Reclama	1. r) A summary of any studies requested by the Board that relate to Waste disposal or tion, and a brief description of any future studies planned	4
2.19. reports f	1. s) A summary of actions taken to address concerns, nonconformances, or deficiencies in any illed by an Inspector	4
2.20. Plan, Ope Plan	1. t) A summary of any updates or revisions to the Spill Contingency Plan, Waste Management erations & Maintenance Plan, Environmental Monitoring Program, and Closure and Reclamation 4	
2.21. engagem	1. u) A summary of any updates or revisions to the Engagement Plan, including records of any nent carried out during the previous year	4
2.22. or other	1. v) Any other details on waste disposal, operating procedures, construction, maintenance work, topics, requested by the Board on or before November 1 of the year being reported	

### **LIST OF TABLES**

Table 2.1: Amount of soil accepted in 2022

Table 2.2: Amount of water accepted in 2022

### **APPENDICES**

Appendix A: Accepted Soil and Water

Appendix B: Outgoing Soil and Water

Appendix C: SDS for Amendments

Appendix D: Facility inspections and summary of Corrective Actions

Appendix E: Engagement Activities

#### 1.0 INTRODUCTION

#### 1.1. Project Information

<u>Corporate Office</u> <u>Project Location</u>

KBL Environmental Ltd. Town of Inuvik Solid Waste Disposal Facility

17 Cameron Road, Box 1895 Lot 65, Group 1355, CLSR 611339

Yellowknife, NT X1A 2P4 Inuvik, NT

KBL Environmental Ltd.'s (KBL) Inuvik Soil Treatment Facility (the Facility) received renewed Water Licence G22L1-005 on November 23, 2022. The Licence was approved for a term of five (5) years effective November 18, 2022, and expiring November 17, 2027.

#### 1.2. Purpose

This document fulfills the annual reporting requirements under Part B (6) and Schedule 1 of Water Licence G22L1-005.

#### 2.0 LICENCE SCHEDULE 1 – ANNUAL WATER LICENCE REPORT

# 2.1. 1. a) The generator, carrier, volume, and analytical results of soil, snow and water accepted at the Inuvik Soil Treatment Facility

7077 tonnes of soil, 475 m<sup>3</sup> of water and no snow was accepted at the facility in 2022. Analytical results are shown in Appendix A.

Table 2.1: Amount of soil accepted in 2022

Generator	Date	Carrier	Volume (tonnes)
NTPC	March 1 - April 17, 2022	Northwind Industries Ltd.	6,955
NTPC	May 30, 2022	Northwind Industries Ltd.	83
Parks Canada	December 2, 2022	Northwind Industries Ltd.	39

Table 2.2: Amount of water accepted in 2022.

Generator	Date	Carrier	Volume (m³)
NTPC	March 1 - April 17, 2022	Northwind Industries Ltd.	91

NTPC May 6 - 30, 2022 Northwind Industries Ltd. 377	
---	--

# 2.2. 1. b) The generator, carrier, volume, and analytical results of soil, snow and water refused at the Inuvik Soil Treatment Facility

No soil, snow or water was refused at the facility in 2022.

# 2.3. 1. c) The volume, analytical results, carrier, and destination of treated soil removed at the Inuvik Soil Treatment Facility

A total of 6,568 m<sup>3</sup> of soil was remediated to meet soil reuse criteria and was accepted by City of Inuvik in 2022. Copies of the analytical results and inspector correspondence is included in Appendix B.

# 2.4. 1. d) The monthly and annual quantities in cubic meters of all effluent discharged from the Water Retention Pond and Water Holding Tanks

A total of 98 m<sup>3</sup> of treated water was discharged from the facility in 2022.

# 2.5. 1. e) The water level and remaining capacity of each of the Water Holding Tanks and Water Retention Pond

There are two water holding tanks in STF both tanks have approximately  $40 \text{ m}^3$  of water with the capacity of  $60 \text{ m}^3$ . The retention pond has approximately  $100\text{m}^3$  of water, a freeboard of 1.3m with a capacity of  $205 \text{ m}^3$ .

#### 2.6. 1. f) A description and volume or quantity of process additives used, with MSDS provided

In accordance with the approved Operations and Maintenance Plan, a surfactant (24, 5L pails of Iveysol) was used to treat the soil at the site and a coagulant (15L pail of KLARAID CDP131) was used to treat the water. Copies of the MSDS are included in Appendix C.

# 2.7. 1. g) Discharge location(s) and effluent quality test results (raw and summarized data) for each discharge event from the Water Retention Pond and Treated Water Tanks

98m³ of water was discharged to the receiving environment at the drainage ditch (SNP 0037-3). The volume of water discharged did not exceed 50 m³ per discharge event with a rate of no more than 300 L min-1. Copies of the analytical results and inspector correspondence is included in Appendix B.

# 2.8. 1. h) Tabular summaries of all data generated under the Surveillance Network Program (SNP) in accordance with Part 2, Item 3, and Annex A of this Licence

KBL attempted to perform groundwater monitoring on June 26, 2022, July 29, 2022, and August 22, 2022. All monitoring wells were observed to be dry.

# 2.9. 1. i) Details and results of the Environmental Monitoring Program, in accordance with Part E, Item 6, and Schedule 2 of this Licence

Not applicable, there was only baseline monitoring completed in 2021. As part of the facility renewal in 2022, KBL included action levels and update the Environmental Monitoring Program for the facility.

KBL attempted to perform groundwater monitoring on June 26, 2022, July 29, 2022, and August 22, 2022. All monitoring wells were observed to be dry.

# 2.10. 1. j) Laboratory reports for all samples collected for the Surveillance Network Program, attached as an appendix

KBL attempted to perform groundwater monitoring on June 26, 2022, July 29, 2022, and August 22, 2022. All monitoring wells were observed to be dry.

- 2.11. 1. k) For parameters that exhibit on-going exceedances of compliance criteria, provide:
  - i. additional data analysis
  - ii. a comparison to monitoring data from previous years to detect trends or patterns, and
  - iii. a review of field conditions in order to explain results

KBL attempted to perform groundwater monitoring on June 26, 2022 and again on July 29, 2022. All monitoring wells were observed to be dry.

#### 2.12. 1. I) A summary of Construction activities conducted in accordance with Part F of this Licence

No construction work was completed in 2022 other than the installation of the fence around the perimeter of the facility.

2.13. 1. m) A summary of major maintenance activities carried out during previous calender year

No major maintenance work was completed in 2022.

2.14. 1. n) A copy of facility inspection reports referred to in Part F, condition 7 of this Licence

Internal facility inspection reports are included in Appendix D.

2.15. 1. o) A list and description of all Unauthorized Discharges that occurred during the previous calendar year, including the date, MWT spill number, volume, location, and summary of the circumstances and follow-up actions taken, and the status (i.e. open or closed), in accordance with the reporting requirements referred to in Part H of this Licence

There were no Unauthorized Discharges.

2.16. 1. p An outline of any spill training and communications exercises carried out during the previous calendar year

There were no spill training or communications exercises carried out in 2022 other than standard staff

first aid, WHIMIS, spills, and TDG Training.

2.17. 1. q) A summary of any closure and reclamation work completed during the year and an outline of any work anticipated for the next year

No closure or reclamation work was completed during 2022 and none is anticipated in 2023.

2.18. 1. r) A summary of any studies requested by the Board that relate to Waste disposal or Reclamation, and a brief description of any future studies planned

No studies were requested by the Board in 2022 relating to Waste disposal or Reclamation. There are no future studies planned at this time.

2.19. 1. s) A summary of actions taken to address concerns, nonconformances, or deficiencies in any reports filed by an Inspector

A summary of actions taken to address concerns, nonconformances, or deficiencies in any reports filed by the ENR Inspector is included in Appendix D.

2.20. 1. t) A summary of any updates or revisions to the Spill Contingency Plan, Waste Management Plan, Operations & Maintenance Plan, Environmental Monitoring Program, and Closure and Reclamation Plan

The Spill Contingency Plan, Waste Management Plan, Operations & Maintenance Plan, Environmental Monitoring Program, and Closure and Reclamation Plan were updated as part of the permit renewal process in 2022. Updates included the correction to references to step out sampling, updates to KBL contact information, wording to reflect construction of Facility in 2021, soil information to include 2017 sampling results, addition of groundwater sampling results, and addition of recommended action levels for groundwater.

2.21. 1. u) A summary of any updates or revisions to the Engagement Plan, including records of any engagement carried out during the previous year

The Engagement Plan was updated as part of the permit renewal process in 2022. Records of engagement carried out as part of the Plan are included in Appendix E.

2.22. 1. v) Any other details on waste disposal, operating procedures, construction, maintenance work, or other topics, requested by the Board on or before November 1 of the year being reported.

No additional information or details were requested by the Board before November 1st, 2022.

# **APPENDIX A**

Appendix A: Accepted Soil and Water



Pile Number		P5 - Parks Canada Tuk Pingo Site						
Estimated Soil Volume (m <sup>3</sup> )		22						
	+							
Number of Samples Required			1					
Sample ID	Re-Use Criteria (Coarse Grained) (mg/kg) (Water Licence)	1	2	22102NT-STF Acceptance	Average			
Lab ID	(Hatel Etechte)	Taiga Sample ID: 001	Taiga Sample ID: 002	YL2201870-001				
Date		24-Jun-22	24-Jun-22	14-Oct-22				
Particulate size	n/a	-	-	Coarse	Coarse			
pH (CaCl2)	6-8	-	-	7.65	7.65			
Antimony (Sb)	40	-	-	0.38	0.38			
Arsenic (As)	120	-	-	7.44	7.44			
Barium (Ba)	2000	-	-	276.00	276.00			
Beryllium (Be)	8	-	-	0.22	0.22			
Cadmium (Cd)	22	-	-	0.16	0.16			
Total Chromium (Cr)	87	-	-	9.80	9.80			
Cobalt (Co)	300	-	-	4.39	4.39			
Copper (Cu)	91	-	-	8.00	8.00			
Lead (Pb)	600	-	-	6.33	6.33			
Mercury (Hg)	50	-	-	0.02	0.02			
Molybdenum (Mo)	40	-	-	2.1	2.10			
Nickel (Ni)	89	-	-	16.80	16.80			
Selenium (Se)	2.9	-	-	0.37 <0.10	0.37 <0.10			
Silver (Ag) Thallium (Tl)	40	-	-	0.12	0.12			
Tin (Sn)	300	-	-	<2.0	<2.0			
Uranium (U)	300	-		2.64	2.64			
Vanadium (V)	130	-	_	18.9	18.90			
Zinc (Zn)	360	-	-	44.30	44.30			
F1 (C6-C10)	< 3% dry weight	< 5	< 5	-	< 5			
F2 (C10-C16)	< 3% dry weight	< 25	34	-	34			
F3 (C16-C34)	< 3% dry weight	8320	10800	-	9560			
F4 (C34-C50)	< 3% dry weight	300	952	-	626			
Calculated Total PHC	Less than 30,000 PPM	8620	11786	-	10203			

Pile Number		Aklavio	- NTPC	K Plant & EMD - NTPC
Estimated Soil Volume (m <sup>3</sup> )		39	62	
Sample ID	Acceptancve Criteria (Fine Grained) (mg/kg) (Water	Max Concentration	Max Concentration	Max Concentration
Lab ID	Licence)	L2656073	EO2202733- 003	E02201713
Date		24-0ct-21	20-Apr-22	11-Mar-22
Particulate size	n/a	Fine	1	-
pH (CaCl2)	6-8	7.99	1	8.73
Antimony (Sb)	40	0.72	-	1.43
Arsenic (As)	120	15.2	-	49.3
Barium (Ba)	2000	502	-	297
Beryllium (Be)	8	0.51	-	0.69
Cadmium (Cd)	22	0.63	=	0.428
Total Chromium (Cr)	87	17.60	=	37.6
Cobalt (Co)	300	10.1	=	17.3
Copper (Cu)	91	25.9	=	29.1
Lead (Pb)	600	14.2	-	18.4
Mercury (Hg)	50	0.13	=	0.135
Molybdenum (Mo)	40	2.02	-	3.4
Nickel (Ni)	89	32.30	-	53.3
Selenium (Se)	2.9	0.85	-	1.52
Silver (Ag)	40	0.17	-	0.19
Thallium (TI)	1	0.16	-	0.254
Tin (Sn)	300	<2.0	-	<2.0
Uranium (U)	300	0.89	-	1.8
Vanadium (V)	130	42.2	-	68.2
Zinc (Zn)	360	118	-	248
Benzene	-	-	0.838	0.48
Toluene	-	-	1.67	14
Ethylbenzene	-	-	11.9	17.3
Xylenes	- 20/	-	53.6	136
F1 (C6-C10)	3% dry weight	- 1210	1890	3630
F2 (C10-C16)	3% dry weight	1310	13400	47000
F3 (C16-C34)	3% dry weight	5190	13200	7130



KBL Environmental Ltd.

ATTN: David Vanderkley

3601, 75 Avenue Leduc ab T9E 0Z5 Date Received: 26-OCT-21

Report Date: 16-NOV-21 13:03 (MT)

Version: FINAL REV. 2

Client Phone: 780-893-3305

# Certificate of Analysis

Lab Work Order #: L2656073

Project P.O. #:

MM025

Job Reference:

21-051NT

C of C Numbers: Legal Site Desc:

Comments: ADDITIONAL 08-NOV-21 11:31

Oliver Gregg Account Manager

 $[This\ report\ shall\ not\ be\ reproduced\ except\ in\ full\ without\ the\ written\ authority\ of\ the\ Laboratory.]$ 

ADDRESS: 314 Old Airport Road, Unit 116, Yellowknife, NT X1A 3T3 Canada | Phone: +1 867 873 5593 | ALS CANADA LTD Part of the ALS Group An ALS Limited Company

Environmental 🦄

www.alsglobal.com

L2656073 CONTD....
PAGE 2 of 8
Version: FINAL REV.

Sample Details/Parameters	Result	Qualifier* D	).L.	Units	Extracted	Analyzed	Batch
L2656073-1 21BH01							
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	0.101	0.0	0050	mg/kg	04-NOV-21	04-NOV-21	R5636119
Metals in Soil by CRC ICPMS							
Antimony (Sb)	0.64	0	).10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Arsenic (As)	12.8	0	).10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Barium (Ba)	381	0	).50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Beryllium (Be)	0.43		).10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cadmium (Cd)	0.610	0.	.020	mg/kg	04-NOV-21	04-NOV-21	R5636172
Chromium (Cr)	15.0		).50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cobalt (Co)	8.55		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Copper (Cu)	25.0		).50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Lead (Pb)	11.4		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Molybdenum (Mo)	1.54		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Nickel (Ni) Selenium (Se)	26.9		0.50	mg/kg	04-NOV-21	04-NOV-21 04-NOV-21	R5636172
Silver (Ag)	0.78 0.15		).20 ).10	mg/kg	04-NOV-21 04-NOV-21	04-NOV-21 04-NOV-21	R5636172 R5636172
Thallium (TI)	0.15		.050	mg/kg mg/kg	04-NOV-21	04-NOV-21	R5636172 R5636172
Tin (Sn)	<2.0		2.0	mg/kg	04-NOV-21	04-NOV-21	R5636172
Uranium (U)	0.709		.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Vanadium (V)	35.2	-	0.20	mg/kg	04-NOV-21	04-NOV-21	R5636172
Zinc (Zn)	111		2.0	mg/kg	04-NOV-21	04-NOV-21	R5636172
Miscellaneous Parameters		_		99			110000112
% Moisture	18.1	0	0.25	%		29-OCT-21	R5633079
pH (1:2 soil:water)	7.72		0.10	рН		04-NOV-21	R5636189
CCME Total Extractable Hydrocarbons	2		,,,,,	μ			110000100
Surrogate: 2-Bromobenzotrifluoride	90.4	70	)-130	%	31-OCT-21	31-OCT-21	R5633421
Chrom. to baseline at nC50	YES				31-OCT-21	31-OCT-21	R5633421
Prep/Analysis Dates					31-OCT-21	31-OCT-21	R5633421
CCME Total Hydrocarbons							
F2 (C10-C16)	1310		20	mg/kg		31-OCT-21	
F3 (C16-C34)	5190		20	mg/kg		31-OCT-21	
F4 (C34-C50)	335		20	mg/kg		31-OCT-21	
L2656073-2 21BH02							
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	0.132	0.0	0050	mg/kg	04-NOV-21	04-NOV-21	R5636119
Metals in Soil by CRC ICPMS	0.00		. 40	ma += /1	04 NOV 04	04 NOV 04	DE000470
Antimony (Sb)	0.62		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Arsenic (As) Barium (Ba)	12.9	l I	0.10	mg/kg	04-NOV-21 04-NOV-21	04-NOV-21	R5636172
Beryllium (Be)	414 0.46	l I	).50 ).10	mg/kg mg/kg	04-NOV-21 04-NOV-21	04-NOV-21 04-NOV-21	R5636172 R5636172
Cadmium (Cd)	0.46	l I	.020	mg/kg	04-NOV-21	04-NOV-21	R5636172
Chromium (Cr)	15.8	l I	0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cobalt (Co)	8.92	l I	).10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Copper (Cu)	22.3	l I	).50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Lead (Pb)	12.2	l I	).50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Molybdenum (Mo)	1.61	l I	0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Nickel (Ni)	28.1	l I	0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Selenium (Se)	0.80		0.20	mg/kg	04-NOV-21	04-NOV-21	R5636172
(/				ਰ∵ ਰ			

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2656073 CONTD....
PAGE 3 of 8
Version: FINAL REV.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2656073-2 21BH02							
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
Metals in Soil by CRC ICPMS Silver (Ag)	0.15		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Thallium (TI)	0.140		0.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Tin (Sn)	<2.0		2.0	mg/kg	04-NOV-21	04-NOV-21	R5636172
Uranium (U)	0.750		0.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Vanadium (V)	37.2		0.20	mg/kg	04-NOV-21	04-NOV-21	R5636172
Zinc (Zn)	103		2.0	mg/kg	04-NOV-21	04-NOV-21	R5636172
Miscellaneous Parameters			-	0 0			
% Moisture	17.8		0.25	%		29-OCT-21	R5633079
pH (1:2 soil:water)	7.94		0.10	pН		04-NOV-21	R5636189
CCME Total Extractable Hydrocarbons	7.04		0.10	Pii		01110121	110000100
Surrogate: 2-Bromobenzotrifluoride	91.7		70-130	%	31-OCT-21	31-OCT-21	R5633421
Chrom, to baseline at nC50	YES				31-OCT-21	31-OCT-21	R5633421
Prep/Analysis Dates					31-OCT-21	31-OCT-21	R5633421
CCME Total Hydrocarbons							
F2 (C10-C16)	975		20	mg/kg		31-OCT-21	
F3 (C16-C34)	4870		20	mg/kg		31-OCT-21	
F4 (C34-C50)	312		20	mg/kg		31-OCT-21	
L2656073-3 21BH03							
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	0.102		0.0050	mg/kg	04-NOV-21	04-NOV-21	R5636119
Metals in Soil by CRC ICPMS	0.102		0.0030	mg/kg	04110121	04110121	13030119
Antimony (Sb)	0.62		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Arsenic (As)	13.8		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Barium (Ba)	421		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Beryllium (Be)	0.45		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cadmium (Cd)	0.488		0.020	mg/kg	04-NOV-21	04-NOV-21	R5636172
Chromium (Cr)	14.2		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cobalt (Co)	8.57		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Copper (Cu)	20.6		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Lead (Pb)	11.5		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Molybdenum (Mo)	2.02		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Nickel (Ni)	27.0		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Selenium (Se)	0.76		0.20	mg/kg	04-NOV-21	04-NOV-21	R5636172
Silver (Ag)	0.14		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Thallium (TI)	0.136		0.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Tin (Sn)	<2.0		2.0	mg/kg	04-NOV-21	04-NOV-21	R5636172
Uranium (U)	0.725		0.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Vanadium (V)	36.5		0.20	mg/kg	04-NOV-21	04-NOV-21	R5636172
Zinc (Zn)	97.2		2.0	mg/kg	04-NOV-21	04-NOV-21	R5636172
Miscellaneous Parameters							
% Moisture	17.7		0.25	%		29-OCT-21	R5633079
pH (1:2 soil:water)	7.96		0.10	рН		04-NOV-21	R5636189
CCME Total Extractable Hydrocarbons			2	F: '			
Surrogate: 2-Bromobenzotrifluoride	90.0		70-130	%	31-OCT-21	31-OCT-21	R5633421
Chrom. to baseline at nC50	YES				31-OCT-21	31-OCT-21	R5633421
Prep/Analysis Dates					31-OCT-21	31-OCT-21	R5633421
CCME Total Hydrocarbons							
F2 (C10-C16)	1000		20	mg/kg		31-OCT-21	

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2656073 CONTD....
PAGE 4 of 8
Version: FINAL REV.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2656073-3 21BH03							
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
CCME Total Hydrocarbons							
F3 (C16-C34)	4810		20	mg/kg		31-OCT-21	
F4 (C34-C50)	382		20	mg/kg		31-OCT-21	
L2656073-4 21BH04			-	0 0			
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	0.110		0.0050	mg/kg	04-NOV-21	04-NOV-21	R5636119
Metals in Soil by CRC ICPMS				3 3			
Antimony (Sb)	0.67		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Arsenic (As)	14.4		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Barium (Ba)	494		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Beryllium (Be)	0.50		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cadmium (Cd)	0.596		0.020	mg/kg	04-NOV-21	04-NOV-21	R5636172
Chromium (Cr)	17.6		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cobalt (Co)	9.91		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Copper (Cu)	24.5		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Lead (Pb)	13.7		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Molybdenum (Mo)	1.71		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Nickel (Ni)	31.7		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Selenium (Se)	0.85		0.20	mg/kg	04-NOV-21	04-NOV-21	R5636172
Silver (Ag)	0.17		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Thallium (TI)	0.159		0.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Tin (Sn)	<2.0		2.0	mg/kg	04-NOV-21	04-NOV-21	R5636172
Uranium (U)	0.886		0.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Vanadium (V) Zinc (Zn)	40.9		0.20	mg/kg	04-NOV-21	04-NOV-21	R5636172
Miscellaneous Parameters	114		2.0	mg/kg	04-NOV-21	04-NOV-21	R5636172
% Moisture	10.0		0.05	%		29-OCT-21	DE622070
	19.8		0.25				R5633079
pH (1:2 soil:water)	7.94		0.10	рН		04-NOV-21	R5636189
CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride	93.1		70-130	%	31-OCT-21	31-OCT-21	R5633421
Chrom. to baseline at nC50	YES		70-130	/0	31-OCT-21	31-OCT-21	R5633421
Prep/Analysis Dates	ILS				31-OCT-21	31-OCT-21	R5633421
CCME Total Hydrocarbons					0.001-21	3. 331-21	7.0000721
F2 (C10-C16)	1270		20	mg/kg		31-OCT-21	
F3 (C16-C34)	4120		20	mg/kg		31-OCT-21	
F4 (C34-C50)	231		20	mg/kg		31-OCT-21	
L2656073-5 21BH05							
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS							
Mercury (Hg)	0.0959		0.0050	mg/kg	04-NOV-21	04-NOV-21	R5636119
Metals in Soil by CRC ICPMS							
Antimony (Sb)	0.62		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Arsenic (As)	13.1		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Barium (Ba)	427		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Beryllium (Be)	0.46		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cadmium (Cd)	0.502		0.020	mg/kg	04-NOV-21	04-NOV-21	R5636172
Chromium (Cr)	15.7		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2656073 CONTD....
PAGE 5 of 8
Version: FINAL REV.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2656073-5 21BH05							
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
Metals in Soil by CRC ICPMS							
Cobalt (Co)	8.68		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Copper (Cu)	22.6		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Lead (Pb)	12.2		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Molybdenum (Mo)	1.61		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Nickel (Ni)	28.0		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Selenium (Se)	0.84		0.20	mg/kg	04-NOV-21	04-NOV-21	R5636172
Silver (Ag)	0.15		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Thallium (TI)	0.143		0.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Tin (Sn)	<2.0		2.0	mg/kg	04-NOV-21	04-NOV-21	R5636172
Uranium (U)	0.783		0.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Vanadium (V) Zinc (Zn)	36.2		0.20	mg/kg	04-NOV-21 04-NOV-21	04-NOV-21 04-NOV-21	R5636172
Miscellaneous Parameters	99.8		2.0	mg/kg	U4-INUV-Z I	04-INOV-21	R5636172
% Moisture	20.9		0.25	%		29-OCT-21	R5633079
pH (1:2 soil:water)	7.99		0.25	pH		04-NOV-21	R5636189
CCME Total Extractable Hydrocarbons	7.55		0.10	ρι 1		07 NOV-21	170000109
Surrogate: 2-Bromobenzotrifluoride	90.1		70-130	%	31-OCT-21	31-OCT-21	R5633421
Chrom. to baseline at nC50	YES				31-OCT-21	31-OCT-21	R5633421
Prep/Analysis Dates					31-OCT-21	31-OCT-21	R5633421
CCME Total Hydrocarbons							
F2 (C10-C16)	768		20	mg/kg		31-OCT-21	
F3 (C16-C34)	3390		20	mg/kg		31-OCT-21	
F4 (C34-C50)	244		20	mg/kg		31-OCT-21	
L2656073-6 21BH06							
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
Metals in Soil by ICPMS (CCME)							
Mercury in Soil by CVAAS				_			
Mercury (Hg)	0.110		0.0050	mg/kg	04-NOV-21	04-NOV-21	R5636119
Metals in Soil by CRC ICPMS	0.70		0.40		04 NOV 24	04 NOV 24	DE000470
Antimony (Sb) Arsenic (As)	0.72 15.2		0.10 0.10	mg/kg mg/kg	04-NOV-21 04-NOV-21	04-NOV-21 04-NOV-21	R5636172 R5636172
Barium (Ba)	502		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Beryllium (Be)	0.51		0.30	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cadmium (Cd)	0.627		0.020	mg/kg	04-NOV-21	04-NOV-21	R5636172
Chromium (Cr)	17.5		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Cobalt (Co)	10.1		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Copper (Cu)	25.9		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Lead (Pb)	14.2		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Molybdenum (Mo)	1.90		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Nickel (Ni)	32.3		0.50	mg/kg	04-NOV-21	04-NOV-21	R5636172
Selenium (Se)	0.93		0.20	mg/kg	04-NOV-21	04-NOV-21	R5636172
Silver (Ag)	0.17		0.10	mg/kg	04-NOV-21	04-NOV-21	R5636172
Thallium (TI)	0.164		0.050	mg/kg	04-NOV-21	04-NOV-21	R5636172
Tin (Sn) Uranium (U)	<2.0		2.0	mg/kg	04-NOV-21 04-NOV-21	04-NOV-21 04-NOV-21	R5636172
Vanadium (V)	0.845 42.2		0.050 0.20	mg/kg mg/kg	04-NOV-21 04-NOV-21	04-NOV-21 04-NOV-21	R5636172 R5636172
Zinc (Zn)	118		2.0	mg/kg	04-NOV-21 04-NOV-21	04-NOV-21 04-NOV-21	R5636172
Miscellaneous Parameters	110		۷.0	mg/kg	07-140 V-Z1	07 NOV-21	13030172
% Moisture	20.7		0.25	%		29-OCT-21	R5633079
pH (1:2 soil:water)	7.93		0.23	pН		04-NOV-21	R5636189
pri (1.2 3011. wator)	1.33		0.10	Pii		UT 110 V-21	170000108

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2656073 CONTD....
PAGE 6 of 8
Version: FINAL REV.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2656073-6 21BH06 Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	86.6		70-130	%	31-OCT-21	31-OCT-21	R5633421
Chrom. to baseline at nC50 Prep/Analysis Dates	YES				31-OCT-21 31-OCT-21	31-OCT-21 31-OCT-21	R5633421 R5633421
CCME Total Hydrocarbons					01 001 21	01 001 21	113033421
F2 (C10-C16)	1170		20	mg/kg		31-OCT-21	
F3 (C16-C34) F4 (C34-C50)	4180 357		20 20	mg/kg mg/kg		31-OCT-21 31-OCT-21	
L2656073-7 COMPOSITE	337		20	mg/kg		31-001-21	
Sampled By: CLIENT on 24-OCT-21							
Matrix: SOIL							
% Particles > 75um (Coarse/Fine) % >75um	35.1		1.0	%		12-NOV-21	R5646121
General Texture Class	Fine		1.0	/0		12-NOV-21	R5646121

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

PAGE 7 of 8 Version: FINAL REV

#### **Test Method References:**

ALS Test Code	Matrix	Test Description	Method Reference**
ETL-TVH,TEH-CCME-ED	Soil	CCME Total Hydrocarbons	CCME CWS-PHC, Pub #1310, Dec 2001

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

In samples where BTEX and F1 were analyzed, F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:

- 1. All extraction and analysis holding times were met.
- 2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
- 3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:

- 1. All extraction and analysis holding times were met.
- 2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
- 3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
- 4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F2-4-TMB-ED Soil CCME Total Extractable Hydrocarbons CCME Tier 1

This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment" For C10 to C50 hydrocarbons (F2, F3, F4) and gravimetric heavy hydrocarbons (F4G-sg), a subsample of the sediment/soil is extracted with 1:1 hexane:acetone using a rotary extractor. The extract undergoes a silica-gel clean-up to remove polar compounds. F2, F3 & F4 are analyzed by on-column GC/FID, and F4G-sg is analyzed gravimetrically.

#### Notes

- 1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
- 2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
- 3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.
- 4. F4G: Gravimetric Heavy Hydrocarbons
- 5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
- 6. Where F4 (C34-C50) and F4G-sg results are reported for a sample, the larger of the reported values is used for comparison against the relevant CCME standard for F4.
- 7. The gravimetric heavy hydrocarbon results (F4G-sg), cannot be added to the C6 to C50 hydrocarbon results.
- 8. This method is validated for use.
- 9. Data from analysis of quality control samples is available upon request.
- 10. Reported results are expressed as milligrams per dry kilogram.

HG-200.2-CVAA-ED Soil Mercury in Soil by CVAAS EPA 200.2/1631E (Mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAAS.

MET-200.2-CCMS-ED Soil Metals in Soil by CRC ICPMS EPA 200.2/6020A (mod)

Soil/sediment is dried, disaggregated, and sieved (2 mm). Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.

Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H2S) may be excluded if lost during sampling, storage, or digestion.

PH-1:2-ED Soil pH 1:2 H2O Extract CSSS 16.2 - PH OF 1:2 WATER EXTRACT

Soil and de-ionized water (by volume) are mixed in a defined ratio. The slurry is allowed to stand, shaken, and then allowed to stand again prior to taking measurements. After equilibration, the pH of the liquid portion of the extract is measured by a pH meter. Field Measurement is recommended where accurate pH measurements are required, due to the 15 minute recommended hold time.

PREP-MOISTURE-ED Soil % Moisture CCME PHC in Soil - Tier 1 (mod)

The weighed portion of soil is placed in a 105°C oven to dry to a constant weight; the drying time will vary based on the moisture content of the soil. The dried soil weight is then used to calculate % moisture.

PSA-75UM-SIEVE-ED Soil % Particles > 75um (Coarse/Fine) ASTM D422-63-SIEVE

An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (Calgon solution). The sample is washed through a 200 mesh (75

21-051NT L2656073 CONTD....

#### **Reference Information**

PAGE 8 of 8 Version: FINAL REV

#### **Test Method References:**

ALS Test Code Matrix Test Description Method Reference\*\*

 $\mu m)$  sieve. The retained weight of sample is used to determine % sand fraction.

Reference: ASTM D422-63

\*\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

 Laboratory Definition Code
 Laboratory Location

 ED
 ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA

#### **Chain of Custody Numbers:**

#### **GLOSSARY OF REPORT TERMS**

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Workorder: L2656073 Report Date: 16-NOV-21 Page 1 of 5

Client: KBL Environmental Ltd.

3601, 75 Avenue

Leduc ab T9E 0Z5

Contact: David Vanderkley

Test	Matr	rix Reference	Result Qualifier	Units	RPD	Limit	Analyzed
F2-4-TMB-ED	Soil						
Batch R5	633421						
<b>WG3648797-4</b> F2 (C10-C16)	DUP	<b>L2656073-1</b> 1310	1370	mg/kg	4.7	40	31-OCT-21
F3 (C16-C34)		5190	4990	mg/kg	4.0	40	31-OCT-21
F4 (C34-C50)		335	289	mg/kg	15	40	31-OCT-21
<b>WG3648797-3</b> F2 (C10-C16)	IRM	ALS PHC RM	<b>3</b> 90.5	%		70-130	31-OCT-21
F3 (C16-C34)			90.8	%		70-130	31-OCT-21
F4 (C34-C50)			86.5	%		70-130	31-OCT-21
<b>WG3648797-2</b> F2 (C10-C16)	LCS	DIESEL/MOTO	OR OIL 108.0	%		70-130	31-OCT-21
F3 (C16-C34)			102.5	%		70-130	31-OCT-21
F4 (C34-C50)			102.9	%		70-130	31-OCT-21
<b>WG3648797-1</b> F2 (C10-C16)	МВ		<20	mg/kg		20	31-OCT-21
F3 (C16-C34)			<20	mg/kg		20	31-OCT-21
F4 (C34-C50)			<20	mg/kg		20	31-OCT-21
Surrogate: 2-Br	omobenzotriflu	oride	93.9	%		70-130	31-OCT-21
HG-200.2-CVAA-EI	D Soil						
Batch R5	636119						
<b>WG3652321-3</b> Mercury (Hg)	CRM	SCP_SS-2_S0	98.6	%		70-130	04-NOV-21
<b>WG3652321-4</b> Mercury (Hg)	DUP	<b>L2656073-1</b> 0.101	0.0954	mg/kg	6.1	40	04-NOV-21
<b>WG3652321-2</b> Mercury (Hg)	LCS		89.0	%		80-120	04-NOV-21
<b>WG3652321-1</b> Mercury (Hg)	МВ		<0.0050	mg/kg		0.005	04-NOV-21
MET-200.2-CCMS-	ED Soil						
Batch R5	636172						
<b>WG3652321-3</b> Antimony (Sb)	CRM	SCP_SS-2_S	98.2	%		70-130	04-NOV-21
Arsenic (As)			94.6	%		70-130	04-NOV-21
Barium (Ba)			96.7	%		70-130	04-NOV-21
Beryllium (Be)			92.8	%		70-130	04-NOV-21
Cadmium (Cd)			90.6	%		70-130	04-NOV-21
Chromium (Cr)			91.3	%		70-130	04-NOV-21



Workorder: L2656073 Report Date: 16-NOV-21 Page 2 of 5

est		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-I	ED	Soil							
Batch R5	636172								
WG3652321-3	CRM		SCP_SS-2_S						
Copper (Cu)				98.0		%		70-130	04-NOV-21
Lead (Pb)				92.4		%		70-130	04-NOV-21
Molybdenum (M	lo)			93.2		%		70-130	04-NOV-21
Nickel (Ni)				97.8		%		70-130	04-NOV-21
Selenium (Se)				0.18		mg/kg		0-0.34	04-NOV-21
Silver (Ag)				133.9	MES	%		70-130	04-NOV-21
Thallium (TI)				0.080		mg/kg		0.029-0.129	04-NOV-21
Tin (Sn)				92.0		%		70-130	04-NOV-21
Uranium (U)				86.6		%		70-130	04-NOV-21
Vanadium (V)				94.7		%		70-130	04-NOV-21
Zinc (Zn)				89.2		%		70-130	04-NOV-21
WG3652321-4	DUP		L2656073-1						
Antimony (Sb)			0.64	0.59		mg/kg	7.9	30	04-NOV-21
Arsenic (As)			12.8	12.3		mg/kg	3.6	30	04-NOV-21
Barium (Ba)			381	361		mg/kg	5.5	40	04-NOV-21
Beryllium (Be)			0.43	0.40		mg/kg	7.0	30	04-NOV-21
Cadmium (Cd)			0.610	0.475		mg/kg	25	30	04-NOV-21
Chromium (Cr)			15.0	14.0		mg/kg	6.9	30	04-NOV-21
Cobalt (Co)			8.55	8.44		mg/kg	1.2	30	04-NOV-21
Copper (Cu)			25.0	25.5		mg/kg	1.9	30	04-NOV-21
Lead (Pb)			11.4	11.8		mg/kg	3.3	40	04-NOV-21
Molybdenum (M	lo)		1.54	1.54		mg/kg	0.1	40	04-NOV-21
Nickel (Ni)			26.9	27.0		mg/kg	0.2	30	04-NOV-21
Selenium (Se)			0.78	0.70		mg/kg	10	30	04-NOV-21
Silver (Ag)			0.15	0.14		mg/kg	3.4	40	04-NOV-21
Thallium (TI)			0.135	0.135		mg/kg	0.3	30	04-NOV-21
Tin (Sn)			<2.0	<2.0	RPD-NA	mg/kg	N/A	40	04-NOV-21
Uranium (U)			0.709	0.798		mg/kg	12	30	04-NOV-21
Vanadium (V)			35.2	33.4		mg/kg	5.4	30	04-NOV-21
Zinc (Zn)			111	112		mg/kg	0.7	30	04-NOV-21
WG3652321-2 Antimony (Sb)	LCS			98.2		%		80-120	04-NOV-21
Arsenic (As)				102.3		%		80-120	04-NOV-21
Barium (Ba)				100.4		%		80-120	04-NOV-21
Beryllium (Be)				97.9		%		80-120	04-NOV-21



Workorder: L2656073 Report Date: 16-NOV-21 Page 3 of 5

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	Soil							
Batch R5636172								
WG3652321-2 LCS			404.4		0/			
Cadmium (Cd)			101.4		%		80-120	04-NOV-21
Chromium (Cr)			97.3		%		80-120	04-NOV-21
Cobalt (Co)			100.7		%		80-120	04-NOV-21
Copper (Cu)			100.6		%		80-120	04-NOV-21
Lead (Pb)			93.5		%		80-120	04-NOV-21
Molybdenum (Mo)			97.8		%		80-120	04-NOV-21
Nickel (Ni)			99.4		%		80-120	04-NOV-21
Selenium (Se)			102.5		%		80-120	04-NOV-21
Silver (Ag)			98.4		%		80-120	04-NOV-21
Thallium (TI)			91.3		%		80-120	04-NOV-21
Tin (Sn)			96.4		%		80-120	04-NOV-21
Uranium (U)			93.9		%		80-120	04-NOV-21
Vanadium (V)			100.4		%		80-120	04-NOV-21
Zinc (Zn)			92.6		%		80-120	04-NOV-21
WG3652321-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	04-NOV-21
Arsenic (As)			<0.10		mg/kg		0.1	04-NOV-21
Barium (Ba)			<0.50		mg/kg		0.5	04-NOV-21
Beryllium (Be)			<0.10		mg/kg		0.1	04-NOV-21
Cadmium (Cd)			<0.020		mg/kg		0.02	04-NOV-21
Chromium (Cr)			<0.50		mg/kg		0.5	04-NOV-21
Cobalt (Co)			<0.10		mg/kg		0.1	04-NOV-21
Copper (Cu)			< 0.50		mg/kg		0.5	04-NOV-21
Lead (Pb)			< 0.50		mg/kg		0.5	04-NOV-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	04-NOV-21
Nickel (Ni)			<0.50		mg/kg		0.5	04-NOV-21
Selenium (Se)			<0.20		mg/kg		0.2	04-NOV-21
Silver (Ag)			<0.10		mg/kg		0.1	04-NOV-21
Thallium (TI)			< 0.050		mg/kg		0.05	04-NOV-21
Tin (Sn)			<2.0		mg/kg		2	04-NOV-21
Uranium (U)			<0.050		mg/kg		0.05	04-NOV-21
Vanadium (V)			<0.20		mg/kg		0.2	04-NOV-21
Zinc (Zn)			<2.0		mg/kg		2	04-NOV-21
PH-1:2-ED	Soil							



% >75um

### **Quality Control Report**

Workorder: L2656073 Report Date: 16-NOV-21

Page 4 of 5 Reference Test Matrix Result Qualifier Units **RPD** Limit Analyzed PH-1:2-ED Soil **Batch** R5636189 WG3652602-2 DUP L2656073-3 7.94 pH (1:2 soil:water) 7.96 J рΗ 0.02 0.3 04-NOV-21 WG3652602-1 **ALS SAL 2019** pH (1:2 soil:water) 7.79 рΗ 7.55-8.15 04-NOV-21 WG3652602-3 LCS PH-6 pH (1:2 soil:water) 6.01 рΗ 5.8-6.2 04-NOV-21 PREP-MOISTURE-ED Soil Batch R5633079 WG3648801-3 DUP L2656073-1 % % Moisture 18.1 18.5 20 29-OCT-21 1.7 WG3648801-2 LCS % Moisture 101.8 % 90-110 29-OCT-21 WG3648801-1 % Moisture < 0.25 % 0.25 29-OCT-21 PSA-75UM-SIEVE-ED Soil **Batch** R5646121 WG3657382-2 IRM **ALS SAL 2019** 34.6 % % >75um 29.1-39.1 12-NOV-21 WG3657382-1 MB

%

1

12-NOV-21

<1.0

Workorder: L2656073 Report Date: 16-NOV-21 Page 5 of 5

#### Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

#### **Sample Parameter Qualifier Definitions:**

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

#### **Hold Time Exceedances:**

All test results reported with this submission were conducted within ALS recommended hold times.

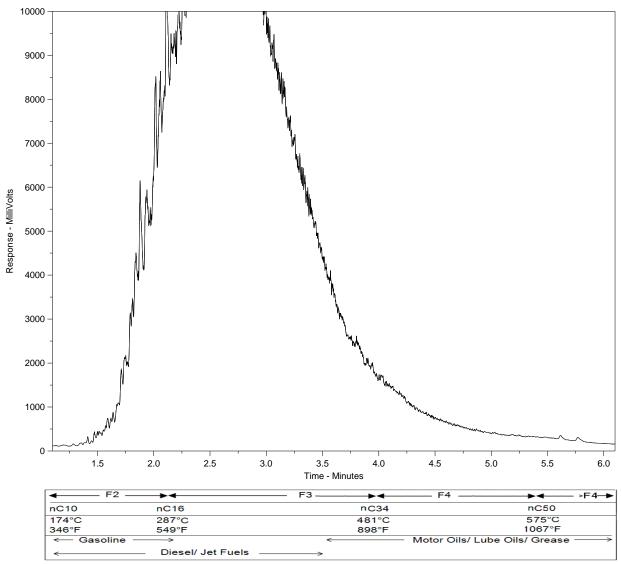
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ALS Sample ID: L2656073-1 Client ID: 21BH01



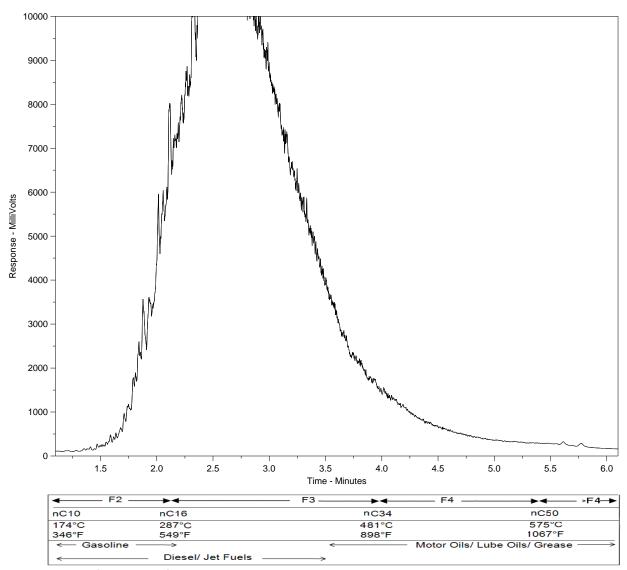
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2656073-2 Client ID: 21BH02



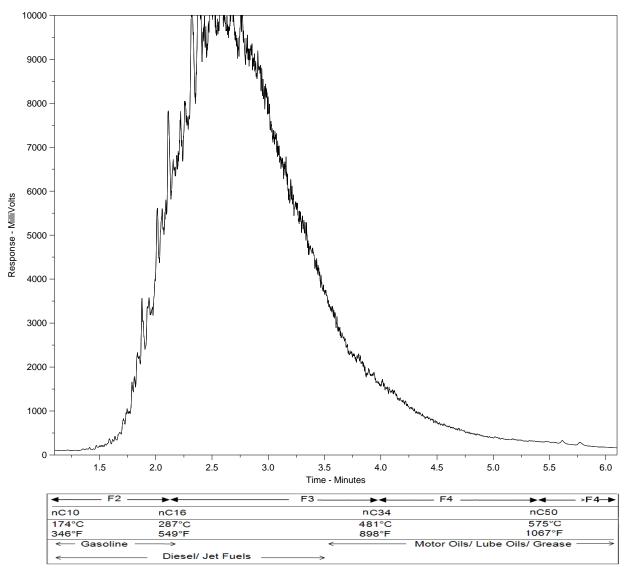
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2656073-3 Client ID: 21BH03



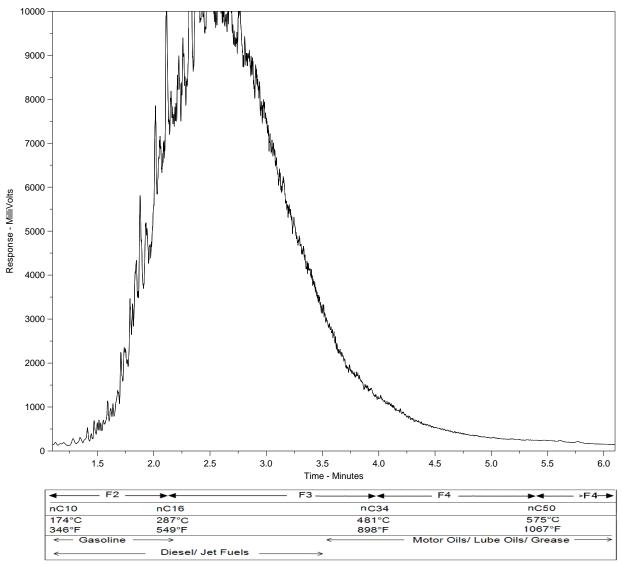
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2656073-4 Client ID: 21BH04



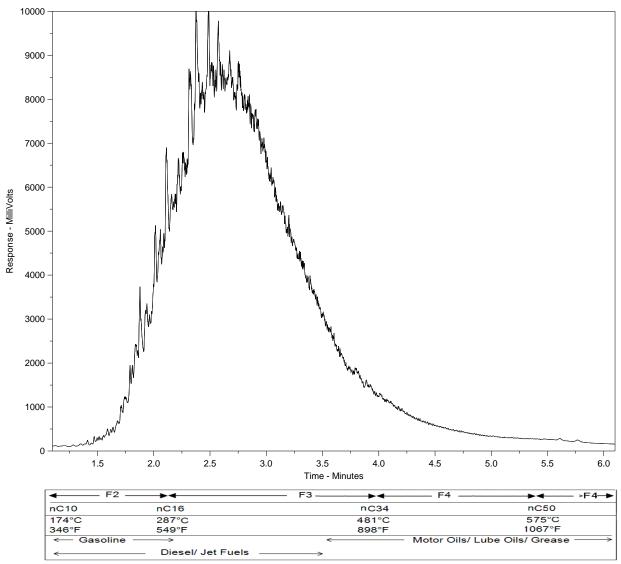
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2656073-5 Client ID: 21BH05



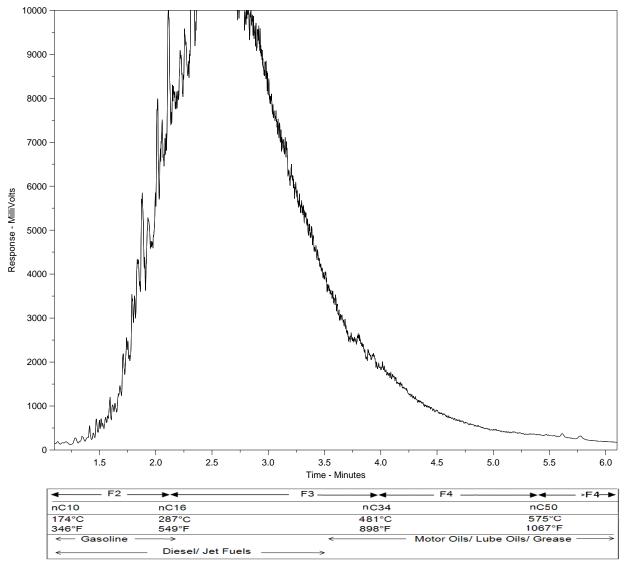
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2656073-6 Client ID: 21BH06



The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



w alsglobal com

Canada Toll Free: 1 800 668 9878

age of

Report To	Contact and company name below will appear on the final report	on the final report		Reports / Recipients	Recipients			П	Turna	iround	Time	(TAT)	Turnaround Time (TAT) Requested	ted	П	Ц	8			- 1	
Contact	David Vanderkley		Select Report Format	rmat 🖸 PDF	□ EXCEL □ EDC	~	Rout	tine [R]	f receive	4 by 30	on M-F	- no s	Routine [R] if received by 3pm M-F - no surcharges apply  4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum	s apply	niminir	_		}		1	
Phone:			Compare Results	Compare Results to Criteria on Report - provide details below if box checked	- provide details below	v if box checked	] 3 da	y [P3]	LECEN	5 V4 P	om M-F	- 25%	3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum	charge	minimu	3	(ALS use only)	(ALS use only)		only)	only)
	Company address below will appear on the final report	port	Select Distribution:	n: EMAIL	MAIL F	FAX		y [P2]	f received	5 by 3p	n M-F	100%	2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum  1 day [E] if received by 3pm M-F - 100% rush surcharge minimum	rcharge rcharge	minimu	3 3					
Street	3909 68Ave		Email 1 or Fax	Email 1 or Fax dvanderkley@kblenv.com	nv.com		□ Sam	e day [I	2] f re	ceived I	by 10an	1 M-S -	Same day [E2] If received by 10am M-S - 200% rush surcharge.	ush sur	charge.						
City/Province:	Leduc, AB		Email 2	mmatkin@kblenv.com	com			Ado	stional f	ees ma	y apply	to rush	request	on we	ekends,	statutor	Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests	on-rout		ne test	ne tests.
Postal Code:	T9E0Z4			(			Da	te and	Time Ra	quired	for all	Date and Time Required for all E&P TATs:	Ts:	٦			A 16	T.	4 - P		
Invoice To	Same as Report To	NO		Invoice Recipients	ecipients					or all to	sts with	rush TA	Ts reque	sted, pl	ease cor	tact you	For all tests with rush TATs requested, please contact your AM to confirm availability.	ability.			
	Report   YES	NO	Select Invoice Distribution:	stribution: 🗸 EN	EMAIL MAIL	FAX							A	nalysis	Analysis Request	est					
Company:			Email 1 or Fax				₹S		inde	ate Fit	ered (F	), Prese	rved (P)	or Filte	red and	Presen	Indicate Filtered (F). Preserved (P) or Filtered and Preserved (F/P) below				ΞD
Contact:			-	dvanderkley@kblenv.com	nv.com		EF		$\dashv$	$\dashv$	$\dashv$	$\dashv$	$\exists$							_	JIRI
	Project Information			Oil and Gas Required Fields (client use)	d Fields (client u	ise)	IN	4	$\dashv$	$\dashv$	$\dashv$	$\dashv$	1							)	
ALS Account # / Quote #			AFE/Cost Center		PO#		TΑ			_										L	_
Job #	21-051NT		Major/Minor Code		Routing Code:		NC			_		-								НО	_
PO / AFE:	MM025		Requisitioner:				C			_			_				_			N	_
LSD:			Location:				OF					_								0 0	_
ALS Lab Wor	ALS Lab Work Order # (ALS use only): Wald	EE0959 27 WARD	ALS Contact:		Sampler:		BER	-F4	Hg		Size									PLES	PLES
ALS Sample #	Sample Identification and/or Coordinates	d/or Coordinates		Date	Time	Cample Tune	JMI	X F1	tals +		ticle :							1		AM	_
(ALS use only)		ear on the report)		(dd-mmm-yy)	(hh.mm)	Sample Type	ΝL	вте		pН	Part	_						$\vdash$		S	-
	21BH01			24-Oct-21		Soil		R	R	-	מ	_									
	21BH02			24-Oct-21		Soil		D	ス	æ	æ	-	-	-	-			-			•
	21BH03			24-Oct-21		Soil		Z	ZO.	70	D										
	21BH04			24-Oct-21		Soil		æ	æ	æ	R										
	21BH05			24-Oct-21		Soil		D	Z)	æ	æ										
	218H06			24-Oct-21		Soil		æ	æ	æ	R										
												_									
										_									_		
							101					=			3	202	DESENTA COFC				
															170		(				
					100													†	1	+	+
												_	-	$\vdash$	$\vdash$			$\vdash$		F	
Drinking	Water (DW) Samples (client iss)	Notes / Specify	Notes / Specify Limits for result evaluation by selecting from drop-down below	aluation by selecti	ng from drop-dow	n below					S/	MPLE	REC	EIPT [	ETAI	S (AL	SAMPLE RECEIPT DETAILS (ALS use only)				
Gilliani	ching water (DW) Samples (chefit use)		(Exc	(Excel COC only)			Coolin	Cooling Method:	hod:		NONE	□ ice		ICE PACKS	SXO	THE STATE OF THE S	FROZEN .	COOLIN		AG INI	COOLING INITIATED
re samples take	re samples taken from a Regulated DW System?						Subm	ission	Comr	nents	identif	ied on	Submission Comments identified on Sample Receipt Notification:	le Rec	eipt N	otificat	ion: YES			ONO	NO
	YES _ NO						Coole	r Cus	Cooler Custody Seals Intact:	eals in	tact:		YES [	N/A	San	ple Ci	Sample Custody Seals Intact:	act:			□ YES □ N/A
re samples for h	re samples for human consumption/ use?						1.1	Z	TIAL C	OOLER	TEMP	INIITIAL COOLER TEMPERATURES °C	S S S				FINAL COOLER TEMPERATURES °C	MPERA		TURE	TURES °C
	SHIPMENT RELEASE (client use)		NI.	INITIAL SHIPMENT RECEPTION (ALS use only)	RECEPTION (A	LS use only)		(		-		FIN	AL SH	PMEN	IT RE	CEPTI	FINAL SHIPMENT RECEPTION (ALS use only)	nly)			
Released by: Matt Matkin	att Matkin Date: October 24, 2021	1 Time:	Received by		Data		Time		Received by	ved b	5			Date:	te:					Tim	Time:

1. If any water samples are taken from a Regulated Drinking Water (DW). System, please submit using an Authorized DW COC form WHITE - LABORATORY COPY YELLOW - CLIENT COPY
Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

If any water samples are taken from a Regulated Dinking Water Plun Control of the Water Plu REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION



KBL Environmental Ltd.

ATTN: David Vanderkley

3601, 75 Avenue Leduc ab T9E 0Z5 Date Received: 26-OCT-21

Report Date: 08-NOV-21 10:38 (MT)

Version: FINAL

Client Phone: 780-893-3305

## Certificate of Analysis

Lab Work Order #: L2655550
Project P.O. #: NOT SUBMITTED

Job Reference: C of C Numbers:

Legal Site Desc:

Oliver Gregg Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 314 Old Airport Road, Unit 116, Yellowknife, NT X1A 3T3 Canada | Phone: +1 867 873 5593 | ALS CANADA LTD Part of the ALS Group An ALS Limited Company



Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2655550-1 21EX01-211018							
Sampled By: CLIENT on 18-OCT-21							
' '							
Matrix: SOIL CCME BTEX, F1 TO F4							
· ·							
BTEX and F1 Benzene	<0.0050		0.0050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	18-OCT-21	29-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	18-OCT-21	29-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
o-Xylene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	114.6		70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	75.4		70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	78.5		70-130	%	18-OCT-21	29-OCT-21	R5607508
, ,	70.5		70-130	/0	10 001 21	25 001 21	13007300
CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride	89.4		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES		70 100	70	29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates	120				29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons					20 001 21	20 001 21	10002012
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	27		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	27		20	mg/kg		02-NOV-21	
Miscellaneous Parameters			20	9/.19		02.101.2.	
% Moisture	13.6		0.25	%		28-OCT-21	R5632117
	10.0		0.20	70		20 001 21	110002117
L2655550-2 21EX02-211018 Sampled By: CLIENT on 18-OCT-21							
Matrix: SOIL CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Ethylbenzene	<0.010		0.030	mg/kg	18-OCT-21	29-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	18-OCT-21	29-OCT-21	R5607508
m+p-Xylene	<0.10		0.10	mg/kg	18-OCT-21	29-OCT-21 29-OCT-21	R5607508
o-Xylene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	115.8		70-130	//////////////////////////////////////	18-OCT-21	29-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	88.4		70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	94.2		70-130	%	18-OCT-21	29-OCT-21	R5607508
CCME Total Extractable Hydrocarbons	J 1.2		. 5 . 50	,,			
Surrogate: 2-Bromobenzotrifluoride	82.7		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	<20		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		02-NOV-21	
Miscellaneous Parameters							
% Moisture	15.7		0.25	%		28-OCT-21	R5632117

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2655550-3 21EX04-211018							
Sampled By: CLIENT on 18-OCT-21							
, ,							
Matrix: SOIL CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	18-OCT-21	29-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	18-OCT-21	29-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
o-Xylene	< 0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	113.5		70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	89.2		70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	90.3		70-130	%	18-OCT-21	29-OCT-21	R5607508
CCME Total Extractable Hydrocarbons	-						
Surrogate: 2-Bromobenzotrifluoride	87.7		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	28		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	28		20	mg/kg		02-NOV-21	
Miscellaneous Parameters							
% Moisture	10.4		0.25	%		28-OCT-21	R5632117
L2655550-4 21EX05-211018 (DUP)							
Sampled By: CLIENT on 18-OCT-21							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	0.0105		0.0050	mg/kg	18-OCT-21	02-NOV-21	R5607508
Toluene	< 0.050		0.050	mg/kg	18-OCT-21	02-NOV-21	R5607508
Ethylbenzene	0.018		0.010	mg/kg	18-OCT-21	02-NOV-21	R5607508
Xylenes	<0.10		0.10	mg/kg	18-OCT-21	02-NOV-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	18-OCT-21	02-NOV-21	R5607508
o-Xylene	<0.050		0.050	mg/kg	18-OCT-21	02-NOV-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	94.2		70-130	%	18-OCT-21	02-NOV-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	89.0		70-130	%	18-OCT-21	02-NOV-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	82.4		70-130	%	18-OCT-21	02-NOV-21	R5607508
CCME Total Extractable Hydrocarbons	22.5		70.466	0/	20 007 01	20 007 01	DEGGGGG
Surrogate: 2-Bromobenzotrifluoride	88.9		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons F1 (C6-C10)	<b>~10</b>		10	ma/ka		02-NOV 24	
F1 (C6-C10) F1-BTEX	<10 <10		10 10	mg/kg mg/kg		02-NOV-21 02-NOV-21	
F2 (C10-C16)	<10 <20		20	mg/kg		02-NOV-21 02-NOV-21	
F3 (C16-C34)	29		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	29		20	mg/kg		02-NOV-21	
Miscellaneous Parameters	23		20	mg/kg		02 NOV-21	
	9.78		0.25	%		28-OCT-21	R5632117
% Moisture							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2655550-5 21EX07-211018							
Sampled By: CLIENT on 18-OCT-21							
Matrix: SOIL CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	18-OCT-21	29-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	18-OCT-21	29-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
o-Xylene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	119.0		70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	109.7		70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	106.7		70-130	%	18-OCT-21	29-OCT-21	R5607508
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	91.8		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	<20		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		02-NOV-21	
Miscellaneous Parameters							
% Moisture	9.60		0.25	%		28-OCT-21	R5632117
L2655550-6 21EX08-211018							
Sampled By: CLIENT on 18-OCT-21							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Ethylbenzene	0.014		0.010	mg/kg	18-OCT-21	29-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	18-OCT-21	29-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
o-Xylene	<0.050		0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	103.0		70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS)	109.4		70-130	%	18-OCT-21 18-OCT-21	29-OCT-21	R5607508
, ,	92.0		70-130	%	10-001-21	29-OCT-21	R5607508
CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride	88.1		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES		10-130	70	29-OCT-21 29-OCT-21	29-OCT-21 29-OCT-21	R5632912
Prep/Analysis Dates	123				29-OCT-21 29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons					10 00 1 21	=0 001 21	1.0002012
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	37		20	mg/kg		02-NOV-21	
F4 (C34-C50)	21		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	58		20	mg/kg		02-NOV-21	
Miscellaneous Parameters				J 5			
% Moisture	9.93		0.25	%		28-OCT-21	R5632117

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2655550-7 21EX09-211018 Sampled By: CLIENT on 18-OCT-21 Matrix: SOIL CCME BTEX, F1 TO F4 BTEX and F1						
Sampled By: CLIENT on 18-OCT-21  Matrix: SOIL  CCME BTEX, F1 TO F4  BTEX and F1						
Matrix: SOIL CCME BTEX, F1 TO F4 BTEX and F1						
CCME BTEX, F1 TO F4 BTEX and F1						
BTEX and F1						
Benzene	<0.0050	0.0050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Toluene	< 0.050	0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Ethylbenzene	<0.010	0.010	mg/kg	18-OCT-21	29-OCT-21	R5607508
Xylenes	<0.10	0.10	mg/kg	18-OCT-21	29-OCT-21	R5607508
m+p-Xylene	< 0.050	0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
o-Xylene	< 0.050	0.050	mg/kg	18-OCT-21	29-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	118.5	70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	105.0	70-130	%	18-OCT-21	29-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	107.5	70-130	%	18-OCT-21	29-OCT-21	R5607508
CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride	91.2	70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES			29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates				29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons						
F1 (C6-C10)	<10	10	mg/kg		02-NOV-21	
F1-BTEX	<10	10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20	20	mg/kg		02-NOV-21	
F3 (C16-C34)	34	20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20	20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	34	20	mg/kg		02-NOV-21	
Metals in Soil by ICPMS (CCME)						
Mercury in Soil by CVAAS Mercury (Hg)	0.173	0.0050	mg/kg	03-NOV-21	04-NOV-21	R5636119
Metals in Soil by CRC ICPMS						
Antimony (Sb)	1.47	0.10	mg/kg	03-NOV-21	04-NOV-21	R5635391
Arsenic (As)	66.4	0.10	mg/kg	03-NOV-21	04-NOV-21	R5635391
Barium (Ba)	226	0.50	mg/kg	03-NOV-21	04-NOV-21	R5635391
Beryllium (Be)	0.67	0.10	mg/kg	03-NOV-21	04-NOV-21	R5635391
Cadmium (Cd)	0.421	0.020	mg/kg	03-NOV-21	04-NOV-21	R5635391
Chromium (Cr)	30.1	0.50	mg/kg	03-NOV-21	04-NOV-21	R5635391
Cobalt (Co)	17.9 28.9	0.10 0.50	mg/kg	03-NOV-21 03-NOV-21	04-NOV-21 04-NOV-21	R5635391 R5635391
Copper (Cu) Lead (Pb)	28.9 18.7	0.50	mg/kg mg/kg	03-NOV-21	04-NOV-21	R5635391
Molybdenum (Mo)	4.39	0.30	mg/kg	03-NOV-21	04-NOV-21	R5635391
Nickel (Ni)	47.0	0.10	mg/kg	03-NOV-21	04-NOV-21	R5635391
Selenium (Se)	2.32	0.30	mg/kg	03-NOV-21	04-NOV-21	R5635391
Silver (Ag)	0.21	0.10	mg/kg	03-NOV-21	04-NOV-21	R5635391
Thallium (TI)	0.326	0.050	mg/kg	03-NOV-21	04-NOV-21	R5635391
Tin (Sn)	<2.0	2.0	mg/kg	03-NOV-21	04-NOV-21	R5635391
Uranium (U)	1.43	0.050	mg/kg	03-NOV-21	04-NOV-21	R5635391
Vanadium (V)	69.4	0.20	mg/kg	03-NOV-21	04-NOV-21	R5635391
Zinc (Zn)	117	2.0	mg/kg	03-NOV-21	04-NOV-21	R5635391
Miscellaneous Parameters						
% Moisture	16.1	0.25	%		28-OCT-21	R5632117
pH (1:2 soil:water)	7.46	0.10	рН		04-NOV-21	R5636189
% Particles > 75um (Coarse/Fine) % >75um	67.8	1.0	%		05-NOV-21	R5636609
General Texture Class	Coarse		.•		05-NOV-21	R5636609

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Toluene Ethylbenzene Xylenes m+p-Xylene o-Xylene	<0.0050 <0.050 <0.010 <0.10 <0.050 <0.050 106.5 89.3 92.0 93.3 YES <10 <10 <20		0.0050 0.050 0.010 0.10 0.050 70-130 70-130 70-130	mg/kg mg/kg mg/kg mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21 29-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5632912 R5632912 R5632912
Sampled By: CLIENT on 19-OCT-21  Matrix: SOIL  CCME BTEX, F1 TO F4  BTEX and F1  Benzene  Toluene Ethylbenzene Xylenes m+p-Xylene o-Xylene Surrogate: 1,4-Difluorobenzene (SS) Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS)  CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates  CCME Total Hydrocarbons	<0.050 <0.010 <0.010 <0.050 <0.050 106.5 89.3 92.0 93.3 YES		0.050 0.010 0.10 0.050 0.050 70-130 70-130 70-130	mg/kg mg/kg mg/kg mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5632912
Matrix: SOIL  CCME BTEX, F1 TO F4  BTEX and F1  Benzene  Toluene  Ethylbenzene  Xylenes  m+p-Xylene  o-Xylene  Surrogate: 1,4-Difluorobenzene (SS)  Surrogate: 4-Bromofluorobenzene (SS)  Surrogate: 3,4-Dichlorotoluene (SS)  CCME Total Extractable Hydrocarbons  Surrogate: 2-Bromobenzotrifluoride  Chrom. to baseline at nC50  Prep/Analysis Dates  CCME Total Hydrocarbons	<0.050 <0.010 <0.010 <0.050 <0.050 106.5 89.3 92.0 93.3 YES		0.050 0.010 0.10 0.050 0.050 70-130 70-130 70-130	mg/kg mg/kg mg/kg mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5632912
CCME BTEX, F1 TO F4  BTEX and F1  Benzene  Toluene Ethylbenzene Xylenes m+p-Xylene o-Xylene Surrogate: 1,4-Difluorobenzene (SS) Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS) CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates CCME Total Hydrocarbons	<0.050 <0.010 <0.010 <0.050 <0.050 106.5 89.3 92.0 93.3 YES		0.050 0.010 0.10 0.050 0.050 70-130 70-130 70-130	mg/kg mg/kg mg/kg mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5632912
BTEX and F1 Benzene Toluene Ethylbenzene Xylenes m+p-Xylene o-Xylene Surrogate: 1,4-Difluorobenzene (SS) Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS) CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates CCME Total Hydrocarbons	<0.050 <0.010 <0.010 <0.050 <0.050 106.5 89.3 92.0 93.3 YES		0.050 0.010 0.10 0.050 0.050 70-130 70-130 70-130	mg/kg mg/kg mg/kg mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5632912
Benzene Toluene Ethylbenzene Xylenes m+p-Xylene o-Xylene Surrogate: 1,4-Difluorobenzene (SS) Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS) CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates CCME Total Hydrocarbons	<0.050 <0.010 <0.010 <0.050 <0.050 106.5 89.3 92.0 93.3 YES		0.050 0.010 0.10 0.050 0.050 70-130 70-130 70-130	mg/kg mg/kg mg/kg mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5632912
Toluene Ethylbenzene Xylenes m+p-Xylene o-Xylene Surrogate: 1,4-Difluorobenzene (SS) Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS) CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates CCME Total Hydrocarbons	<0.050 <0.010 <0.010 <0.050 <0.050 106.5 89.3 92.0 93.3 YES		0.050 0.010 0.10 0.050 0.050 70-130 70-130 70-130	mg/kg mg/kg mg/kg mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5632912
Ethylbenzene Xylenes m+p-Xylene o-Xylene Surrogate: 1,4-Difluorobenzene (SS) Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS)  CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates  CCME Total Hydrocarbons	<0.010 <0.10 <0.050 <0.050 106.5 89.3 92.0 93.3 YES		0.010 0.10 0.050 0.050 70-130 70-130 70-130	mg/kg mg/kg mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508
Xylenes m+p-Xylene o-Xylene Surrogate: 1,4-Difluorobenzene (SS) Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS)  CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates  CCME Total Hydrocarbons	<0.10 <0.050 <0.050 106.5 89.3 92.0 93.3 YES		0.10 0.050 0.050 70-130 70-130 70-130	mg/kg mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5607508 R5607508
o-Xylene Surrogate: 1,4-Difluorobenzene (SS) Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS)  CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates  CCME Total Hydrocarbons	<0.050 106.5 89.3 92.0 93.3 YES <10 <10		0.050 70-130 70-130 70-130 70-130	mg/kg mg/kg % %	19-OCT-21 19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21 29-OCT-21	R5607508 R5607508 R5607508 R5607508 R5607508 R5632912
Surrogate: 1,4-Difluorobenzene (SS) Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS)  CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates  CCME Total Hydrocarbons	106.5 89.3 92.0 93.3 YES		70-130 70-130 70-130 70-130	mg/kg % % %	19-OCT-21 19-OCT-21 19-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 02-NOV-21 29-OCT-21 29-OCT-21	R5607508 R5607508 R5607508 R5632912 R5632912
Surrogate: 4-Bromofluorobenzene (SS) Surrogate: 3,4-Dichlorotoluene (SS)  CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates  CCME Total Hydrocarbons	89.3 92.0 93.3 YES <10 <10		70-130 70-130 70-130	% %	19-OCT-21 19-OCT-21 29-OCT-21 29-OCT-21	02-NOV-21 02-NOV-21 29-OCT-21 29-OCT-21	R5607508 R5607508 R5632912 R5632912
Surrogate: 3,4-Dichlorotoluene (SS)  CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates  CCME Total Hydrocarbons	92.0 93.3 YES <10 <10		70-130 70-130	%	19-OCT-21 29-OCT-21 29-OCT-21	02-NOV-21 29-OCT-21 29-OCT-21	R5607508 R5632912 R5632912
CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates CCME Total Hydrocarbons	93.3 YES <10 <10		70-130		29-OCT-21 29-OCT-21	29-OCT-21 29-OCT-21	R5632912 R5632912
Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates CCME Total Hydrocarbons	YES <10 <10			%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50 Prep/Analysis Dates CCME Total Hydrocarbons	YES <10 <10			%	29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates  CCME Total Hydrocarbons	<10 <10		10				
CCME Total Hydrocarbons	<10		10		29-OCT-21	29-OCT-21	R5632012
	<10		10		1	I	110002312
F1 (C6-C10)	<10		10				
	-	1	10	mg/kg		02-NOV-21	
F1-BTEX	<20		10	mg/kg		02-NOV-21	
F2 (C10-C16)			20	mg/kg		02-NOV-21	
F3 (C16-C34)	27		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	27		20	mg/kg		02-NOV-21	
Miscellaneous Parameters							
% Moisture	10.7		0.25	%		28-OCT-21	R5632117
L2655550-9 21EX11-211019							
Sampled By: CLIENT on 19-OCT-21							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1							
	<0.0050		0.0050	mg/kg	19-OCT-21	29-OCT-21	R5607508
	<0.050		0.050	mg/kg	19-OCT-21	29-OCT-21	R5607508
	<0.010		0.010	mg/kg	19-OCT-21	29-OCT-21	R5607508
	<0.10		0.10	mg/kg	19-OCT-21	29-OCT-21	R5607508
	<0.050		0.050	mg/kg	19-OCT-21	29-OCT-21	R5607508
	<0.050		0.050	mg/kg	19-OCT-21	29-OCT-21	R5607508
· · · · · ·	121.7 126.5		70-130 70-130	% %	19-OCT-21 19-OCT-21	29-OCT-21 29-OCT-21	R5607508 R5607508
` '	126.5		70-130 70-130	%	19-OCT-21	29-OCT-21 29-OCT-21	R5607508
CCME Total Extractable Hydrocarbons	100.0		10-130	/0	19-001-21	29-001-21	170001000
Surrogate: 2-Bromobenzotrifluoride	87.7		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES		70-100	70	29-OCT-21	29-OCT-21 29-OCT-21	R5632912
Prep/Analysis Dates	0				29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	29		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	29		20	mg/kg		02-NOV-21	
Miscellaneous Parameters				- <del>-</del>			
% Moisture	12.8		0.25	%		28-OCT-21	R5632117

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2655550-10 21EX12-211021							
Sampled By: CLIENT on 21-OCT-21							
Matrix: SOIL CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	21-OCT-21	29-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	21-OCT-21	29-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	21-OCT-21	29-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	21-OCT-21	29-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	21-OCT-21	29-OCT-21	R5607508
o-Xylene	< 0.050		0.050	mg/kg	21-OCT-21	29-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	125.1		70-130	%	21-OCT-21	29-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	101.9		70-130	%	21-OCT-21	29-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	98.1		70-130	%	21-OCT-21	29-OCT-21	R5607508
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	86.8		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34) F4 (C34-C50)	34		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		02-NOV-21	
Miscellaneous Parameters	34		20	mg/kg		02-NOV-21	
% Moisture	14.8		0.25	%		29 OCT 21	R5632117
	14.0		0.25	70		28-OCT-21	K3032117
L2655550-11 21EX13-211021							
Sampled By: CLIENT on 21-OCT-21							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1	0.0050		0.0050		21-OCT-21	20 OCT 24	DEC07500
Benzene Toluene	<0.0050 <0.050		0.0050 0.050	mg/kg	21-OCT-21 21-OCT-21	29-OCT-21 29-OCT-21	R5607508 R5607508
Ethylbenzene	<0.050		0.050	mg/kg mg/kg	21-OCT-21	29-OCT-21 29-OCT-21	R5607508
Xylenes	<0.010		0.010	mg/kg	21-OCT-21	29-OCT-21 29-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	21-OCT-21	29-OCT-21	R5607508
o-Xylene	<0.050		0.050	mg/kg	21-OCT-21	29-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	112.9		70-130	//////////////////////////////////////	21-OCT-21	29-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	95.0		70-130	%	21-OCT-21	29-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	97.8		70-130	%	21-OCT-21	29-OCT-21	R5607508
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	91.9		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	35		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	35		20	mg/kg		02-NOV-21	
Miscellaneous Parameters % Moisture							
	19.0	1	0.25	%	I .	28-OCT-21	R5632117

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2655550-12 21EX14-211022							
Sampled By: CLIENT on 22-OCT-21							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	22-OCT-21	29-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	22-OCT-21	29-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	22-OCT-21	29-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	22-OCT-21	29-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	22-OCT-21	29-OCT-21	R5607508
o-Xylene	< 0.050		0.050	mg/kg	22-OCT-21	29-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	109.2		70-130	%	22-OCT-21	29-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	92.1		70-130	%	22-OCT-21	29-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	79.3		70-130	%	22-OCT-21	29-OCT-21	R5607508
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	89.4		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	30		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	30		20	mg/kg		02-NOV-21	
Miscellaneous Parameters							
% Moisture	12.6		0.25	%		28-OCT-21	R5632117
L2655550-13 21EX15-211023							
Sampled By: CLIENT on 23-OCT-21							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	23-OCT-21	30-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	23-OCT-21	30-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	23-OCT-21	30-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	23-OCT-21	30-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	23-OCT-21	30-OCT-21	R5607508
o-Xylene	<0.050		0.050	mg/kg	23-OCT-21	30-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	119.9		70-130	%	23-OCT-21	30-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	98.1		70-130	%	23-OCT-21	30-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	86.4		70-130	%	23-OCT-21	30-OCT-21	R5607508
CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride	99.2		70 420	0/	20 OCT 24	20 OCT 24	DE622042
Chrom. to baseline at nC50	88.2 VES		70-130	%	29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates	YES				29-OCT-21 29-OCT-21	29-OCT-21 29-OCT-21	R5632912
					29-001-21	29-001-21	R5632912
CCME Total Hydrocarbons F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	<20		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		02-NOV-21	
Miscellaneous Parameters			20	g/Ng		32 NOV-21	
% Moisture	15.4		0.25	%		28-OCT-21	R5632117
	10.4	1	U.ZJ	/0	1	1 20 001-21	INDUDETTI

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2655550-14 21EX16-211023							
Sampled By: CLIENT on 23-OCT-21							
' '							
Matrix: SOIL CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	23-OCT-21	30-OCT-21	R5607508
Toluene	< 0.050		0.050	mg/kg	23-OCT-21	30-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	23-OCT-21	30-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	23-OCT-21	30-OCT-21	R5607508
m+p-Xylene	< 0.050		0.050	mg/kg	23-OCT-21	30-OCT-21	R5607508
o-Xylene	< 0.050		0.050	mg/kg	23-OCT-21	30-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	116.8		70-130	%	23-OCT-21	30-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	92.6		70-130	%	23-OCT-21	30-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	90.5		70-130	%	23-OCT-21	30-OCT-21	R5607508
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	88.8		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	<20		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		02-NOV-21	
Miscellaneous Parameters							
% Moisture	15.4		0.25	%		28-OCT-21	R5632117
L2655550-15 21EX17-211022							
Sampled By: CLIENT on 22-OCT-21							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	22-OCT-21	30-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	22-OCT-21	30-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	22-OCT-21	30-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	22-OCT-21	30-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	22-OCT-21	30-OCT-21	R5607508
o-Xylene	<0.050		0.050	mg/kg	22-OCT-21	30-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	124.4		70-130	%	22-OCT-21	30-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	107.4		70-130	%	22-OCT-21	30-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	96.8		70-130	%	22-OCT-21	30-OCT-21	R5607508
CCME Total Extractable Hydrocarbons	_						
Surrogate: 2-Bromobenzotrifluoride	86.4		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons	4.0		40			00 NOV 01	
F1 (C6-C10) F1-BTEX	<10		10	mg/kg		02-NOV-21	
	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16) F3 (C16-C34)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	<20		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)  Miscellaneous Parameters	<20		20	mg/kg		02-NOV-21	
Miscellaneous Parameters  % Moisture	16.1		0.25	%		28-OCT-21	R5632117

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2655550-16 21EX18-211022							
Sampled By: CLIENT on 22-OCT-21							
Matrix: SOIL							
CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	<0.0050		0.0050	mg/kg	22-OCT-21	30-OCT-21	R5607508
Toluene	< 0.050		0.050	mg/kg	22-OCT-21	30-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	22-OCT-21	30-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	22-OCT-21	30-OCT-21	R5607508
m+p-Xylene	< 0.050		0.050	mg/kg	22-OCT-21	30-OCT-21	R5607508
o-Xylene	< 0.050		0.050	mg/kg	22-OCT-21	30-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	127.8		70-130	%	22-OCT-21	30-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	104.0		70-130	%	22-OCT-21	30-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	87.7		70-130	%	22-OCT-21	30-OCT-21	R5607508
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	89.2		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	<20		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		02-NOV-21	
Miscellaneous Parameters							
% Moisture	14.7		0.25	%		28-OCT-21	R5632117
L2655550-17 21EX19-211023 (DUP) Sampled By: CLIENT on 23-OCT-21							
' '							
Matrix: SOIL CCME BTEX, F1 TO F4							
BTEX and F1							
Benzene	< 0.0050		0.0050	mg/kg	23-OCT-21	30-OCT-21	R5607508
Toluene	<0.050		0.050	mg/kg	23-OCT-21	30-OCT-21	R5607508
Ethylbenzene	<0.010		0.010	mg/kg	23-OCT-21	30-OCT-21	R5607508
Xylenes	<0.10		0.10	mg/kg	23-OCT-21	30-OCT-21	R5607508
m+p-Xylene	<0.050		0.050	mg/kg	23-OCT-21	30-OCT-21	R5607508
o-Xylene	<0.050		0.050	mg/kg	23-OCT-21	30-OCT-21	R5607508
Surrogate: 1,4-Difluorobenzene (SS)	121.4		70-130	%	23-OCT-21	30-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)	85.0		70-130	%	23-OCT-21	30-OCT-21	R5607508
Surrogate: 3,4-Dichlorotoluene (SS)	85.6		70-130	%	23-OCT-21	30-OCT-21	R5607508
CCME Total Extractable Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	90.7		70-130	%	29-OCT-21	29-OCT-21	R5632912
Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
CCME Total Hydrocarbons							
F1 (C6-C10)	<10		10	mg/kg		02-NOV-21	
F1-BTEX	<10		10	mg/kg		02-NOV-21	
F2 (C10-C16)	<20		20	mg/kg		02-NOV-21	
F3 (C16-C34)	<20		20	mg/kg		02-NOV-21	
F4 (C34-C50)	<20		20	mg/kg		02-NOV-21	
Total Hydrocarbons (C6-C50)	<20		20	mg/kg		02-NOV-21	
Miscellaneous Parameters				6.		00.007.5	
% Moisture	15.6	1	0.25	%		28-OCT-21	R5632117

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

E266550-18   21EX20-211022   Sampled By: CLIENT or 22-OCT-21   Sampled B	Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sampled By: CLIENT on 22-OCT-21   Matrix   SOIL	L 2655550 19 21EV20 211022							
Matrix   SOIL   CCME BTEX   HT 074   BTEX and F1   Brezene								
COME BTEX, PITO F4         BTEX and F1          0,0050         mg/kg         22-OCT-21         30-OCT-21         R8697598           Banzane         <0.050								
Berzand F								
Benzene								
Tolluene		<0.0050		0.0050	ma/ka	22-OCT-21	30-OCT-21	R5607508
Elhylberzene								
Xylenes	Ethylbenzene							
m-p-Xylene         <0.050         0.050         mg/kg         22-OCT-21         30-OCT-21         R5607508           o-Xylene         <0.050	•					22-OCT-21		
Surrogate: 14-Diffuorbenzene (SS)	m+p-Xylene	<0.050		0.050		22-OCT-21	30-OCT-21	R5607508
Surrogate: 4-Bromofluorobenzene (SS)   74.0   70-130   %   22-OCT-21   30-OCT-21   R5607508   Surrogate: 3.4-Dichlorotoluene (SS)   73.4   70-130   %   22-OCT-21   30-OCT-21   R5607508	o-Xylene	<0.050		0.050	mg/kg	22-OCT-21	30-OCT-21	R5607508
Surrogate: 3.4-Dichlorotoluene (SS)   73.4   70-130   %   22-OCT-21   8-6607508   CCME Total Extractable Hydrocarbons   Surrogate: 2-Bromobenzotiniluroride   84.7   70-130   %   29-OCT-21   29-OCT-21   R5632912   Chrom. to baseline at nC50   YES   29-OCT-21   29-OCT-21   R5632912   CCME Total Hydrocarbons   FT (GS-C10)   10   mg/kg   29-OCT-21   R5632912   CCME Total Hydrocarbons   FT (GS-C10)   10   mg/kg   02-NOV-21   R5632912   CCME Total Hydrocarbons   FT (GS-C10)   10   mg/kg   02-NOV-21   R5632912   CCME Total Hydrocarbons   FT (GS-C10)   10   mg/kg   02-NOV-21   R5632912   CCME Total Hydrocarbons   FT (GS-C10)   10   mg/kg   02-NOV-21   FT (GS-C10)   10   mg/kg   03-NOV-21   04-NOV-21   FT (GS-G10)   10   mg/kg   03-NOV-21   04-NOV-21	Surrogate: 1,4-Difluorobenzene (SS)	88.1		70-130	%	22-OCT-21	30-OCT-21	R5607508
COME Total Extractable Hydrocarbons   Surrogate: 2-Bromobenzorifilluoride   84.7   70-130   %   29-OCT-21   29-OCT-21   R5632912   29-OCT-21   29-OCT-21   R5632912   29-OCT-21   29-OCT-21   R5632912   29-	Surrogate: 4-Bromofluorobenzene (SS)	74.0		70-130	%	22-OCT-21	30-OCT-21	R5607508
Surrogate: 2-Bromoberzotrifluoride	Surrogate: 3,4-Dichlorotoluene (SS)	73.4		70-130	%	22-OCT-21	30-OCT-21	R5607508
Prep/Analysis Dates		84.7		70-130	%	29-OCT-21	29-OCT-21	R5632912
Code	Chrom. to baseline at nC50	YES				29-OCT-21	29-OCT-21	R5632912
F1 (C6-C10) F1-BTEX F1-BTEX F2 (C10-C16)	Prep/Analysis Dates					29-OCT-21	29-OCT-21	R5632912
F1-BTEX								
F2 (C10-C16)	,	_		10				
F3 (C16-C34)		<10		10			02-NOV-21	
F4 (C34-C50)	,							
Total Hydrocarbons (C6-C50)         64         20         mg/kg         02-NOV-21         02-NOV-21           Metals in Soil by ICPMS (CCME)         Mercury (Hg)         0.239         0.0050         mg/kg         03-NOV-21         04-NOV-21         R5636119           Metals in Soil by CRC ICPMS         Antimony (Sb)         2.75         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Arsenic (As)         142         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Barium (Ba)         238         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Beryllium (Be)         0.75         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cadmium (Cd)         0.558         0.020         mg/kg         03-NOV-21         04-NOV-21         R5635391           Chromium (Cr)         28.0         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cobalt (Co)         26.4         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cobalt (Co)         28.2         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391	,							
Metals in Soil by ICPMS (CCME)         Mercury in Soil by CVAAS         Double of the particles of the particle of th	,							
Mercury in Soil by CVAAS         Mercury (Hg)         0.239         0.0050         mg/kg         03-NOV-21         04-NOV-21         R5636119           Metals in Soil by CRC ICPMS         Antimony (Sb)         2.75         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Arsenic (As)         142         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Barium (Ba)         238         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Beryllium (Be)         0.75         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cadmium (Cd)         0.558         0.020         mg/kg         03-NOV-21         04-NOV-21         R5635391           Chromium (Cr)         28.0         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Copper (Cu)         28.2         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Lead (Pb)         16.7         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Molybdenum (Mo)         5.62         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391	` ,	64		20	mg/kg		02-NOV-21	
Mercury (Hg)         0.239         0.0050         mg/kg         03-NOV-21         04-NOV-21         R5636119           Metals in Soil by CRC ICPMS         Antimony (Sb)         2.75         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Arsenic (As)         142         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Barium (Ba)         238         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Beryllium (Be)         0.75         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cadmium (Cd)         0.558         0.020         mg/kg         03-NOV-21         04-NOV-21         R5635391           Chromium (Cr)         28.0         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cobalt (Co)         26.4         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Copper (Cu)         28.2         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Lead (Pb)         16.7         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Misclel (Ni)	, ,							
Antimony (Sb) Arsenic (As) Arsenic (As) Barium (Ba) Barium (Ba) Beryllium (Be)  Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Lead (Pb) Molybdenum (Mo) Nickel (Ni) Selenium (Se) Silver (Ag) Silver (Ag) Tin (Sh) Vanadium (TI) Vanadium (TI) Vanadium (U) Vanadium (U) Varadium (U) Varadium (U) Varadium (V) Varadium	Mercury (Hg)	0.239		0.0050	mg/kg	03-NOV-21	04-NOV-21	R5636119
Arsenic (As) Barium (Ba) Barium (Be) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Lead (Pb) Molybdenum (Mo) Molybdenum (Mo) Molybdenum (Se) Selenium (Se) Selenium (Se) Solver (Ag) Thallium (Tl) Tin (Sn) Vanadium (V) Vanadium (V) Vanadium (V) Vanadium (V) Vanadium (V) Varadium (V) Varadiure (Vanadium (Vanadium Value) Varadiure (Panadium Value) Varadiure (Value) Varaficles > 75um (Coarse/Fine) Varaficles > 75um (Coarse/Fine) Varadium (Value) Varadium (Cd) O.50 Co.50							<del>-</del>	
Barium (Ba)         238         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Beryllium (Be)         0.75         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cadmium (Cd)         0.558         0.020         mg/kg         03-NOV-21         04-NOV-21         R5635391           Chromium (Cr)         28.0         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cobalt (Co)         26.4         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Copper (Cu)         28.2         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Lead (Pb)         16.7         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Molybdenum (Mo)         5.62         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Mickel (Ni)         63.8         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Selenium (Se)         5.10         0.22         mg/kg         03-NOV-21         04-NOV-21         R5635391           Thallium (Ti)         0.561         0.050 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Beryllium (Be)	` '							
Cadmium (Cd)         0.558         0.020         mg/kg         03-NOV-21         04-NOV-21         R5635391           Chromium (Cr)         28.0         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cobalt (Co)         26.4         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Copper (Cu)         28.2         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Lead (Pb)         16.7         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Molybdenum (Mo)         5.62         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Nickel (Ni)         63.8         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Selenium (Se)         5.10         0.20         mg/kg         03-NOV-21         04-NOV-21         R5635391           Silver (Ag)         0.22         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Tin (Sn)         2.0         2.0         mg/kg         03-NOV-21         04-NOV-21         R5635391           Varanium (U)         1.43         0.050								
Chromium (Cr)         28.0         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Cobalt (Co)         26.4         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Copper (Cu)         28.2         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Lead (Pb)         16.7         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Molybdenum (Mo)         5.62         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Nickel (Ni)         63.8         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Selenium (Se)         5.10         0.20         mg/kg         03-NOV-21         04-NOV-21         R5635391           Silver (Ag)         0.22         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Thallium (Tl)         0.561         0.050         mg/kg         03-NOV-21         04-NOV-21         R5635391           Uranium (U)         1.43         0.050         mg/kg         03-NOV-21         04-NOV-21         R5635391           Vanadium (V)         73.3         0.20								
Cobalt (Co)         26.4         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Copper (Cu)         28.2         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Lead (Pb)         16.7         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Molybdenum (Mo)         5.62         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Nickel (Ni)         63.8         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Selenium (Se)         5.10         0.20         mg/kg         03-NOV-21         04-NOV-21         R5635391           Silver (Ag)         0.22         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Thallium (Tl)         0.561         0.050         mg/kg         03-NOV-21         04-NOV-21         R5635391           Tin (Sn)         2.0         mg/kg         03-NOV-21         04-NOV-21         R5635391           Uranium (U)         1.43         0.050         mg/kg         03-NOV-21         04-NOV-21         R5635391           Vanadium (V)         73.3         0.20         mg/kg	` '							
Copper (Cu)         28.2         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Lead (Pb)         16.7         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Molybdenum (Mo)         5.62         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Nickel (Ni)         63.8         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Selenium (Se)         5.10         0.20         mg/kg         03-NOV-21         04-NOV-21         R5635391           Silver (Ag)         0.22         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Thallium (TI)         0.561         0.050         mg/kg         03-NOV-21         04-NOV-21         R5635391           Tin (Sn)         <2.0	` '							
Lead (Pb)       16.7       0.50       mg/kg       03-NOV-21       04-NOV-21       R5635391         Molybdenum (Mo)       5.62       0.10       mg/kg       03-NOV-21       04-NOV-21       R5635391         Nickel (Ni)       63.8       0.50       mg/kg       03-NOV-21       04-NOV-21       R5635391         Selenium (Se)       5.10       0.20       mg/kg       03-NOV-21       04-NOV-21       R5635391         Silver (Ag)       0.22       0.10       mg/kg       03-NOV-21       04-NOV-21       R5635391         Thallium (Tl)       0.561       0.050       mg/kg       03-NOV-21       04-NOV-21       R5635391         Tin (Sn)       <2.0	` '							
Molybdenum (Mo)         5.62         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Nickel (Ni)         63.8         0.50         mg/kg         03-NOV-21         04-NOV-21         R5635391           Selenium (Se)         5.10         0.20         mg/kg         03-NOV-21         04-NOV-21         R5635391           Silver (Ag)         0.22         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Thallium (TI)         0.561         0.050         mg/kg         03-NOV-21         04-NOV-21         R5635391           Tin (Sn)         <2.0								
Nickel (Ni)       63.8       0.50       mg/kg       03-NOV-21       04-NOV-21       R5635391         Selenium (Se)       5.10       0.20       mg/kg       03-NOV-21       04-NOV-21       R5635391         Silver (Ag)       0.22       0.10       mg/kg       03-NOV-21       04-NOV-21       R5635391         Thallium (TI)       0.561       0.050       mg/kg       03-NOV-21       04-NOV-21       R5635391         Tin (Sn)       <2.0	` '							
Selenium (Se)         5.10         0.20         mg/kg         03-NOV-21         04-NOV-21         R5635391           Silver (Ag)         0.22         0.10         mg/kg         03-NOV-21         04-NOV-21         R5635391           Thallium (TI)         0.561         0.050         mg/kg         03-NOV-21         04-NOV-21         R5635391           Tin (Sn)         <2.0	, ,							
Silver (Ag)       0.22       0.10       mg/kg       03-NOV-21       04-NOV-21       R5635391         Thallium (TI)       0.561       0.050       mg/kg       03-NOV-21       04-NOV-21       R5635391         Tin (Sn)       <2.0	` '							
Thallium (TI)         0.561         0.050         mg/kg         03-NOV-21         04-NOV-21         R5635391           Tin (Sn)         <2.0								
Uranium (U)         1.43         0.050         mg/kg         03-NOV-21         04-NOV-21         R5635391           Vanadium (V)         73.3         0.20         mg/kg         03-NOV-21         04-NOV-21         R5635391           Zinc (Zn)         146         2.0         mg/kg         03-NOV-21         04-NOV-21         R5635391           Miscellaneous Parameters         18.7         0.25         %         28-OCT-21         R5632117           pH (1:2 soil:water)         7.44         0.10         pH         04-NOV-21         R5636189           % Particles > 75um (Coarse/Fine)         80.8         1.0         %         05-NOV-21         R5636609	Thallium (TI)					03-NOV-21	04-NOV-21	
Vanadium (V)     73.3     0.20     mg/kg     03-NOV-21     04-NOV-21     R5635391       Zinc (Zn)     146     2.0     mg/kg     03-NOV-21     04-NOV-21     R5635391       Miscellaneous Parameters     18.7     0.25     %     28-OCT-21     R5632117       pH (1:2 soil:water)     7.44     0.10     pH     04-NOV-21     R5636189       % Particles > 75um (Coarse/Fine)     80.8     1.0     %     05-NOV-21     R5636609	Tin (Sn)	<2.0		2.0		03-NOV-21	04-NOV-21	
Zinc (Zn)     146     2.0     mg/kg     03-NOV-21     04-NOV-21     R5635391       Miscellaneous Parameters     18.7     0.25     %     28-OCT-21     R5632117       % Moisture pH (1:2 soil:water)     7.44     0.10     pH     04-NOV-21     R5636189       % Particles > 75um (Coarse/Fine)     80.8     1.0     %     05-NOV-21     R5636609	` '	1.43		0.050	mg/kg	03-NOV-21	04-NOV-21	R5635391
Miscellaneous Parameters       18.7       0.25       %       28-OCT-21       R5632117         % Moisture       7.44       0.10       pH       04-NOV-21       R5636189         % Particles > 75um (Coarse/Fine)       80.8       1.0       %       05-NOV-21       R5636609	` '							
% Moisture     18.7     0.25     %     28-OCT-21     R5632117       pH (1:2 soil:water)     7.44     0.10     pH     04-NOV-21     R5636189       % Particles > 75um (Coarse/Fine)     80.8     1.0     %     05-NOV-21     R5636609	` ,	146		2.0	mg/kg	03-NOV-21	04-NOV-21	R5635391
pH (1:2 soil:water) 7.44 0.10 pH 04-NOV-21 R5636189 <b>% Particles &gt; 75um (Coarse/Fine)</b> % >75um 80.8 1.0 % 05-NOV-21 R5636609								
% Particles > 75um (Coarse/Fine)     80.8     1.0     %     05-NOV-21     R5636609								
% >75um 80.8 1.0 % 05-NOV-21 R5636609		7.44		0.10	рН		04-NOV-21	R5636189
General Texture Class Coarse 05-NOV-21 R5636609		80.8		1.0	%		05-NOV-21	R5636609
	General Texture Class	Coarse					05-NOV-21	R5636609

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

PAGE 12 of 13 Version: FINAL

#### **Reference Information**

#### **Test Method References:**

ALS Test Code	Matrix	Test Description	Method Reference**
BTXS,F1-MEOH-ED	Soil	BTEX and F1	EPA 8260C/5021A and CWS PHC Tier 1

This analysis involves the extraction of a subsample of the sediment/soil with methanol added in the field at the time of subsampling. The soil methanol extract is added to water and reagents, then heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. BTX Target compound concentrations are measured using mass spectrometry detection. The instrumental portion of F1 analysis is carried out in accordance with the Canada Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method (2001).

ETL-TVH.TEH-CCME-ED Soil CCME

**CCME Total Hydrocarbons** 

CCME CWS-PHC, Pub #1310, Dec 2001

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

In samples where BTEX and F1 were analyzed, F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:

- 1. All extraction and analysis holding times were met.
- 2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
- 3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:

- 1. All extraction and analysis holding times were met.
- 2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
- 3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
- 4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F2-4-TMB-ED Soil CCME Total Extractable Hydrocarbons CCME Tier 1

This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment" For C10 to C50 hydrocarbons (F2, F3, F4) and gravimetric heavy hydrocarbons (F4G-sg), a subsample of the sediment/soil is extracted with 1:1 hexane:acetone using a rotary extractor. The extract undergoes a silica-gel clean-up to remove polar compounds. F2, F3 & F4 are analyzed by on-column GC/FID, and F4G-sg is analyzed gravimetrically.

#### Notes

- 1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
- 2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
- 3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.
- 4. F4G: Gravimetric Heavy Hydrocarbons
- 5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
- 6. Where F4 (C34-C50) and F4G-sg results are reported for a sample, the larger of the reported values is used for comparison against the relevant CCME standard for F4.
- 7. The gravimetric heavy hydrocarbon results (F4G-sg), cannot be added to the C6 to C50 hydrocarbon results.
- 8. This method is validated for use.
- 9. Data from analysis of quality control samples is available upon request.
- 10. Reported results are expressed as milligrams per dry kilogram.

HG-200.2-CVAA-ED Soil Mercury in Soil by CVAAS EPA 200.2/1631E (Mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAAS.

% Moisture

MET-200.2-CCMS-ED Soil Metals in Soil by CRC ICPMS EPA 200.2/6020A (mod)

Soil/sediment is dried, disaggregated, and sieved (2 mm). Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.

Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H2S) may be excluded if lost during sampling, storage, or digestion.

PH-1:2-ED Soil pH 1:2 H2O Extract CSSS 16.2 - PH OF 1:2 WATER EXTRACT

Soil and de-ionized water (by volume) are mixed in a defined ratio. The slurry is allowed to stand, shaken, and then allowed to stand again prior to taking measurements. After equilibration, the pH of the liquid portion of the extract is measured by a pH meter. Field Measurement is recommended where accurate pH measurements are required, due to the 15 minute recommended hold time.

PREP-MOISTURE-ED Soil

CCME PHC in Soil - Tier 1 (mod)

L2655550 CONTD....

## Reference Information PAGE 13 of 13 Version: FINAL

**Test Method References:** 

ALS Test Code Matrix Test Description Method Reference\*\*

The weighed portion of soil is placed in a 105°C oven to dry to a constant weight; the drying time will vary based on the moisture content of the soil. The dried soil weight is then used to calculate % moisture.

PSA-75UM-SIEVE-ED Soil % Particles > 75um (Coarse/Fine) ASTM D422-63-SIEVE

An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (Calgon solution). The sample is washed through a 200 mesh (75 µm) sieve. The retained weight of sample is used to determine % sand fraction.

Reference: ASTM D422-63

\*\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

ED ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA

**Laboratory Location** 

**Chain of Custody Numbers:** 

**Laboratory Definition Code** 

#### **GLOSSARY OF REPORT TERMS**

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory. UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Workorder: L2655550 Report Date: 08-NOV-21 Page 1 of 6

Client: KBL Environmental Ltd.

3601, 75 Avenue

Leduc ab T9E 0Z5

Contact: David Vanderkley

est Ma	atrix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
STXS,F1-MEOH-ED So	pil						
Batch R5607508							
WG3647509-4 DUP Benzene	<b>L2655550-1</b> < 0.0050	<0.0050	RPD-NA	mg/kg	N/A	30	29-OCT-21
Toluene	<0.050	< 0.050	RPD-NA	mg/kg	N/A	30	29-OCT-21
Ethylbenzene	<0.010	<0.010	RPD-NA	mg/kg	N/A	30	29-OCT-21
m+p-Xylene	<0.050	< 0.050	RPD-NA	mg/kg	N/A	30	29-OCT-21
o-Xylene	<0.050	< 0.050	RPD-NA	mg/kg	N/A	30	29-OCT-21
WG3647826-4 DUP Benzene	<b>L2655550-1</b> 3 <0.0050	<0.0050	RPD-NA	mg/kg	N/A	30	30-OCT-21
Toluene	<0.050	< 0.050	RPD-NA	mg/kg	N/A	30	30-OCT-21
Ethylbenzene	<0.010	<0.010	RPD-NA	mg/kg	N/A	30	30-OCT-21
m+p-Xylene	<0.050	< 0.050	RPD-NA	mg/kg	N/A	30	30-OCT-21
o-Xylene	<0.050	< 0.050	RPD-NA	mg/kg	N/A	30	30-OCT-21
WG3647509-2 LCS Benzene		101.5		%		70-130	29-OCT-21
Toluene		93.9		%		70-130	29-OCT-21
Ethylbenzene		88.9		%		70-130	29-OCT-21
m+p-Xylene		84.0		%		70-130	29-OCT-21
o-Xylene		83.0		%		70-130	29-OCT-21
WG3647826-2 LCS Benzene		95.9		%		70-130	30-OCT-21
Toluene		101.1		%		70-130	30-OCT-21
Ethylbenzene		105.3		%		70-130	30-OCT-21
m+p-Xylene		90.2		%		70-130	30-OCT-21
o-Xylene		94.1		%		70-130	30-OCT-21
WG3647509-1 MB		-				70 100	00 001 21
Benzene		<0.0050		mg/kg		0.005	29-OCT-21
Toluene		< 0.050		mg/kg		0.05	29-OCT-21
Ethylbenzene		<0.010		mg/kg		0.01	29-OCT-21
m+p-Xylene		< 0.050		mg/kg		0.05	29-OCT-21
o-Xylene		< 0.050		mg/kg		0.05	29-OCT-21
Surrogate: 1,4-Difluorobenze	ene (SS)	101.2		%		70-130	29-OCT-21
Surrogate: 4-Bromofluorobei	nzene (SS)	74.0		%		70-130	29-OCT-21
Surrogate: 3,4-Dichlorotolue	ne (SS)	70.7		%		70-130	29-OCT-21
WG3647826-1 MB Benzene		<0.0050		mg/kg		0.005	30-OCT-21
Toluene		<0.050		mg/kg		0.05	30-OCT-21



Workorder: L2655550 Report Date: 08-NOV-21 Page 2 of 6

est N	Matrix Reference	e Result	Qualifier	Units	RPD	Limit	Analyzed
BTXS,F1-MEOH-ED	Soil						
Batch R5607508							
WG3647826-1 MB		<0.010				0.04	00 OOT 04
Ethylbenzene				mg/kg		0.01	30-OCT-21
m+p-Xylene		<0.050		mg/kg		0.05	30-OCT-21
o-Xylene Surrogate: 1,4-Difluoroben:	7000 (SS)	<0.050 89.8		mg/kg %		0.05	30-OCT-21
Surrogate: 4-Bromofluorob	` ′	69.6 79.7		%		70-130 70-130	30-OCT-21
Surrogate: 3,4-Dichlorotolu	` ,	79.7		%			30-OCT-21
-	, ,	70.7		70		70-130	30-OCT-21
	Soil						
Batch R5632912 WG3647393-4 DUP	L2655550	. 4					
F2 (C10-C16)	<b>L2633330</b> <20	<b>√-1</b> <20	RPD-NA	mg/kg	N/A	40	29-OCT-21
F3 (C16-C34)	27	<20	RPD-NA	mg/kg	N/A	40	29-OCT-21
F4 (C34-C50)	<20	<20	RPD-NA	mg/kg	N/A	40	29-OCT-21
WG3647393-3 IRM	ALS PHO	RM3					
F2 (C10-C16)		90.4		%		70-130	29-OCT-21
F3 (C16-C34)		96.6		%		70-130	29-OCT-21
F4 (C34-C50)		86.3		%		70-130	29-OCT-21
WG3647393-2 LCS	DIESEL/I	MOTOR OIL					
F2 (C10-C16)		104.6		%		70-130	29-OCT-21
F3 (C16-C34)		107.5		%		70-130	29-OCT-21
F4 (C34-C50)		109.5		%		70-130	29-OCT-21
WG3647393-1 MB		-20		ma/ka		00	00 00T 04
F2 (C16-C16)		<20 <20		mg/kg		20	29-OCT-21
F3 (C16-C34) F4 (C34-C50)		<20 <20		mg/kg		20	29-OCT-21
,	rifluorida			mg/kg %		20	29-OCT-21
Surrogate: 2-Bromobenzoti		97.3		/0		70-130	29-OCT-21
	Soil						
Batch R5636119							
<b>WG3651539-3 CRM</b> Mercury (Hg)	SCP_SS-	99.1		%		70-130	04-NOV-21
WG3651539-2 LCS				, -		70-100	04 NO V-21
Mercury (Hg)		108.5		%		80-120	04-NOV-21
WG3651539-1 MB							
Mercury (Hg)		<0.0050		mg/kg		0.005	04-NOV-21
MET-200.2-CCMS-ED	Soil						



Workorder: L2655550 Report Date: 08-NOV-21 Page 3 of 6

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED	Soil							
Batch R563539	1							
WG3651539-3 CRM		SCP_SS-2_S						
Antimony (Sb)			85.2		%		70-130	04-NOV-21
Arsenic (As)			104.4		%		70-130	04-NOV-21
Barium (Ba)			101.8		%		70-130	04-NOV-21
Beryllium (Be)			93.4		%		70-130	04-NOV-21
Cadmium (Cd)			102.2		%		70-130	04-NOV-21
Chromium (Cr)			100.5		%		70-130	04-NOV-21
Cobalt (Co)			103.3		%		70-130	04-NOV-21
Copper (Cu)			108.3		%		70-130	04-NOV-21
Lead (Pb)			89.9		%		70-130	04-NOV-21
Molybdenum (Mo)			90.8		%		70-130	04-NOV-21
Nickel (Ni)			106.0		%		70-130	04-NOV-21
Selenium (Se)			0.16		mg/kg		0-0.34	04-NOV-21
Silver (Ag)			89.7		%		70-130	04-NOV-21
Thallium (TI)			0.076		mg/kg		0.029-0.129	04-NOV-21
Tin (Sn)			88.0		%		70-130	04-NOV-21
Uranium (U)			90.5		%		70-130	04-NOV-21
Vanadium (V)			100.4		%		70-130	04-NOV-21
Zinc (Zn)			92.9		%		70-130	04-NOV-21
WG3651539-2 LCS								
Antimony (Sb)			98.1		%		80-120	04-NOV-21
Arsenic (As)			118.5		%		80-120	04-NOV-21
Barium (Ba)			117.0		%		80-120	04-NOV-21
Beryllium (Be)			104.3		%		80-120	04-NOV-21
Cadmium (Cd)			98.6		%		80-120	04-NOV-21
Chromium (Cr)			115.6		%		80-120	04-NOV-21
Cobalt (Co)			116.1		%		80-120	04-NOV-21
Copper (Cu)			116.5		%		80-120	04-NOV-21
Lead (Pb)			99.8		%		80-120	04-NOV-21
Molybdenum (Mo)			102.1		%		80-120	04-NOV-21
Nickel (Ni)			113.6		%		80-120	04-NOV-21
Selenium (Se)			111.7		%		80-120	04-NOV-21
Silver (Ag)			103.0		%		80-120	04-NOV-21
Thallium (TI)			97.0		%		80-120	04-NOV-21
Tin (Sn)			98.2		%		80-120	04-NOV-21



Workorder: L2655550 Report Date: 08-NOV-21

Page 4 of 6

Test Matrix Reference Result Qualifier Units **RPD** Limit Analyzed MET-200.2-CCMS-ED Soil R5635391 WG3651539-2 LCS Uranium (U) 96.5 % 80-120 04-NOV-21 Vanadium (V) 116.3 % 04-NOV-21 80-120 Zinc (Zn) 103.9 % 80-120 04-NOV-21 WG3651539-1 MB Antimony (Sb) < 0.10 mg/kg 0.1 04-NOV-21 Arsenic (As) 04-NOV-21 < 0.10 mg/kg 0.1 < 0.50 Barium (Ba) mg/kg 0.5 04-NOV-21 Beryllium (Be) <0.10 mg/kg 0.1 04-NOV-21 Cadmium (Cd) < 0.020 mg/kg 0.02 04-NOV-21 Chromium (Cr) < 0.50 mg/kg 0.5 04-NOV-21 Cobalt (Co) < 0.10 mg/kg 0.1 04-NOV-21 Copper (Cu) < 0.50 mg/kg 0.5 04-NOV-21 Lead (Pb) < 0.50 mg/kg 0.5 04-NOV-21 Molybdenum (Mo) < 0.10 mg/kg 0.1 04-NOV-21 Nickel (Ni) < 0.50 mg/kg 0.5 04-NOV-21 Selenium (Se) < 0.20 mg/kg 0.2 04-NOV-21 Silver (Ag) <0.10 mg/kg 0.1 04-NOV-21 Thallium (TI) < 0.050 mg/kg 0.05 04-NOV-21 Tin (Sn) <2.0 mg/kg 2 04-NOV-21 Uranium (U) < 0.050 mg/kg 0.05 04-NOV-21 Vanadium (V) < 0.20 mg/kg 0.2 04-NOV-21 Zinc (Zn) <2.0 mg/kg 2 04-NOV-21 PH-1:2-ED Soil Batch R5636189 WG3652602-1 IRM **ALS SAL 2019** рΗ 7.79 pH (1:2 soil:water) 7.55-8.15 04-NOV-21 WG3652602-3 PH-6 pH (1:2 soil:water) 6.01 рΗ 5.8-6.2 04-NOV-21 PREP-MOISTURE-ED Soil Batch R5632117 WG3647512-2 LCS % Moisture 100.7 % 90-110 28-OCT-21 WG3647512-1 MB % Moisture < 0.25 % 0.25 28-OCT-21 **PSA-75UM-SIEVE-ED** Soil



Workorder: L2655550 Report Date: 08-NOV-21 Page 5 of 6

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PSA-75UM-SIEV	/E-ED	Soil							
Batch	R5636609								
WG3652675-	1 MB								
% >75um				<1.0		%		1	05-NOV-2

Workorder: L2655550 Report Date: 08-NOV-21 Page 6 of 6

#### Legend:

CVS

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification

#### **Sample Parameter Qualifier Definitions:**

Calibration Verification Standard LCSD Laboratory Control Sample Duplicate

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

#### **Hold Time Exceedances:**

All test results reported with this submission were conducted within ALS recommended hold times.

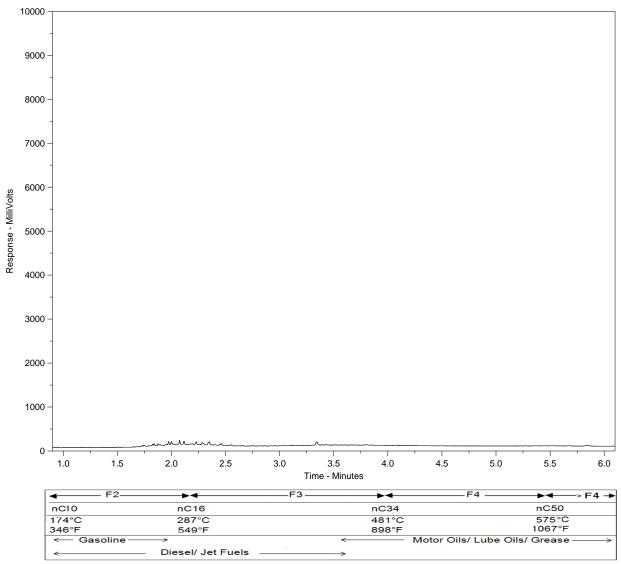
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



ALS Sample ID: L2655550-1 Client ID: 21EX01-211018



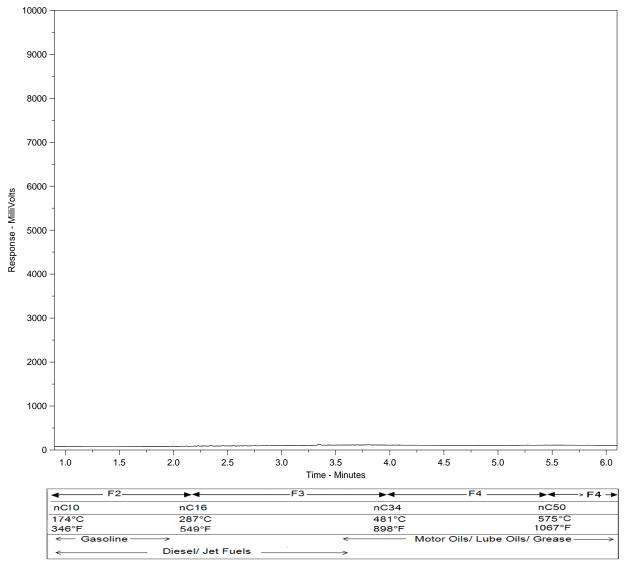
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-2 Client ID: 21EX02-211018



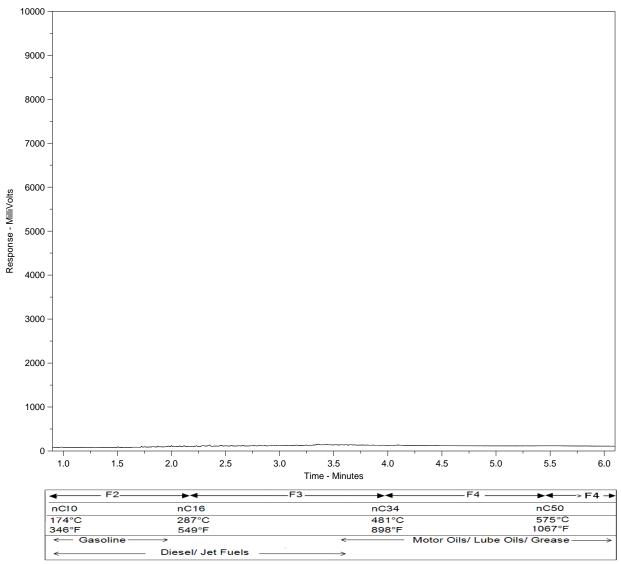
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-3 Client ID: 21EX04-211018



The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

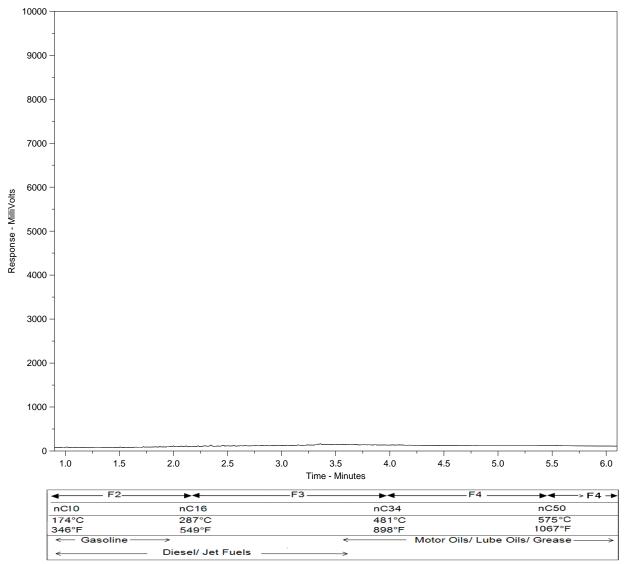
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-4

Client ID: 21EX05-211018 (DUP)



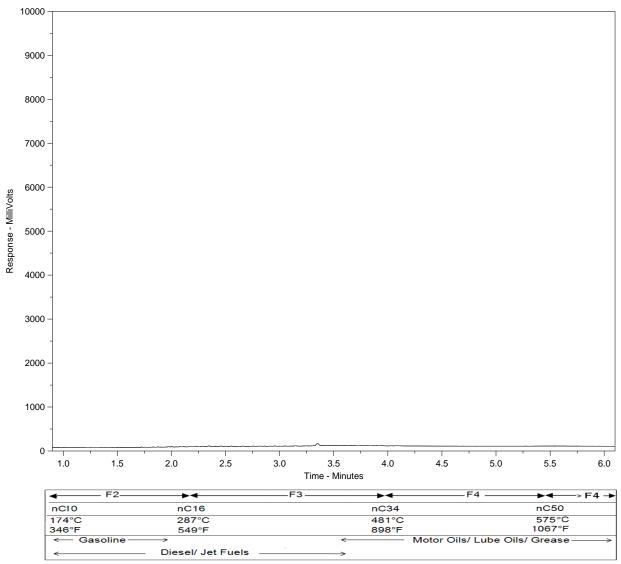
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-5 Client ID: 21EX07-211018



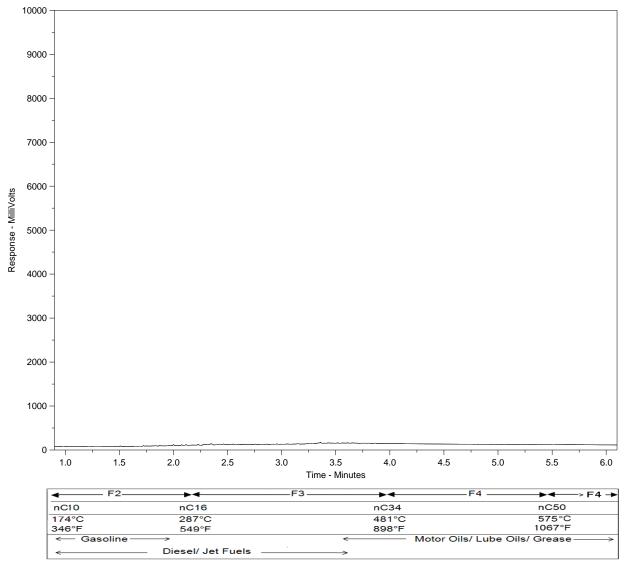
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-6 Client ID: 21EX08-211018



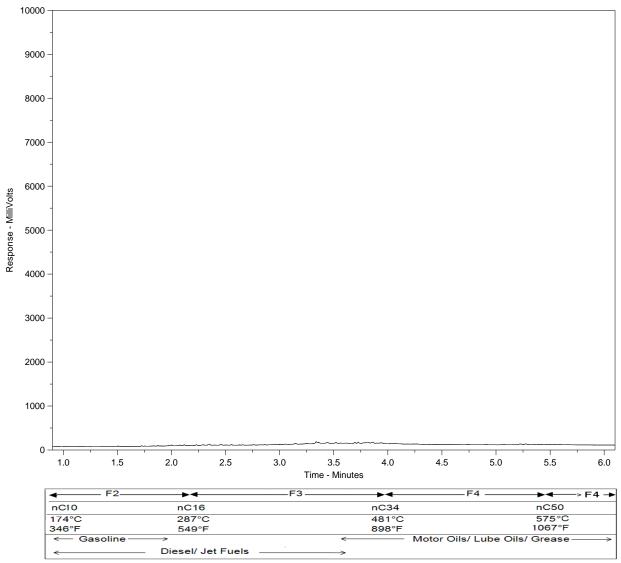
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-7 Client ID: 21EX09-211018



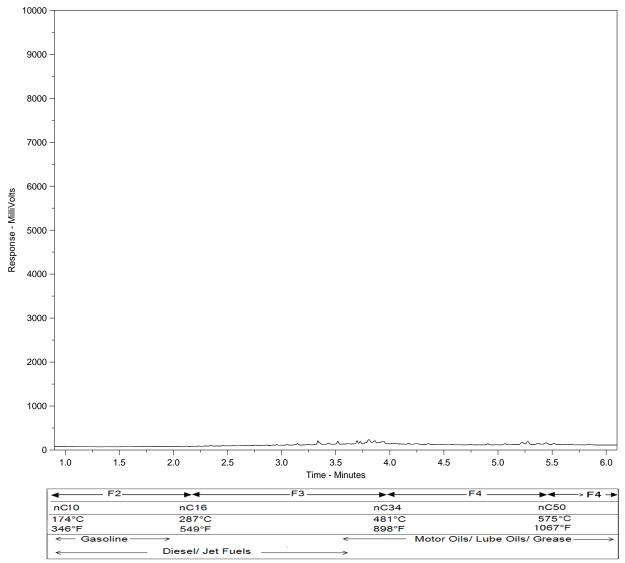
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-8 Client ID: 21EX10-211019



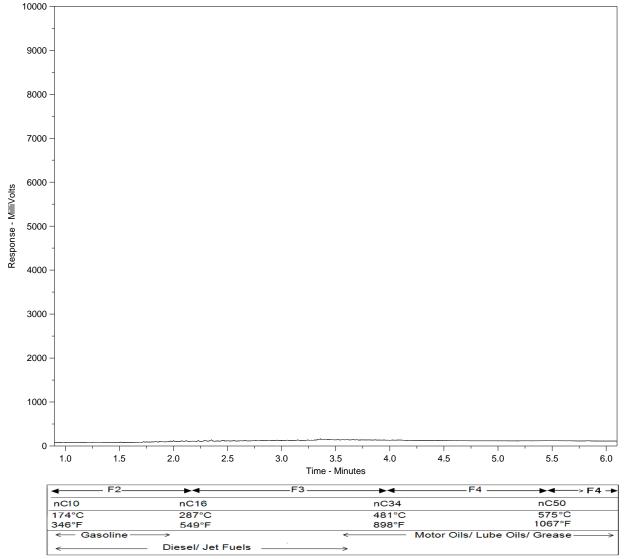
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-9 Client ID: 21EX11-211019



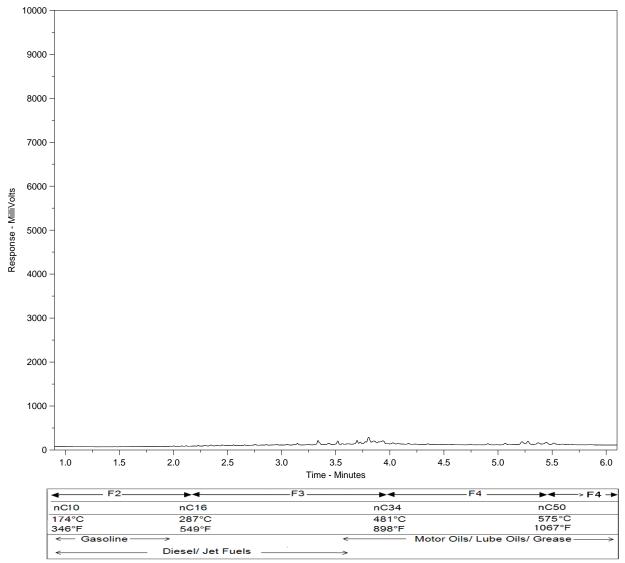
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-10 Client ID: 21EX12-211021



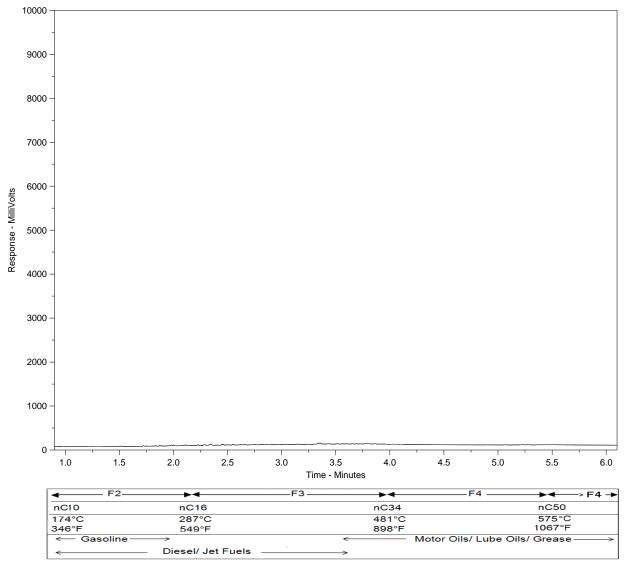
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-11 Client ID: 21EX13-211021



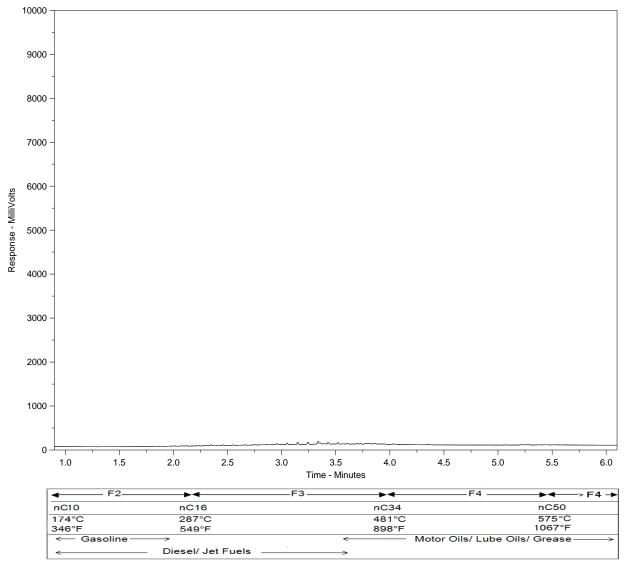
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-12 Client ID: 21EX14-211022



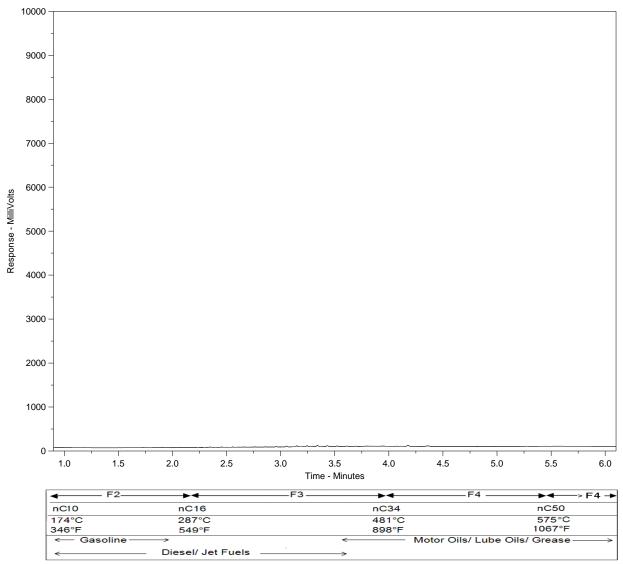
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-13 Client ID: 21EX15-211023



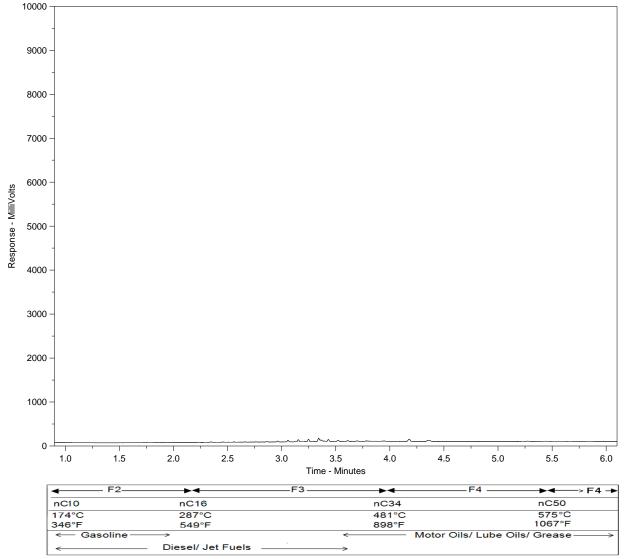
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-14 Client ID: 21EX16-211023



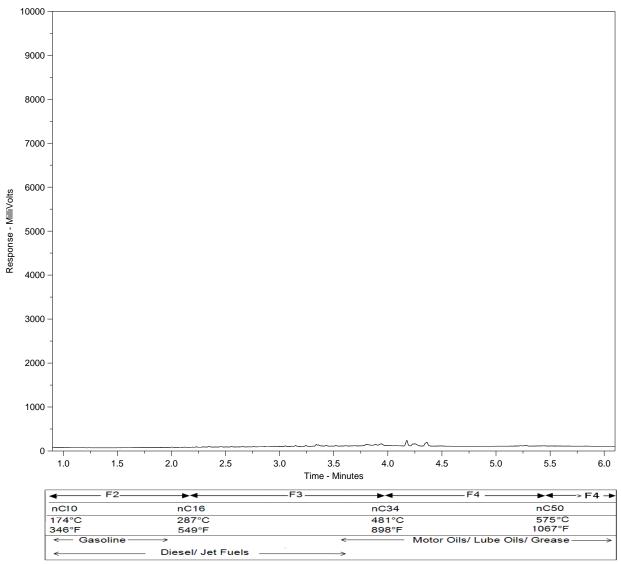
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-15 Client ID: 21EX17-211022



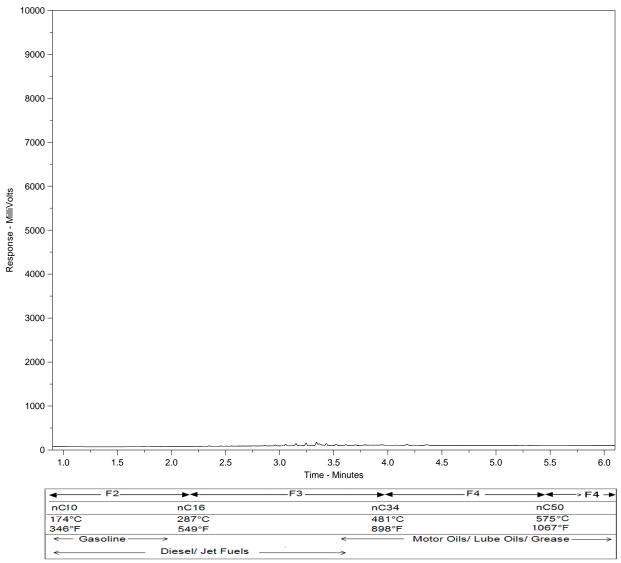
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-16 Client ID: 21EX18-211022



The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

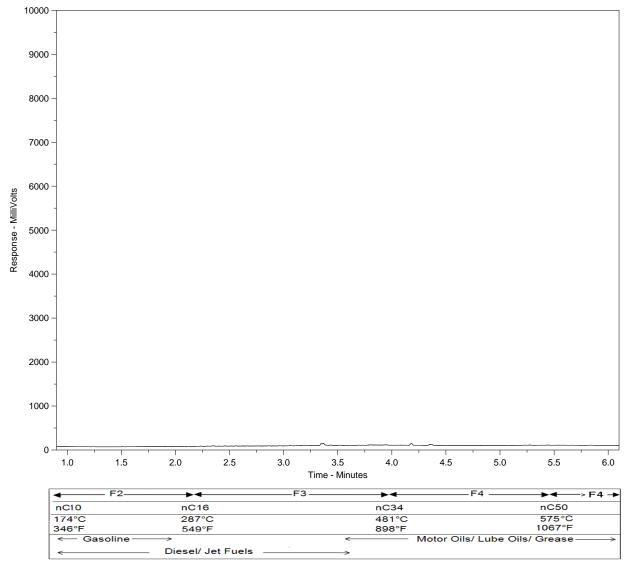
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-17

Client ID: 21EX19-211023 (DUP)



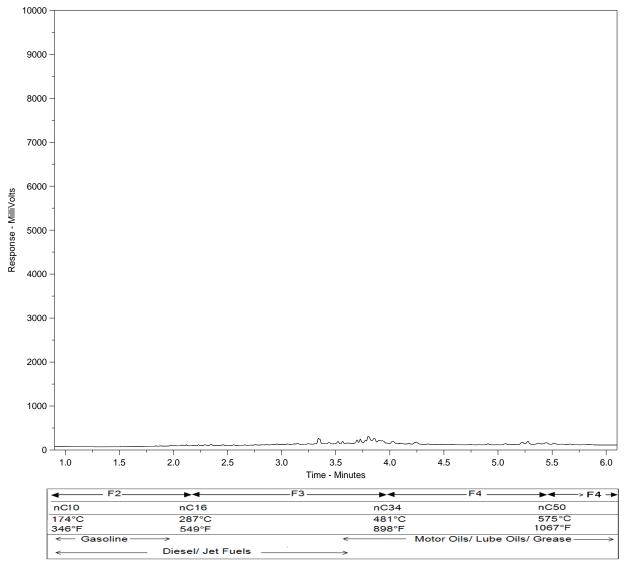
The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



ALS Sample ID: L2655550-18 Client ID: 21EX20-211022



The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number 20 -

Page 1 of 2

Report To Contact and company name below will appear on the final report	he final report	Reports /	Reports / Recipients		7		Turn	nnone	Time	Turnaround Time (TAT) Requested	Bagu	retar			4
Company: KBL	Select Report Format	Format 🗸 PDF	EXCEL & ED	EDD (DIGITAL)	Rou	Routine [R] if received by 3pm M-F - no surcharges apply	if recen	P6d by 3	-M mc	- no s	urchan	DP Set	7		_
Contact: David Vanderkley	Merge QC/QC	Merge QC/QCI Reports with COA	□ YES □	□ N/A	☐ 4 da	4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum	receive	d by 3p	m M-F	- 20%	rush sı	ircharg	e min	mur	_
Phone:	☐ Compare Res	Compare Results to Criteria on Report - provide details below if box checked	t - provide details belo	w if bax checked	] [] &	3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum	if recesy	ed by 3	I-W UK	- 259	rush s	urchar	e min	mum	_
Company address below will appear on the final report	Sel	ition: 🔽 EMAIL	□ MAIL □	FAX	2 8	2 day [P2] if received by 3pm M.F 50% rush surcharge minimum 1 day [E] if received by 3pm M.F 100% rush surcharge minimum	if receive	ed by 3	M MA	- 50%	Tush s	urchar	N min	mum	_
Street 3909 68Ave	Email 1 or Fax	dvanderkley@kblenv.com	env.com		mes :	Same day [E2] If received by 10am MrS - 200% rush surcharge.	2) # re	ceived i	y 10an	M-S-	200%	s upn	archan	Te mum	
City/Province: Leduc, AB	Email 2	mmatkin@kblenv.com	.com		1	Add	Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests	ees ma	Yidde .	o rush	Sanda	N UO S	seken	1 2	- Moh
Postal Code: T9E0Z4	Email 3				D	Date and Time Required for all E&P TATs:	Time R	quired	for all	8P TA	Ts:	1			1
Invoice To Same as Report To		Invoice Recipients	ecipients				_	or all te	sts with	For all tests with rush TATs requested, please contact your AM to confirm availability	I's requ	ested.	lease	contac	Jugar.
Copy of Invoice with Report	Select Invoice Distribution:	S	EMAIL   MAIL	FAX			1					Analysis Request	S R		1
Company:	Email 1 or Fax	(H)		- 1	S		Indic	ate Fit	red (F)	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) helinu	ved (P	or Fil	ared a	A Pre	- Arres
Contact	Email 2	dvanderkley@kblenv.com	env.com		EF	4	4	$\dashv$	+	+	+	+	+	-	-
Project Information	O.	Oil and Gas Required Fields (client use)	d Fields (client u	Ise)	IN	4	+	+	+	+	+	+	+	+	+
ALS Account # / Quote #:	AFE/Cost Center.		PO#		TA		_		_					_	
Job #: 22-018NT	Major/Minor Code:		Routing Code:		N		_		_					_	
PO / AFE: MM024	Requisitioner				C		_					_			
LSD:	Location:				OF		la.								
ALS Lab Work Order # (ALS use only): (265) \$ \( \)	ALS Contact:	**************************************	Sampler:					0.000							
ALS Sample # Sample Identification and/or Coordinates (ALS use only) (This description will appear on the report)	on the report)	Date (dd-mmm-yy)	Time (hh mm)	Sample Type	MUM	TEX F1	article s								
21EX01 - 211018		18-Oct-21		Soil		+	+	p	+	+	$\dagger$	+	+	+	+
Z 21EX02 - 211018		18-Oct-21		Soil		Z)	+	+		+	+	+	+	+	+
3 21EX04 - 211018		18-Oct-21		Soil		Z)	+	+	-						
4 21EX05 - 211018 (Dup)		18-Oct-21		Soil	_	מג	+	+	-						
5 21EX07 - 211018		18-Oct-21		Soil		70	+	+	-						
£ 21EX08 - 211018		18-Oct-21		Soil		Z)	+	+	-						
7 21EX09 - 211018		18-Oct-21		Soil		ZD ZD	R	Z)	_	=					
6 21EX10 - 211019		19-Oct-21		Soil		70	+	+							
G 21EX11 - 211019		19-Oct-21		Soil		Z)	+	+	_	=					
/O 21EX12 - 211021		21-Oct-21		Soil		20	+	+					126	L2655550-COFC	50
() 21EX13 - 211021		21-Oct-21		Soil		ZD	+	1							
7 21EX14 - 211022		22-Oct-21		Soil	_	ZD	+	+				_	_	_	
Drinking Water (DW) Samples¹ (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below	valuation by selectin	g from drop-down			1	-	11	SAM	SAMPLE RECEIPT DETAILS (ALS use only)	ECE	PT D	ETAI	LS (	LS
Are samples taken from a Regulated DW System?	ī	Section of the sectio			Cooling Method:	Metho	ă.	NONE	E C	IG		ICE PACKS	SS		FROZEN
☐ YES ☐ NO				014	Cooler Custody Seals Intact: The	sion Co	v Seal	nts ide	ntitlec	on Sam	ample	ple Rece	apt N	otific	tion:
Are samples for human consumption/ use?				_		ALTINI	INITIAL COOLER TEMPERATURES *C	ER TE	MPER.	TURES	ô	1		FINAL COOLER TEMPE	FINAL COOLER TEMPERATURES *C
☐ YES ☐ NO					4.8										
[		NITIAL SHIPMENT RECEPTION (ALS use only)	RECEPTION (AL	1		+	I	İ		FINAL SHIPMENT RECEPTION (ALS use only)	SHIP	MEN	2	103,	
1										1		-	7		S S

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white-report copy.

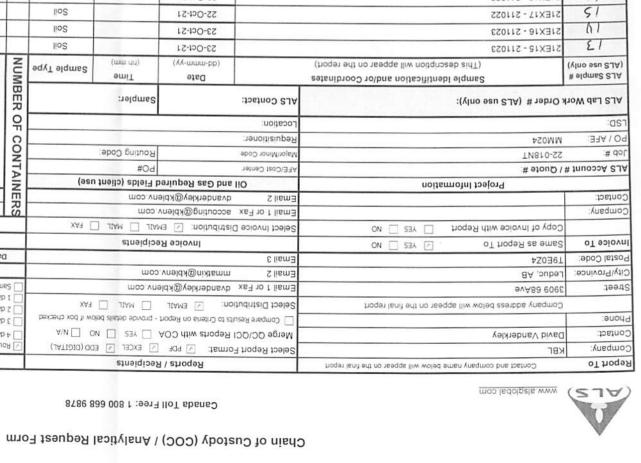
1. If any water samples are taken from a Regulated Drinking Water (DW). System, please submit using an Authorized DW COC form.

WHITE - LABORATORY COPY

YELLOW - CLIENT COPY

COC Number 20 -

Turnaround Time (TAT) Requested



NCH/O	000 DOW					700	report or	- atrum	adt to s	Y page	the bac L COP	no bei	) - W(	us and Conditions as COPY YELLO	F - LABORATORY agrees with the Tem	set acknowledges and WHIT	use of this form the us				PAGE FOR ALS LOCATION all portions of this form may deb	
		uuı			100												100	NOIL	THEODIN'S	JINI IGNIVO GIV SI	1011/30/13/1/ 002/20/4/	
	.,	1000	(Kluo əsn STA	) NOIL		Namain Da	IS JAN	14	:Aq	bevi	Rece	-	:emi]		Date:		Received by:	:emiT		ste: October 24		Released by: M
														(vitao esti S	RECEPTION (AI	TIAL SHIPMENT	INI		-	ASE (client use)	SHIPMENT RELE	
	201	SARUTAR	COOLER TEMPE	FINAL	-	0	URES *C	IAHEH	M TEM	TOOLE	2 TWILL	INI	_	-							ON [ 53)	
A/N	SE 🗌 V	٨ 🗌	ly Seals Intact:	ootsu0 e	Sample	A/N 🗌	_ LES		Intact				9000	5							human consumption/ use?	
		ON 🗌	☐ AES	ication:	titoN tqia	nple Rec	ns2 no	tified	nabi s	ment	Com	noissi	wqns								ON S3.	State of the Control
	GETAT	LING INT	000 🗌 1	FROZEN	CKS	ICE by	ICE		NONE		:poq;	_				el COC only)	277)			<b></b>	en from a Regulated DW Sy	
_			se only)	(ALS u	SJIATE	CEIPT	LE RE	4MA2						woled n	wob-qorb mort go	aluation by selectin	sve tlusen not stimi.	otes / Specify I	N	(lient use)	Water (DW) Samples <sup>1</sup> (c	Drinking
_	$\perp$																					81 W 184 E
		$\top$																				
$\neg$	+	$\top$			+	_	$\vdash$		-	-	-		_									
$\dashv$	$\dashv$	_		-					-		2000	1,000		70,000								
$\dashv$	+	-	+	_	+	_		_	Я	Я	Я	Я		lioS		22-Oct-21					21EX20 - 211022	2/
$\dashv$	-	_			$\vdash$							Я		lioS		23-04-21					S1EX19 - S110S3 (Dup)	LI
4	_	_	$\perp$	_								Я		lioS		22-Oct-21					21EX18 - 211022	91
4	_											Я		lio2		22-04-21					21EX17 - 211022	51
4												Я		lio2	21.1	23-Oct-21					21EX16 - 211023	61
_	_											Я		lioS		23-Oct-21					21EX15 - 211023	13
2	E	SA							F	CCI	Particle	Btex	Z	Sample Type	(യയ പുവു)	(dq-www-hh)		the report)	appear on	description will a	sidT)	(ALS use only)
D	E	5								Æ N	icle :	Î	NUMBE	cant olames	Time	Date		setsnibroo	o no/bns i	le Identification	Samp	# eldms2 SJA
TED	EXTENDED STORAGE REQUIRED	SAMPI ES								CCME Metals +	size	(F1-F4)	ᄱ		Sampler:		ALS Contact:			:(	Order # (ALS use only	ALS Lab Work
	101	OH NO								Hg		- 1	유				Location:					:087
	à :											- 1					Requisitioner				MM024	PO / AFE:
2	m C	2										- 1	읽		Routing Code:		Major/Minor Code				TN810-SS	# qor
	ñ j	기										- 1	7		#Od		AFE/Cost Center				:# atouD /	# truopoA SJA
	S S	-		+	-		-	-	-	-	-	_	CONTAINERS	(əsn		and Gas Require				ormation	Project Inf	
	à I		woled (9/3)	Preserved	DUB Determ	7 10 (7) DE	A IDSD LA	'( ı) pa	15211 1 54	150 in iii		-	밁			dvanderkley@kble						Contact:
					upaR sis		0.003070	(3) Po	2015 3 91	tenhal			S	WI F		accouting@kblen						Company:
		-Khilis	delieve millnoo of M				siwi usn	II IITIM S	esat ne i	10.1			$\dashv$	XV3 [		istribution: 🔃 E	Select Invoice D		ON [		Copy of Invoice with Rep	_
		HILL		in by			TAT 98	_			uu nu	P aled	$\dashv$		ecipients	A epiovnl			ON [	S3Y [V]	Same as Report To	
	size	anituon-n	iou joj pue skepijot	statutory i	weekends,	uo sįsenb	nush rec	apply to	Yem st	99) len	otlibbA -IT ba	0,00	$\dashv$		III.00	ALIQUA MUUN POOL	E mail 3				19E0Z4	
					surcharge.							ер әше				mmatkin@kblenv					educ, AB	
				ш	uminim egr	erbnuz rizu	100% 11	- 4-M	mq£ yd	payao	il if rec	day [E		1001		dvanderkley@kbl			1000		9VA88 6098	
		luo esn			ກເມເນເນ ລຽງ ການເນເນ ລຽງ										☐ NVIF ☐	ts to Criteria on Report	Select Distribution		troger ler	il appear on the fir	Company address below wil	) ;poue;
3831	н лзва	SCODE F	AFFIX ALS BAR		ge minimus rge minimu											Reports with COA					(alvianura niano	
					Ądo	de sagredo	uns ou -	∃-M m	de ya b	Socived	[R] If r	Soutine	K			Benote with CO.					David Vanderkley	outpany:

#### ALS Canada Ltd.

Contact

Address

Site



#### **CERTIFICATE OF ANALYSIS**

**Work Order** : **YL2201870** Page : 1 of 8

Yellowknife NT Canada X1A 2P4

Client : KBL Environmental Ltd. Laboratory : Yellowknife - Environmental

: Katie Oliver : Oliver Gregg

: 17 Cameron Road PO Box 1895 Address : 314 Old Airport Road, Unit 116

Yellowknife NT Canada X1A 3T3

 Telephone
 : 780 893 3305
 Telephone
 : 1 867 446 5593

 Project
 : 22-102NT
 Date Samples Received
 : 19-Oct-2022 16:35

PO : KO059 Date Analysis Commenced : 21-Oct-2022

C-O-C number : ---- Issue Date : 26-Oct-2022 14:11 Sampler : ----

Quote number : YL22-KBLE100-001

No. of samples received : 10
No. of samples analysed : 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

#### **Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department	
Dan Nguyen	Team Leader - Inorganics	Metals, Edmonton, Alberta	
Kari Mulroy	Lab Supervisor - Environmental	Organics, Edmonton, Alberta	
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta	
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta	
Ping Yeung	Team Leader - Inorganics	Metals, Edmonton, Alberta	
Remy Gatabazi	Lab Analyst	Organics, Edmonton, Alberta	
Tiffany McKay	Lab Assistant	Organics, Edmonton, Alberta	
Yan Zhang	Lab Analyst	Organics, Edmonton, Alberta	

Page : 2 of 8

Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



#### **General Comments**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	Description
-	No Unit
%	percent
mg/kg	milligrams per kilogram
pH units	pH units

<: less than.

>: greater than.

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

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

#### **Qualifiers**

Qualifier	Description
DLHM	Detection Limit Adjusted: Sample has high moisture content.
SUR-ND	Surrogate recovery marginally exceeded ALS DQO. Reported non-detect results for associated samples were deemed to be unaffected.

Page : 3 of 8 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



#### Analytical Results

Sub-Matrix: Soil/Solid			C	lient sample ID	22102NT-STF	22102NT-01	22102NT-02	22102NT-03	22102NT-04
(Matrix: Soil/Solid)					Acceptance				
			Client samp	oling date / time	14-Oct-2022 12:17	14-Oct-2022 12:30	14-Oct-2022 12:20	14-Oct-2022 12:30	14-Oct-2022 12:37
Analyte	CAS Number	Method	LOR	Unit	YL2201870-001	YL2201870-002	YL2201870-003	YL2201870-004	YL2201870-005
					Result	Result	Result	Result	Result
Physical Tests									
moisture		E144	0.25	%		8.07	5.36	7.10	4.87
pH (1:2 soil:CaCl2-aq)		E108B	0.10	pH units	7.65				
Particle Size									
sand (>0.075mm)		E178	1.0	%	75.9				
fines (<0.075mm)		E178	1.0	%	24.1				
texture class		E178	-	-	Coarse				
Metals									
aluminum	7429-90-5	E440	50	mg/kg	4130				
antimony	7440-36-0	E440	0.10	mg/kg	0.38				
arsenic	7440-38-2	E440	0.10	mg/kg	7.44				
barium	7440-39-3	E440	0.50	mg/kg	276				
beryllium	7440-41-7	E440	0.10	mg/kg	0.22				
bismuth	7440-69-9	E440	0.20	mg/kg	<0.20				
boron	7440-42-8	E440	5.0	mg/kg	5.8				
cadmium	7440-43-9	E440	0.020	mg/kg	0.163				
calcium	7440-70-2	E440	50	mg/kg	237000				
chromium	7440-47-3	E440	0.50	mg/kg	9.80				
cobalt	7440-48-4	E440	0.10	mg/kg	4.39				
copper	7440-50-8	E440	0.50	mg/kg	8.00				
iron	7439-89-6	E440	50	mg/kg	11700				
lead	7439-92-1	E440	0.50	mg/kg	6.33				
lithium	7439-93-2	E440	2.0	mg/kg	5.3				
magnesium	7439-95-4	E440	20	mg/kg	10300				
manganese	7439-96-5	E440	1.0	mg/kg	223				
mercury	7439-90-3	E510	0.0050	mg/kg	0.0216				
molybdenum	7439-98-7	E440	0.10	mg/kg	2.10				
nickel	7440-02-0	E440	0.50	mg/kg	16.8				
phosphorus		E440	50		674				
i i	7723-14-0			mg/kg					
potassium	7440-09-7	E440	100	mg/kg	710				

Page : 4 of 8 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT

## ALS

## Analytical Results

Sub-Matrix: Soil/Solid			C	ient sample ID	22102NT-STF	22102NT-01	22102NT-02	22102NT-03	22102NT-04
(Matrix: Soil/Solid)					Acceptance				
			Client samp	ling date / time	14-Oct-2022 12:17	14-Oct-2022 12:30	14-Oct-2022 12:20	14-Oct-2022 12:30	14-Oct-2022 12:37
Analyte	CAS Number	Method	LOR	Unit	YL2201870-001	YL2201870-002	YL2201870-003	YL2201870-004	YL2201870-005
					Result	Result	Result	Result	Result
Metals		E440	0.00		0.07				
selenium 	7782-49-2	E440	0.20	mg/kg	0.37				
silver	7440-22-4	E440	0.10	mg/kg	<0.10				
sodium	7440-23-5	E440	50	mg/kg	100				
strontium	7440-24-6	E440	0.50	mg/kg	141				
sulfur	7704-34-9	E440	1000	mg/kg	<1000				
thallium	7440-28-0	E440	0.050	mg/kg	0.122				
tin	7440-31-5	E440	2.0	mg/kg	<2.0				
titanium	7440-32-6	E440	1.0	mg/kg	44.5				
tungsten	7440-33-7	E440	0.50	mg/kg	<0.50				
uranium	7440-61-1	E440	0.050	mg/kg	2.64				
vanadium	7440-62-2	E440	0.20	mg/kg	18.9				
zinc	7440-66-6	E440	2.0	mg/kg	44.3				
zirconium	7440-67-7	E440	1.0	mg/kg	1.5				
Volatile Organic Compounds [Fuels]									
benzene	71-43-2	E611A	0.0050	mg/kg		0.174	0.0384	0.123	0.0364
ethylbenzene	100-41-4	E611A	0.015	mg/kg		0.079	0.023	0.026	0.034
toluene	108-88-3	E611A	0.050	mg/kg		0.444	0.177	0.162	0.143
xylene, m+p-	179601-23-1	E611A	0.050	mg/kg		0.318	0.131	0.079	0.156
xylene, o-	95-47-6	E611A	0.050	mg/kg		0.062	<0.050	<0.050	<0.050
xylenes, total	1330-20-7	E611A	0.075	mg/kg		0.380	0.131	0.079	0.156
Hydrocarbons									
F1 (C6-C10)		E581.VH+F1	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0
F1-BTEX		EC580	5.0	mg/kg		<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)		E601.SG	30	mg/kg		<30	<30	<30	<30
F3 (C16-C34)		E601.SG	50	mg/kg		227	242	218	306
F4 (C34-C50)		E601.SG	50	mg/kg		<50	<50	<50	<50
chromatogram to baseline at nC50	n/a	E601.SG	-	-		Yes	Yes	Yes	Yes
Hydrocarbons Surrogates									
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601.SG	1.0	%		88.6	89.4	89.4	87.0
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%		94.6	92.0	94.1	84.5

Page : 5 of 8 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



## Analytical Results

(Matrix: Soil/Solid)  Analyte CAS Num  Volatile Organic Compounds Surrogates bromofluorobenzene, 4- diffluorobenzene, 1,4-  Polycyclic Aromatic Hydrocarbons acenaphthene 83-3 acenaphthylene 208-6 acridine 260-9 anthracene 120-1 benz(a)anthracene 56-5 benzo(b+j)fluoranthene benzo(b+j+k)fluoranthene benzo(g,h,i)perylene 191-2				A				
Volatile Organic Compounds Surrogates bromofluorobenzene, 4- difluorobenzene, 1,4-  Polycyclic Aromatic Hydrocarbons acenaphthene acenaphthylene acridine anthracene benzo(a)pyrene benzo(b+j)fluoranthene				Acceptance				
Volatile Organic Compounds Surrogates bromofluorobenzene, 4- difluorobenzene, 1,4-  Polycyclic Aromatic Hydrocarbons acenaphthene acenaphthylene acridine anthracene benzo(a)pyrene benzo(b+j)fluoranthene		Client samı	oling date / time	14-Oct-2022 12:17	14-Oct-2022 12:30	14-Oct-2022 12:20	14-Oct-2022 12:30	14-Oct-2022 12:37
bromofluorobenzene, 4- diffluorobenzene, 1,4-  Polycyclic Aromatic Hydrocarbons acenaphthene acenaphthylene acridine anthracene benzo(a)pyrene benzo(b+j)fluoranthene	ber Method	LOR	Unit	YL2201870-001	YL2201870-002	YL2201870-003	YL2201870-004	YL2201870-005
bromofluorobenzene, 4- difluorobenzene, 1,4-  Polycyclic Aromatic Hydrocarbons acenaphthene acenaphthylene acridine anthracene benzo(a)pyrene benzo(b+j)fluoranthene				Result	Result	Result	Result	Result
difluorobenzene, 1,4-  Polycyclic Aromatic Hydrocarbons acenaphthene acenaphthylene acridine anthracene benzo(a)pyrene benzo(b+j)fluoranthene								
Polycyclic Aromatic Hydrocarbons acenaphthene 83-3 acenaphthylene 208-9 acridine 260-9 anthracene 120-1 benz(a)anthracene 56-8 benzo(a)pyrene 50-3 benzo(b+j)fluoranthene	)-4 E611A	0.10	%		84.9	76.9	74.6	70.1
acenaphthene 83-3 acenaphthylene 208-5 acridine 260-5 anthracene 120-1 benz(a)anthracene 56-5 benzo(a)pyrene 50-3 benzo(b+j)fluoranthene	6-3 E611A	0.10	%		96.0	89.1	74.9	73.3
acenaphthylene 208-9 acridine 260-9 anthracene 120-1 benz(a)anthracene 56-5 benzo(a)pyrene 50-3 benzo(b+j)fluoranthene benzo(b+j+k)fluoranthene								
acridine 260-9 anthracene 120-1 benz(a)anthracene 56-5 benzo(a)pyrene 50-3 benzo(b+j)fluoranthene benzo(b+j+k)fluoranthene	2-9 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
anthracene 120-1 benz(a)anthracene 56-5 benzo(a)pyrene 50-3 benzo(b+j)fluoranthene benzo(b+j+k)fluoranthene	6-8 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
benz(a)anthracene 56-5 benzo(a)pyrene 50-3 benzo(b+j)fluoranthene benzo(b+j+k)fluoranthene	4-6 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
benzo(a)pyrene 50-3 benzo(b+j)fluoranthene benzo(b+j+k)fluoranthene	2-7 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
benzo(b+j)fluoranthene benzo(b+j+k)fluoranthene	5-3 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
benzo(b+j+k)fluoranthene	2-8 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
	n/a E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
benzo(g,h,i)perylene 191-2	n/a E641A	0.075	mg/kg		<0.075	<0.075	<0.075	<0.075
	4-2 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
benzo(k)fluoranthene 207-0	8-9 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
chrysene 218-0	1-9 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
dibenz(a,h)anthracene 53-7	0-3 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
fluoranthene 206-4	4-0 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
fluorene 86-7	3-7 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
indeno(1,2,3-c,d)pyrene 193-3	9-5 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
methylnaphthalene, 1- 90-1	2-0 E641A	0.030	mg/kg		<0.030	< 0.030	<0.030	<0.030
methylnaphthalene, 1+2-	E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
methylnaphthalene, 2- 91-5	7-6 E641A	0.030	mg/kg		<0.030	< 0.030	<0.030	<0.030
naphthalene 91-2	0-3 E641A	0.010	mg/kg		0.012	0.012	0.010	0.012
phenanthrene 85-0	1-8 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
pyrene 129-0		0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
quinoline 91-2	2-5 E641A	0.050	mg/kg		<0.050	<0.050	<0.050	<0.050
B(a)P total potency equivalents [B(a)P TPE]	E641A	0.065	mg/kg		<0.065	<0.065	<0.065	<0.065
IACR (CCME)	E641A	0.60	-		<0.60	<0.60	<0.60	<0.60
IACR AB (coarse)	E641A	0.10	_		<0.10	<0.10	<0.10	<0.10
IACR AB (fine)	E641A	0.10	_		<0.10	<0.10	<0.10	<0.10
PAHs, total (BC Sched 3.4)	1							

Page : 6 of 8

Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



## Analytical Results

Sub-Matrix: Soil/Solid			Cli	ient sample ID	22102NT-STF	22102NT-01	22102NT-02	22102NT-03	22102NT-04
(Matrix: Soil/Solid)					Acceptance				
			Client samp	ling date / time	14-Oct-2022 12:17	14-Oct-2022 12:30	14-Oct-2022 12:20	14-Oct-2022 12:30	14-Oct-2022 12:37
Analyte	CAS Number	Method	LOR	Unit	YL2201870-001	YL2201870-002	YL2201870-003	YL2201870-004	YL2201870-005
					Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons									
PAHs, total (EPA 16)	n/a	E641A	0.20	mg/kg		<0.20	<0.20	<0.20	<0.20
Polycyclic Aromatic Hydrocarbons Surrogates									
acridine-d9	34749-75-2	E641A	0.1	%		107	114	102	112
chrysene-d12	1719-03-5	E641A	0.1	%		98.3	109	97.7	107
naphthalene-d8	1146-65-2	E641A	0.1	%		88.5	95.6	89.1	95.7
phenanthrene-d10	1517-22-2	E641A	0.1	%		102	109	100	109

Please refer to the General Comments section for an explanation of any qualifiers detected.

Page : 7 of 8 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT

# ALS

## Analytical Results

Sub-Matrix: Soil/Solid			C	lient sample ID	22102NT-05	22102NT-06	22102NT-07	22102NT-08	22102NT-DUP
(Matrix: Soil/Solid)									
			Client samp	oling date / time	14-Oct-2022 12:40	14-Oct-2022	14-Oct-2022	14-Oct-2022	14-Oct-2022
Analyte	CAS Number	Method	LOR	Unit	YL2201870-006	YL2201870-007	YL2201870-008	YL2201870-009	YL2201870-010
					Result	Result	Result	Result	Result
Physical Tests									
moisture		E144	0.25	%	9.46	28.5	50.7	49.7	6.32
Volatile Organic Compounds [Fuels]									
benzene	71-43-2	E611A	0.0050	mg/kg	0.180	<0.0050	<0.0087 DLHM	<0.0050	0.0692
ethylbenzene	100-41-4	E611A	0.015	mg/kg	0.057	<0.015	<0.022 DLHM	<0.015	0.165
toluene	108-88-3	E611A	0.050	mg/kg	0.380	<0.050	<0.050	<0.050	0.909
xylene, m+p-	179601-23-1	E611A	0.050	mg/kg	0.223	<0.050	<0.050	<0.050	0.547
xylene, o-	95-47-6	E611A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	0.115
xylenes, total	1330-20-7	E611A	0.075	mg/kg	0.223	<0.075	<0.075	<0.075	0.662
Hydrocarbons									
F1 (C6-C10)		E581.VH+F1	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX		EC580	5.0	mg/kg	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)		E601.SG	30	mg/kg	<30	<30	30	<30	<30
F3 (C16-C34)		E601.SG	50	mg/kg	351	187	307	583	356
F4 (C34-C50)		E601.SG	50	mg/kg	63	100	141	373	317
F4G-sg		E601.F4G	500	mg/kg		<500	3360	1780	850
chromatogram to baseline at nC50	n/a	E601.SG	-	-	Yes	No	No	No	No
Hydrocarbons Surrogates									
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601.SG	1.0	%	90.2	88.7	90.0	90.9	88.2
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	91.4	98.1	70.3	99.4	96.0
Volatile Organic Compounds Surrogates									
bromofluorobenzene, 4-	460-00-4	E611A	0.10	%	75.3	75.8	70.5	74.8	74.2
difluorobenzene, 1,4-	540-36-3	E611A	0.10	%	73.6	74.1	77.5	86.8	78.4
Polycyclic Aromatic Hydrocarbons									
acenaphthene	83-32-9	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
acenaphthylene	208-96-8	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
acridine	260-94-6	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
anthracene	120-12-7	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
benz(a)anthracene	56-55-3	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
benzo(a)pyrene	50-32-8	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
benzo(b+j)fluoranthene	n/a	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
The Management of the Control of the	11/4		1 0.000	1119/119	0.000	0.000	0.000	0.000	1

Page : 8 of 8

Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT

## Analytical Results

Sub-Matrix: Soil/Solid			CI	ient sample ID	22102NT-05	22102NT-06	22102NT-07	22102NT-08	22102NT-DUP
(Matrix: Soil/Solid)									
			Client samp	ling date / time	14-Oct-2022 12:40	14-Oct-2022	14-Oct-2022	14-Oct-2022	14-Oct-2022
Analyte	CAS Number	Method	LOR	Unit	YL2201870-006	YL2201870-007	YL2201870-008	YL2201870-009	YL2201870-010
					Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons									
benzo(b+j+k)fluoranthene	n/a	E641A	0.075	mg/kg	<0.075	<0.075	<0.075	<0.075	<0.075
benzo(g,h,i)perylene	191-24-2	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
benzo(k)fluoranthene	207-08-9	E641A	0.050	mg/kg	< 0.050	<0.050	<0.050	<0.050	<0.050
chrysene	218-01-9	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dibenz(a,h)anthracene	53-70-3	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
fluoranthene	206-44-0	E641A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
fluorene	86-73-7	E641A	0.050	mg/kg	<0.050	<0.050	0.052	<0.050	<0.050
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.050	mg/kg	<0.050	<0.050	< 0.050	<0.050	<0.050
methylnaphthalene, 1-	90-12-0	E641A	0.030	mg/kg	<0.030	<0.030	< 0.030	<0.030	<0.030
methylnaphthalene, 1+2-		E641A	0.050	mg/kg	<0.050	<0.050	< 0.050	<0.050	<0.050
methylnaphthalene, 2-	91-57-6	E641A	0.030	mg/kg	<0.030	<0.030	< 0.030	<0.030	<0.030
naphthalene	91-20-3	E641A	0.010	mg/kg	0.012	<0.010	0.011	<0.010	<0.010
phenanthrene	85-01-8	E641A	0.050	mg/kg	< 0.050	<0.050	< 0.050	<0.050	<0.050
pyrene	129-00-0	E641A	0.050	mg/kg	< 0.050	<0.050	< 0.050	<0.050	<0.050
quinoline	91-22-5	E641A	0.050	mg/kg	< 0.050	<0.050	< 0.050	<0.050	<0.050
B(a)P total potency equivalents [B(a)P TPE]		E641A	0.065	mg/kg	< 0.065	<0.065	< 0.065	<0.065	<0.065
IACR (CCME)		E641A	0.60	-	<0.60	<0.60	<0.60	<0.60	<0.60
IACR AB (coarse)		E641A	0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10
IACR AB (fine)		E641A	0.10	-	<0.10	<0.10	<0.10	<0.10	<0.10
PAHs, total (BC Sched 3.4)	n/a	E641A	0.20	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20
PAHs, total (EPA 16)	n/a	E641A	0.20	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20
Polycyclic Aromatic Hydrocarbons Surrogates									
acridine-d9	34749-75-2	E641A	0.1	%	114	58.2 SUR-ND	87.6	16.9 sur-nd	107
chrysene-d12	1719-03-5	E641A	0.1	%	106	102	110	97.6	94.9
naphthalene-d8	1146-65-2	E641A	0.1	%	102	92.7	104	92.8	85.6
phenanthrene-d10	1517-22-2	E641A	0.1	%	109	105	114	101	100

Please refer to the General Comments section for an explanation of any qualifiers detected.



### **QUALITY CONTROL INTERPRETIVE REPORT**

**Work Order** : **YL2201870** Page : 1 of 13

Client : KBL Environmental Ltd. Laboratory : Yellowknife - Environmental

Contact : Katie Oliver : Account Manager : Oliver Gregg

Address :17 Cameron Road PO Box 1895 Address :314 Old Airport Road, Unit 116

Yellowknife, Northwest Territories Canada X1A 3T3

 Telephone
 :780 893 3305
 Telephone
 :1 867 446 5593

 Project
 :22-102NT
 Date Samples Received
 :19-Oct-2022 16:35

 PO
 : KO059
 Issue Date
 : 26-Oct-2022 14:12

C-O-C number : ---Sampler : ---Site : ----

Quote number : YL22-KBLE100-001

No. of samples received :10
No. of samples analysed :10

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

#### Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

Yellowknife NT Canada X1A 2P4

**DQO: Data Quality Objective.** 

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

#### **Workorder Comments**

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### **Summary of Outliers**

#### Outliers: Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Test sample Surrogate recovery outliers exist for all regular sample matrices please see following pages for full details.

#### Outliers: Reference Material (RM) Samples

No Reference Material (RM) Sample outliers occur.

## Outliers : Analysis Holding Time Compliance (Breaches) ■ No Analysis Holding Time Outliers exist.

## **Outliers : Frequency of Quality Control Samples**

• Quality Control Sample Frequency Outliers occur - please see following pages for full details.

Page : 3 of 13 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



#### Regular Sample Surrogates

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Result	Limits	Comment
Samples Submitted							
Polycyclic Aromatic Hydrocarbons Surrogates	YL2201870-007	22102NT-06	acridine-d9	34749-75-2	58.2 %	60.0-130	Recovery less than lower
						%	data quality objective
Polycyclic Aromatic Hydrocarbons Surrogates	YL2201870-009	22102NT-08	acridine-d9	34749-75-2	16.9 %	60.0-130	Recovery less than lower
						%	data quality objective

Page : 4 of 13 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



## **Analysis Holding Time Compliance**

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

trix: Soil/Solid Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

							, ,			Holding T
Analyte Group	Method	Sampling Date	Ex	traction / Pr	reparation			Analys	sis	
Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
lydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
22102NT-01	E601.SG	14-Oct-2022	22-Oct-2022	14	8 days	✓	24-Oct-2022	40 days	2 days	✓
				days						
ydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
22102NT-02	E601.SG	14-Oct-2022	22-Oct-2022	14	8 days	✓	24-Oct-2022	40 days	2 days	✓
				days						
ydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
22102NT-03	E601.SG	14-Oct-2022	22-Oct-2022	14	8 days	✓	24-Oct-2022	40 days	2 days	✓
				days						
ydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
22102NT-04	E601.SG	14-Oct-2022	22-Oct-2022	14	8 days	✓	24-Oct-2022	40 days	2 days	✓
				days						
ydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
22102NT-05	E601.SG	14-Oct-2022	22-Oct-2022	14	8 days	✓	24-Oct-2022	40 days	2 days	✓
				days						
ydrocarbons : CCME PHCs - F2-F4 by GC-FID				•						
Glass soil jar/Teflon lined cap										
22102NT-06	E601.SG	14-Oct-2022	22-Oct-2022	14	8 days	✓	24-Oct-2022	40 days	2 days	✓
				days						
ydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap										
22102NT-07	E601.SG	14-Oct-2022	22-Oct-2022	14	8 days	✓	24-Oct-2022	40 days	2 days	✓
				days						

Page : 5 of 13 Work Order · YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



Matrix: Soil/Solid Evaluation: x = Holding time exceedance; ✓ = Within Holding Time Extraction / Preparation Analysis Analyte Group Method Sampling Date Container / Client Sample ID(s) Preparation **Holding Times** Eval Analysis Date Holding Times Eval Rec Actual Rec Actual Date Hydrocarbons: CCME PHCs - F2-F4 by GC-FID Glass soil jar/Teflon lined cap E601.SG 14-Oct-2022 22-Oct-2022 1 24-Oct-2022 40 days ✓ 22102NT-08 8 days 2 days 14 days Hydrocarbons: CCME PHCs - F2-F4 by GC-FID Glass soil jar/Teflon lined cap ✓ 22102NT-DUP E601.SG 14-Oct-2022 22-Oct-2022 14 8 days 24-Oct-2022 40 days 2 days ✓ days Hydrocarbons: CCME PHCs - F4G by Gravimetry Glass soil jar/Teflon lined cap 22102NT-06 E601.F4G 14-Oct-2022 25-Oct-2022 ✓ 25-Oct-2022 40 days 0 days ✓ 14 11 days davs Hydrocarbons: CCME PHCs - F4G by Gravimetry Glass soil jar/Teflon lined cap E601.F4G 14-Oct-2022 1 ✓ 22102NT-07 25-Oct-2022 14 25-Oct-2022 40 days 0 days 11 days days Hydrocarbons: CCME PHCs - F4G by Gravimetry Glass soil jar/Teflon lined cap 22102NT-08 E601.F4G 14-Oct-2022 25-Oct-2022 ✓ 25-Oct-2022 40 days 0 days ✓ 14 11 days days Hydrocarbons : CCME PHCs - F4G by Gravimetry Glass soil jar/Teflon lined cap E601.F4G 14-Oct-2022 1 ✓ 22102NT-DUP 25-Oct-2022 14 11 25-Oct-2022 40 days 0 days days days Hydrocarbons: VH and F1 by Headspace GC-FID Glass soil methanol vial 22102NT-01 E581.VH+F1 14-Oct-2022 22-Oct-2022 22-Oct-2022 40 days 8 days ✓ Hydrocarbons: VH and F1 by Headspace GC-FID Glass soil methanol vial 8 days ✓ 22102NT-02 E581.VH+F1 14-Oct-2022 22-Oct-2022 22-Oct-2022 40 days Hydrocarbons: VH and F1 by Headspace GC-FID Glass soil methanol vial E581.VH+F1 14-Oct-2022 22-Oct-2022 22-Oct-2022 40 days 8 days ✓ 22102NT-03

Page : 6 of 13 Work Order · YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



Matrix: Soil/Solid Evaluation: x = Holding time exceedance; ✓ = Within Holding Time Extraction / Preparation Sampling Date Analysis Analyte Group Method Container / Client Sample ID(s) **Holding Times** Preparation Eval Analysis Date Holding Times Eval Rec Actual Rec Actual Date Hydrocarbons: VH and F1 by Headspace GC-FID Glass soil methanol vial E581.VH+F1 14-Oct-2022 22-Oct-2022 22-Oct-2022 40 days 8 days ✓ 22102NT-04 Hydrocarbons: VH and F1 by Headspace GC-FID Glass soil methanol vial 22102NT-05 E581.VH+F1 14-Oct-2022 22-Oct-2022 22-Oct-2022 40 days 8 days ✓ Hydrocarbons: VH and F1 by Headspace GC-FID Glass soil methanol vial 22102NT-06 E581.VH+F1 14-Oct-2022 22-Oct-2022 22-Oct-2022 40 days 8 days ✓ Hydrocarbons: VH and F1 by Headspace GC-FID Glass soil methanol vial E581.VH+F1 14-Oct-2022 ✓ 22102NT-07 22-Oct-2022 22-Oct-2022 40 days 8 days Hydrocarbons: VH and F1 by Headspace GC-FID Glass soil methanol vial 22102NT-08 E581.VH+F1 14-Oct-2022 22-Oct-2022 22-Oct-2022 40 days 8 days ✓ Hydrocarbons: VH and F1 by Headspace GC-FID Glass soil methanol vial E581.VH+F1 14-Oct-2022 22102NT-DUP 22-Oct-2022 22-Oct-2022 40 days 8 days ----Metals: Mercury in Soil/Solid by CVAAS LDPE bag 22102NT-STF Acceptance E510 14-Oct-2022 25-Oct-2022 25-Oct-2022 28 days 11 days ✓ Metals : Metals in Soil/Solid by CRC ICPMS LDPE bag 14-Oct-2022 25-Oct-2022 11 days ✓ 22102NT-STF Acceptance E440 25-Oct-2022 180 days Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve LDPE bag E178 14-Oct-2022 1 24-Oct-2022 10 days 22102NT-STF Acceptance 180 days

Page : 7 of 13 Work Order · YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



Matrix: Soil/Solid Evaluation: **x** = Holding time exceedance; ✓ = Within Holding Time Extraction / Preparation Sampling Date Analysis Analyte Group Method Container / Client Sample ID(s) Eval Preparation **Holding Times** Analysis Date Holding Times Eval Actual Rec Actual Rec Date **Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap 22102NT-01 E144 14-Oct-2022 21-Oct-2022 **Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap 22102NT-02 E144 14-Oct-2022 21-Oct-2022 **Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap 22102NT-03 E144 14-Oct-2022 21-Oct-2022 ----**Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap E144 14-Oct-2022 22102NT-04 21-Oct-2022 **Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap 22102NT-05 E144 14-Oct-2022 21-Oct-2022 **Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap E144 14-Oct-2022 21-Oct-2022 22102NT-06 ----**Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap 22102NT-07 E144 14-Oct-2022 21-Oct-2022 **Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap 22102NT-08 E144 14-Oct-2022 21-Oct-2022 **Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap E144 14-Oct-2022 22102NT-DUP 21-Oct-2022

Page : 8 of 13 Work Order : YL2201870

Client : KBL Environmental Ltd.



Matrix: Soil/Solid					Ev	/aluation: 🗴 =	Holding time exce	edance ; 🔹	= Within	Holding Tim
Analyte Group	Method	Sampling Date	Ext	traction / Pr	eparation			Analys	is	
Container / Client Sample ID(s)			Preparation Date	Holding Rec	Times Actual	Eval	Analysis Date	Holding Rec	Times Actual	Eval
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)										
LDPE bag 22102NT-STF Acceptance	E108B	14-Oct-2022	23-Oct-2022				25-Oct-2022	30 days	2 days	<b>√</b>
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap 22102NT-01	E641A	14-Oct-2022	22-Oct-2022	14 days	8 days	✓	24-Oct-2022	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap 22102NT-02	E641A	14-Oct-2022	22-Oct-2022	14 days	8 days	✓	24-Oct-2022	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap 22102NT-03	E641A	14-Oct-2022	22-Oct-2022	14 days	8 days	✓	24-Oct-2022	40 days	2 days	<b>√</b>
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap 22102NT-04	E641A	14-Oct-2022	22-Oct-2022	14 days	8 days	✓	24-Oct-2022	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap 22102NT-05	E641A	14-Oct-2022	22-Oct-2022	14 days	8 days	✓	24-Oct-2022	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap 22102NT-06	E641A	14-Oct-2022	22-Oct-2022	14 days	8 days	✓	24-Oct-2022	40 days	2 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap 22102NT-07	E641A	14-Oct-2022	22-Oct-2022	14 days	8 days	✓	24-Oct-2022	40 days	2 days	<b>√</b>
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap 22102NT-08	E641A	14-Oct-2022	22-Oct-2022	14 days	8 days	✓	24-Oct-2022	40 days	2 days	✓

Page : 9 of 13 Work Order : YL2201870

Client : KBL Environmental Ltd.



Matrix: Soil/Solid					Ev	aluation: 🗴 =	Holding time exce	edance ; 🕥	= Within	Holding Tir
Analyte Group	Method	Sampling Date	Ext	raction / Pr	eparation		Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Rec	g Times Actual	Eval	Analysis Date	Holding Rec	Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap 22102NT-DUP	E641A	14-Oct-2022	22-Oct-2022	14 days	8 days	✓	24-Oct-2022	40 days	2 days	✓
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial 22102NT-01	E611A	14-Oct-2022	22-Oct-2022				22-Oct-2022	40 days	8 days	✓
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial 22102NT-02	E611A	14-Oct-2022	22-Oct-2022				22-Oct-2022	40 days	8 days	✓
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial 22102NT-03	E611A	14-Oct-2022	22-Oct-2022				22-Oct-2022	40 days	8 days	✓
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial 22102NT-04	E611A	14-Oct-2022	22-Oct-2022				22-Oct-2022	40 days	8 days	✓
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial 22102NT-05	E611A	14-Oct-2022	22-Oct-2022				22-Oct-2022	40 days	8 days	✓
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial 22102NT-06	E611A	14-Oct-2022	22-Oct-2022				22-Oct-2022	40 days	8 days	✓
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial 22102NT-07	E611A	14-Oct-2022	22-Oct-2022				22-Oct-2022	40 days	8 days	✓
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial 22102NT-08	E611A	14-Oct-2022	22-Oct-2022				22-Oct-2022	40 days	8 days	✓

Page : 10 of 13 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



Matrix: Soil/Solid Evaluation: × = Holding time exceedance: ✓ = Within Holding Time

Wattix. Soli/Solid						valuation. •• =	i lolding time excee	suarice,	_ vviti iii i	Tioluling Tillic
Analyte Group	Method	Sampling Date	Ext	raction / Pr	eparation			Analys	sis	
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial 22102NT-DUP	E611A	14-Oct-2022	22-Oct-2022				22-Oct-2022	40 days	8 days	✓

#### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 11 of 13 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



## **Quality Control Parameter Frequency Compliance**

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Quality Control Sample Type			Co	ount		)	
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	709167	1	9	11.1	5.0	1
CCME fine/coarse Particle Size Analysis by wet sieve	E178	711109	1	7	14.2	5.0	1
CCME PHCs - F2-F4 by GC-FID	E601.SG	709445	1	19	5.2	5.0	1
CCME PHCs - F4G by Gravimetry	E601.F4G	714237	0	4	0.0	5.0	3¢
Mercury in Soil/Solid by CVAAS	E510	713795	1	1	100.0	5.0	1
Metals in Soil/Solid by CRC ICPMS	E440	713796	1	1	100.0	5.0	✓
Moisture Content by Gravimetry	E144	708406	1	19	5.2	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	709446	0	9	0.0	5.0	se
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)	E108B	710342	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	709168	1	9	11.1	5.0	✓
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	709167	1	9	11.1	5.0	1
CCME fine/coarse Particle Size Analysis by wet sieve	E178	711109	1	7	14.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	709445	2	19	10.5	10.0	✓
CCME PHCs - F4G by Gravimetry	E601.F4G	714237	2	4	50.0	10.0	1
Mercury in Soil/Solid by CVAAS	E510	713795	2	1	200.0	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	713796	2	1	200.0	10.0	✓
Moisture Content by Gravimetry	E144	708406	1	19	5.2	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	709446	1	9	11.1	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)	E108B	710342	2	20	10.0	10.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	709168	1	9	11.1	5.0	✓
Method Blanks (MB)							
BTEX by Headspace GC-MS	E611A	709167	1	9	11.1	5.0	1
CCME PHCs - F2-F4 by GC-FID	E601.SG	709445	1	19	5.2	5.0	✓
CCME PHCs - F4G by Gravimetry	E601.F4G	714237	1	4	25.0	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	713795	1	1	100.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	713796	1	1	100.0	5.0	✓
Moisture Content by Gravimetry	E144	708406	1	19	5.2	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	709446	1	9	11.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	709168	1	9	11.1	5.0	✓
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	709167	1	9	11.1	5.0	✓
PAHs by Hex:Ace GC-MS	E641A	709446	1	9	11.1	5.0	1

Page : 12 of 13 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



## **Methodology References and Summaries**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction)	E108B Edmonton -	Soil/Solid	CSSS (2008) 16.3	A 10g portion of dried (<60°C) and ground (10 mesh/2 mm) sample is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed
	Environmental			using a pH meter and electrode.
Moisture Content by Gravimetry	E144	Soil/Solid	CCME PHC in Soil - Tier	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is
	Edmonton -			calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
	Environmental			
CCME fine/coarse Particle Size Analysis by	E178	Soil/Solid	CCME Vol 4 Analytical	An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent
wet sieve	Educanton.		Methods	(sodium hexametaphosphate). The sample is washed through a 200 mesh (0.075 mm)
	Edmonton -			sieve. The retained mass of sample is used to determine % sand fraction. If the
	Environmental			percentage of sand is >50%, the soil is considered to be coarse textured soil. If the percentage of sand is <50%, the soil is considered to be fine textured.
Metals in Soil/Solid by CRC ICPMS	E440	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available.
	Educanton.			Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl.
	Edmonton - Environmental			December to a complementary company to the control of the control
	Environmental			Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms
				of sulfur (including sulfide) may not be captured, as they may be lost during sampling,
				storage, or digestion. This method does not adequately recover elemental sulfur, and is
				unsuitable for assessment of elemental sulfur standards or guidelines.
				distribute for assessment of elemental sundi-standards of guidelines.
				Analysis is by Collision/Reaction Cell ICPMS.
Mercury in Soil/Solid by CVAAS	E510	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl, followed by CVAAS analysis.
	Edmonton -		Appendix (mod)	Tollowed by OVAAO allalysis.
	Environmental			
VH and F1 by Headspace GC-FID	E581.VH+F1	Soil/Solid	BC MOE Lab Manual / CCME PHC in Soil - Tier	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace
	Edmonton -		1 (mod)	autosampler, causing VOCs to partition between the aqueous phase and the
	Environmental		T (mod)	headspace in accordance with Henry's law.
CCME PHCs - F4G by Gravimetry	E601.F4G	Soil/Solid	CCME PHC in Soil - Tier	A portion of the silica gel treated sample extract is filtered and dried at 105°C and the
			1	mass of the residual gravimetric heavy hydrocarbons (F4G) is determined
	Edmonton -			gravimetrically.
	Environmental			
CCME PHCs - F2-F4 by GC-FID	E601.SG	Soil/Solid	CCME PHC in Soil - Tier	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4).
	Edmonton -			, ( · ·/·
	Environmental			

Page : 13 of 13 Work Order : YL2201870

Client : KBL Environmental Ltd.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
BTEX by Headspace GC-MS	E611A	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS.
				Samples are prepared in headspace vials and are heated and agitated on the
	Edmonton -			headspace autosampler, causing VOCs to partition between the aqueous phase and
	Environmental			the headspace in accordance with Henry's law.
PAHs by Hex:Ace GC-MS	E641A	Soil/Solid	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are extracted with hexane/acetone and
				analyzed by GC-MS. If reported, IACR (index of additive cancer risk, unitless) and
	Edmonton -			B(a)P toxic potency equivalent (in soil concentration units) are calculated as per CCME
	Environmental			PAH Soil Quality Guidelines fact sheet (2010) or ABT1.
F1-BTEX	EC580	Soil/Solid	CCME PHC in Soil - Tier	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene,
			1	ethylbenzene and xylenes (BTEX).
	Edmonton -			
	Environmental			
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil : 0.01CaCl2	EP108B	Soil/Solid	CSSS (2008) 16.3	A 10g portion of dried (<60°C) and ground (10 mesh/2 mm) sample is extracted with
				20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous
	Edmonton -			layer is separated from the soil by centrifuging, settling or decanting and then analyzed
	Environmental			using a pH meter and electrode.
Digestion for Metals and Mercury	EP440	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCI.
				This method is intended to liberate metals that may be environmentally available.
	Edmonton -			
	Environmental			
VOCs Methanol Extraction for Headspace	EP581	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted with methanol. Extracts are then prepared in headspace
Analysis				vials and are heated and agitated on the headspace autosampler, causing VOCs to
	Edmonton -			partition between the aqueous phase and the headspace in accordance with Henry's
	Environmental			law.
PHCs and PAHs Hexane-Acetone Tumbler	EP601	Soil/Solid	CCME PHC in Soil - Tier	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted
Extraction			1 (mod)	with 1:1 hexane:acetone using a rotary extractor.
	Edmonton -			
	Environmental			
Dry and Grind in Soil/Solid <60°C	EPP442	Soil/Solid	Soil Sampling and	After removal of any coarse fragments and reservation of wet subsamples a portion of
			Methods of Analysis,	homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is
	Edmonton -		Carter 2008	then particle size reduced with an automated crusher or mortar and pestle, typically to
	Environmental			<2 mm. Further size reduction may be needed for particular tests.

## **ALS Canada Ltd.**



## **QUALITY CONTROL REPORT**

**Work Order** Page :YL2201870 : 1 of 14

Client : KBL Environmental Ltd. Laboratory : Yellowknife - Environmental

: Katie Oliver **Account Manager** : Oliver Gregg Contact

> Address : 17 Cameron Road PO Box 1895 :314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 2P4

Yellowknife, Northwest Territories Canada X1A 3T3

Telephone Telephone :1 867 446 5593

**Project** :22-102NT Date Samples Received : 19-Oct-2022 16:35 PO :KO059

**Date Analysis Commenced** :21-Oct-2022 Issue Date

C-O-C number :26-Oct-2022 14:12 Sampler

780 893 3305

Site

Quote number : YL22-KBLE100-001

No. of samples received : 10 No. of samples analysed : 10

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives

- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

#### Signatories

Address

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department	
Dan Nguyen	Team Leader - Inorganics	Edmonton Metals, Edmonton, Alberta	
Kari Mulroy	Lab Supervisor - Environmental	Edmonton Organics, Edmonton, Alberta	
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta	
Ping Yeung	Team Leader - Inorganics	Edmonton Inorganics, Edmonton, Alberta	
Ping Yeung	Team Leader - Inorganics	Edmonton Metals, Edmonton, Alberta	
Remy Gatabazi	Lab Analyst	Edmonton Organics, Edmonton, Alberta	
Tiffany McKay	Lab Assistant	Edmonton Organics, Edmonton, Alberta	
Yan Zhang	Lab Analyst	Edmonton Organics, Edmonton, Alberta	

Page : 2 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



#### **General Comments**

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

#### Key:

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

# = Indicates a QC result that did not meet the ALS DQO.

#### **Workorder Comments**

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Page : 3 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT

## ALS

#### Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

ub-Matrix: Soil/Solid							Labora	atory Duplicate (D	UP) Report		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifie
Physical Tests (QC	Lot: 708406)										
EO2209178-001	Anonymous	moisture		E144	0.25	%	16.4	16.8	2.86%	20%	
Physical Tests (QC	Lot: 710342)										
EO2208435-001	Anonymous	pH (1:2 soil:CaCl2-aq)		E108B	0.10	pH units	7.26	7.18	1.11%	3%	
Particle Size (QC L	ot: 711109)										
EO2208956-007	Anonymous	sand (>0.075mm)		E178	1.0	%	15.4	15.8	0.4	Diff <2x LOR	
Metals (QC Lot: 71	3795)										
YL2201870-001	22102NT-STF Acceptance	mercury	7439-97-6	E510	0.0050	mg/kg	0.0216	0.0301	33.0%	40%	
Metals (QC Lot: 71	3796)										
YL2201870-001	22102NT-STF Acceptance	aluminum	7429-90-5	E440	50	mg/kg	4130	3690	11.3%	40%	
		antimony	7440-36-0	E440	0.10	mg/kg	0.38	0.33	0.05	Diff <2x LOR	
		arsenic	7440-38-2	E440	0.10	mg/kg	7.44	6.43	14.5%	30%	
		barium	7440-39-3	E440	0.50	mg/kg	276	238	14.7%	40%	
		beryllium	7440-41-7	E440	0.10	mg/kg	0.22	0.20	0.02	Diff <2x LOR	
		bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	
		boron	7440-42-8	E440	5.0	mg/kg	5.8	5.1	0.7	Diff <2x LOR	
		cadmium	7440-43-9	E440	0.020	mg/kg	0.163	0.136	18.3%	30%	
		calcium	7440-70-2	E440	50	mg/kg	237000	206000	14.0%	30%	
		chromium	7440-47-3	E440	0.50	mg/kg	9.80	8.82	10.5%	30%	
		cobalt	7440-48-4	E440	0.10	mg/kg	4.39	3.96	10.2%	30%	
		copper	7440-50-8	E440	0.50	mg/kg	8.00	7.15	11.2%	30%	
		iron	7439-89-6	E440	50	mg/kg	11700	10500	11.0%	30%	
		lead	7439-92-1	E440	0.50	mg/kg	6.33	6.03	4.76%	40%	
		lithium	7439-93-2	E440	2.0	mg/kg	5.3	4.5	0.8	Diff <2x LOR	
		magnesium	7439-95-4	E440	20	mg/kg	10300	9380	9.38%	30%	
		manganese	7439-96-5	E440	1.0	mg/kg	223	197	12.4%	30%	
		molybdenum	7439-98-7	E440	0.10	mg/kg	2.10	1.79	15.8%	40%	
		nickel	7440-02-0	E440	0.50	mg/kg	16.8	15.1	11.1%	30%	
		phosphorus	7723-14-0	E440	50	mg/kg	674	645	4.38%	30%	
		potassium	7440-09-7	E440	100	mg/kg	710	600	15.5%	40%	
		selenium	7782-49-2	E440	0.20	mg/kg	0.37	0.36	0.009	Diff <2x LOR	

Page : 4 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.



Sub-Matrix: Soil/Solid							Labora	tory Duplicate (D	UP) Report		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Metals (QC Lot: 71	3796) - continued										
YL2201870-001	22102NT-STF Acceptance	silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	
		sodium	7440-23-5	E440	50	mg/kg	100	88	12	Diff <2x LOR	
		strontium	7440-24-6	E440	0.50	mg/kg	141	122	14.1%	40%	
		sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	
		thallium	7440-28-0	E440	0.050	mg/kg	0.122	0.110	0.012	Diff <2x LOR	
		tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	0	Diff <2x LOR	
		titanium	7440-32-6	E440	1.0	mg/kg	44.5	39.8	11.2%	40%	
		tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	
		uranium	7440-61-1	E440	0.050	mg/kg	2.64	2.49	6.07%	30%	
		vanadium	7440-62-2	E440	0.20	mg/kg	18.9	16.7	12.2%	30%	
		zinc	7440-66-6	E440	2.0	mg/kg	44.3	39.7	10.9%	30%	
		zirconium	7440-67-7	E440	1.0	mg/kg	1.5	1.3	0.1	Diff <2x LOR	
/olatile Organic Co	mpounds (QC Lot: 7091	67)									
YL2201870-002	22102NT-01	benzene	71-43-2	E611A	0.0050	mg/kg	0.174	0.190	8.31%	40%	
		ethylbenzene	100-41-4	E611A	0.015	mg/kg	0.079	0.093	16.9%	40%	
		toluene	108-88-3	E611A	0.050	mg/kg	0.444	0.473	6.27%	40%	
		xylene, m+p-	179601-23-1	E611A	0.050	mg/kg	0.318	0.374	16.3%	40%	
		xylene, o-	95-47-6	E611A	0.050	mg/kg	0.062	0.067	0.005	Diff <2x LOR	
Hydrocarbons (QC	Lot: 709168)										
YL2201870-002	22102NT-01	F1 (C6-C10)		E581.VH+F1	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	
Hydrocarbons (QC	Lot: 709445)										
YL2201847-023	Anonymous	F2 (C10-C16)		E601.SG	25	mg/kg	8520	6860	21.5%	40%	
		F3 (C16-C34)		E601.SG	50	mg/kg	940	762	20.9%	40%	
		F4 (C34-C50)		E601.SG	50	mg/kg	<50	<50	0	Diff <2x LOR	

Page : 5 of 14 Work Order : 7 VL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



#### Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Inalyte	CAS Number	Method	LOR	Unit	Result	Qualifier
hysical Tests (QCLot: 70840						
moisture		E144	0.25	%	<0.25	
letals (QCLot: 713795)						
mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	
letals (QCLot: 713796)						
aluminum	7429-90-5	E440	50	mg/kg	<50	
antimony	7440-36-0	E440	0.1	mg/kg	<0.10	
arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	
barium	7440-39-3	E440	0.5	mg/kg	<0.50	
beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	
bismuth	7440-69-9	E440	0.2	mg/kg	<0.20	
boron	7440-42-8	E440	5	mg/kg	<5.0	
cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	
calcium	7440-70-2	E440	50	mg/kg	<50	
chromium	7440-47-3	E440	0.5	mg/kg	<0.50	
cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	
copper	7440-50-8	E440	0.5	mg/kg	<0.50	
iron	7439-89-6	E440	50	mg/kg	<50	
lead	7439-92-1	E440	0.5	mg/kg	<0.50	
lithium	7439-93-2	E440	2	mg/kg	<2.0	
magnesium	7439-95-4	E440	20	mg/kg	<20	
manganese	7439-96-5	E440	1	mg/kg	<1.0	
molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	
nickel	7440-02-0	E440	0.5	mg/kg	<0.50	
phosphorus	7723-14-0	E440	50	mg/kg	<50	
potassium	7440-09-7	E440	100	mg/kg	<100	
selenium	7782-49-2	E440	0.2	mg/kg	<0.20	
silver	7440-22-4	E440	0.1	mg/kg	<0.10	
sodium	7440-23-5	E440	50	mg/kg	<50	
strontium	7440-24-6	E440	0.5	mg/kg	<0.50	
sulfur	7704-34-9	E440	1000	mg/kg	<1000	
thallium	7440-28-0	E440	0.05	mg/kg	<0.050	
tin	7440-31-5	E440	2	mg/kg	<2.0	

Page : 6 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT

Analyte CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 713796) - continued					
titanium 7440-32-6	E440	1	mg/kg	<1.0	
tungsten 7440-33-7	E440	0.5	mg/kg	<0.50	
uranium 7440-61-1	E440	0.05	mg/kg	<0.050	
vanadium 7440-62-2	E440	0.2	mg/kg	<0.20	
zinc 7440-66-6	E440	2	mg/kg	<2.0	
zirconium 7440-67-7	E440	1	mg/kg	<1.0	
Volatile Organic Compounds (QCLot: 709167)					
benzene 71-43-2	E611A	0.005	mg/kg	<0.0050	
ethylbenzene 100-41-4	E611A	0.015	mg/kg	<0.015	
toluene 108-88-3	E611A	0.05	mg/kg	<0.050	
xylene, m+p- 179601-23-1	E611A	0.03	mg/kg	<0.030	
xylene, o- 95-47-6	E611A	0.03	mg/kg	<0.030	
Hydrocarbons (QCLot: 709168)					
F1 (C6-C10)	E581.VH+F1	5	mg/kg	<5.0	
Hydrocarbons (QCLot: 709445)					
F2 (C10-C16)	E601.SG	25	mg/kg	<25	
F3 (C16-C34)	E601.SG	50	mg/kg	<50	
F4 (C34-C50)	E601.SG	50	mg/kg	<50	
Hydrocarbons (QCLot: 714237)					
F4G-sg	E601.F4G	500	mg/kg	<500	
Polycyclic Aromatic Hydrocarbons (QCLot: 709446)					
acenaphthene 83-32-9	E641A	0.05	mg/kg	<0.050	
acenaphthylene 208-96-8	E641A	0.05	mg/kg	<0.050	
acridine 260-94-6	E641A	0.05	mg/kg	<0.050	
anthracene 120-12-7	E641A	0.05	mg/kg	<0.050	
benz(a)anthracene 56-55-3	E641A	0.05	mg/kg	<0.050	
benzo(a)pyrene 50-32-8	E641A	0.05	mg/kg	<0.050	
benzo(b+j)fluoranthene n/a	E641A	0.05	mg/kg	<0.050	
benzo(g,h,i)perylene 191-24-2	E641A	0.05	mg/kg	<0.050	
benzo(k)fluoranthene 207-08-9	E641A	0.05	mg/kg	<0.050	
chrysene 218-01-9	E641A	0.05	mg/kg	<0.050	
dibenz(a,h)anthracene 53-70-3	E641A	0.05	mg/kg	<0.050	
fluoranthene 206-44-0	E641A	0.05	mg/kg	<0.050	
fluorene 86-73-7	E641A	0.05	mg/kg	<0.050	
indeno(1,2,3-c,d)pyrene 193-39-5	E641A	0.05	mg/kg	<0.050	



Page : 7 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (	QCLot: 709446) - contin	ued				
methylnaphthalene, 1-	90-12-0	E641A	0.03	mg/kg	<0.030	
methylnaphthalene, 2-	91-57-6	E641A	0.03	mg/kg	<0.030	
naphthalene	91-20-3	E641A	0.01	mg/kg	<0.010	
phenanthrene	85-01-8	E641A	0.05	mg/kg	<0.050	
pyrene	129-00-0	E641A	0.05	mg/kg	<0.050	
quinoline	91-22-5	E641A	0.05	mg/kg	<0.050	



Page : 8 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



#### Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Soil/Solid						Laboratory Cor	ntrol Sample (LCS)	Report	
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 708406)									
moisture		E144	0.25	%	50 %	100	90.0	110	
Physical Tests (QCLot: 710342)									
pH (1:2 soil:CaCl2-aq)		E108B		pH units	6 pH units	98.0	97.0	103	
Metals (QCLot: 713795)									
mercury	7439-97-6 I	E510	0.005	mg/kg	0.1 mg/kg	105	70.0	130	
Metals (QCLot: 713796)									
aluminum	7429-90-5 I	E440	50	mg/kg	200 mg/kg	110	80.0	120	
antimony	7440-36-0 I	E440	0.1	mg/kg	100 mg/kg	112	80.0	120	
arsenic	7440-38-2 I	E440	0.1	mg/kg	100 mg/kg	110	80.0	120	
barium	7440-39-3 I	E440	0.5	mg/kg	25 mg/kg	113	80.0	120	
beryllium	7440-41-7 I	E440	0.1	mg/kg	10 mg/kg	98.7	80.0	120	
bismuth	7440-69-9 I	E440	0.2	mg/kg	100 mg/kg	110	80.0	120	
boron	7440-42-8 I	E440	5	mg/kg	100 mg/kg	104	80.0	120	
cadmium	7440-43-9 I	E440	0.02	mg/kg	10 mg/kg	101	80.0	120	
calcium	7440-70-2 I	E440	50	mg/kg	5000 mg/kg	105	80.0	120	
chromium	7440-47-3 I	E440	0.5	mg/kg	25 mg/kg	107	80.0	120	
cobalt	7440-48-4 I	E440	0.1	mg/kg	25 mg/kg	105	80.0	120	
copper	7440-50-8 I	E440	0.5	mg/kg	25 mg/kg	102	80.0	120	
iron	7439-89-6 I	E440	50	mg/kg	100 mg/kg	110	80.0	120	
lead	7439-92-1 I	E440	0.5	mg/kg	50 mg/kg	112	80.0	120	
lithium	7439-93-2 I	E440	2	mg/kg	25 mg/kg	99.8	80.0	120	
magnesium	7439-95-4 I	E440	20	mg/kg	5000 mg/kg	108	80.0	120	
manganese	7439-96-5 I	E440	1	mg/kg	25 mg/kg	105	80.0	120	
molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	110	80.0	120	
nickel	7440-02-0 I	E440	0.5	mg/kg	50 mg/kg	106	80.0	120	
phosphorus	7723-14-0 I	E440	50	mg/kg	1000 mg/kg	119	80.0	120	
potassium	7440-09-7 I	E440	100	mg/kg	5000 mg/kg	107	80.0	120	
selenium	7782-49-2 I	E440	0.2	mg/kg	100 mg/kg	103	80.0	120	
silver	7440-22-4 I	E440	0.1	mg/kg	10 mg/kg	101	80.0	120	
sodium	7440-23-5 I	E440	50	mg/kg	5000 mg/kg	101	80.0	120	
strontium	7440-24-6 I	E440	0.5	mg/kg	25 mg/kg	104	80.0	120	
sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	105	80.0	120	

Page : 9 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.



Spike   Recovery (5)   Recovery (5	Sub-Matrix: Soil/Solid					Report			
Marials (OCL-01: 713798) - continued   Tata-033-0]   E440					Spike	Recovery (%)	Recovery	Limits (%)	
Institute   7,7649-256   E440   0.05   mpkg   100 mpk	Analyte CAS I	ımber Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Inchange	Metals (QCLot: 713796) - continued								
Bankim	thallium 74	)-28-0 E440	0.05	mg/kg	100 mg/kg	104	80.0	120	
Lungsten   744-0.337   2440   0.5   mg/kg   10 mg/kg   115   8.0   120	tin 74	)-31-5 E440	2	mg/kg	50 mg/kg	108	80.0	120	
### 100   10	titanium 74	)-32-6 E440	1	mg/kg	25 mg/kg	110	80.0	120	
Secondaria   Process   P	tungsten 74	)-33-7 E440	0.5	mg/kg	10 mg/kg	115	80.0	120	
2	uranium 74	)-61-1 E440	0.05	mg/kg	0.5 mg/kg	113	80.0	120	
Procedum   Process   Pro	vanadium 74	)-62-2 E440	0.2	mg/kg	50 mg/kg	108	80.0	120	
Valatile Organic Compounds (QCL ot: 709167)  benzene 71-43-2 E6111A 0.005 mg/kg 2.5 mg/kg 98.6 870.0 130 ethylbenzene 100-41-4 E611A 0.015 mg/kg 2.5 mg/kg 93.5 70.0 130 benzene 108-83- E611A 0.05 mg/kg 2.5 mg/kg 97.3 70.0 130 toluene 108-83- E611A 0.03 mg/kg 5mg/kg 115 70.0 130 yllene, o 95-47-6 E611A 0.03 mg/kg 2.5 mg/kg 104 70.0 130 yllene, o 95-47-6 E611A 0.03 mg/kg 2.5 mg/kg 104 70.0 130  Hydrocarbons (QCLot: 709168)  F1 (C6-C10) E551 VH+F1 5 mg/kg 86 mg/kg 113 70.0 130  Hydrocarbons (QCLot: 709445)  F2 (C10-C16) E601.SG 25 mg/kg 652 mg/kg 103 70.0 130 E601.SG 50 mg/kg 1200 mg/kg 94.6 70.0 130 E601.SG 50 mg/kg 1200 mg/kg 94.6 70.0 130 E601.SG 50 mg/kg 90.5 mg/kg 90.5 mg/kg 91.1 70.0 130  Hydrocarbons (QCLot: 714237)  F4 C3-g E601.F4G 500 mg/kg 1540 mg/kg 92.5 70.0 130  E601.F4G 500 mg/kg 0.5 mg/kg 90.5 mg/kg 90.	zinc 74	)-66-6 E440	2	mg/kg	50 mg/kg	104	80.0	120	
Denzene	zirconium 74	)-67-7 E440	1	mg/kg	10 mg/kg	117	80.0	120	
benzene									
benzene	Volatile Organic Compounds (QCLot: 709167)								
toluene 108-88-3   E811A   0.05   mg/kg   2.5 mg/kg   97.3   70.0   130     xylene, mp-   179801-23-1   E811A   0.03   mg/kg   5 mg/kg   115   70.0   130     xylene, o-   95-47-8   E811A   0.03   mg/kg   2.5 mg/kg   115   70.0   130     xylene, o-   25-610     E811A   0.03   mg/kg   2.5 mg/kg   104   70.0   130     xylene, o-   25-610     E811A   0.03   mg/kg   2.5 mg/kg   113   70.0   130     xylene, o-   25-610     E811A   0.03   mg/kg   2.5 mg/kg   113   70.0   130     xylene, o-   25-610     E811A   2.5 mg/kg   2.5 mg/kg   113   70.0   130     xylene, o-   25-610     E811A   2.5 mg/kg   2.5 mg/kg   113   70.0   130     xylene, o-   25-610     25-610		1-43-2 E611A	0.005	mg/kg	2.5 mg/kg	86.8	70.0	130	
xylene, m+p- 179801-23-1	ethylbenzene 1	)-41-4 E611A	0.015	mg/kg	2.5 mg/kg	93.5	70.0	130	
xyfene, o 95-47-0 E611A 0.03 mg/kg 2.5 mg/kg 104 70.0 130	toluene 1	3-88-3 E611A	0.05	mg/kg	2.5 mg/kg	97.3	70.0	130	
Hydrocarbons (QCLot: 709168)   F1 (G6-C10)     E581.VH+F1   5   mg/kg   86 mg/kg   113   70.0   130     F2 (C10-C16)     E601.SG   25   mg/kg   652 mg/kg   103   70.0   130     F3 (C16-C34)     E601.SG   50   mg/kg   1209 mg/kg   94.6   70.0   130     F4 (C34-C50)     E601.SG   50   mg/kg   95 mg/kg   91.1   70.0   130     F4 (C34-C50)     E601.SG   50   mg/kg   95 mg/kg   91.1   70.0   130     F4 (C34-C50)     E601.F4G   500   mg/kg   1540 mg/kg   92.5   70.0   130     F4 (C34-C50)     E601.F4G   500   mg/kg   0.5 mg/kg   92.5   70.0   130     F4 (C34-C50)     E601.F4G   500   mg/kg   0.5 mg/kg   91.0   60.0   130     F4 (C34-C50)     E601.F4G	xylene, m+p-	I-23-1 E611A	0.03	mg/kg	5 mg/kg	115	70.0	130	
February	xylene, o-	5-47-6 E611A	0.03	mg/kg	2.5 mg/kg	104	70.0	130	
February									
Hydrocarbons (QCLot: 709445)   F2 (C10-C16)     E601.SG	Hydrocarbons (QCLot: 709168)								
F2 (C10-C16)	F1 (C6-C10)	E581.VH+F1	5	mg/kg	86 mg/kg	113	70.0	130	
F2 (C10-C16)	Hydrocarbons (QCLot: 709445)								
F4 (C34-C50)		E601.SG	25	mg/kg	652 mg/kg	103	70.0	130	
Hydrocarbons (QCLot: 714237) F4G-sg	F3 (C16-C34)	E601.SG	50	mg/kg	1209 mg/kg	94.6	70.0	130	
F4G-sg	F4 (C34-C50)	E601.SG	50	mg/kg	905 mg/kg	91.1	70.0	130	
F4G-sg	Hydrocarbons (QCLot: 714237)								
acenaphthene       83-32-9       E641A       0.05       mg/kg       0.5 mg/kg       91.0       60.0       130          acenaphthylene       208-96-8       E641A       0.05       mg/kg       0.5 mg/kg       98.5       60.0       130          acridine       260-94-6       E641A       0.05       mg/kg       0.5 mg/kg       80.5       60.0       130          anthracene       120-12-7       E641A       0.05       mg/kg       0.5 mg/kg       86.8       60.0       130          benz(a)anthracene       56-55-3       E641A       0.05       mg/kg       0.5 mg/kg       86.4       60.0       130          benzo(a)pyrene       50-32-8       E641A       0.05       mg/kg       0.5 mg/kg       81.4       60.0       130          benzo(b+j)fluoranthene       n/a       E641A       0.05       mg/kg       0.5 mg/kg       84.0       60.0       130          benzo(b,fluoranthene       191-24-2       E641A       0.05       mg/kg       0.5 mg/kg       98.6       60.0       130          benzo(k)fluoranthene       207-08-9       E641A       0.05       mg/kg		E601.F4G	500	mg/kg	1540 mg/kg	92.5	70.0	130	
acenaphthene       83-32-9       E641A       0.05       mg/kg       0.5 mg/kg       91.0       60.0       130          acenaphthylene       208-96-8       E641A       0.05       mg/kg       0.5 mg/kg       98.5       60.0       130          acridine       260-94-6       E641A       0.05       mg/kg       0.5 mg/kg       80.5       60.0       130          anthracene       120-12-7       E641A       0.05       mg/kg       0.5 mg/kg       86.8       60.0       130          benza(a)anthracene       56-55-3       E641A       0.05       mg/kg       0.5 mg/kg       86.4       60.0       130          benzo(a)pyrene       50-32-8       E641A       0.05       mg/kg       0.5 mg/kg       81.4       60.0       130          benzo(b+j)fluoranthene       n/a       E641A       0.05       mg/kg       0.5 mg/kg       84.0       60.0       130          benzo(b,fluoranthene       191-24-2       E641A       0.05       mg/kg       0.5 mg/kg       98.6       60.0       130          benzo(k)fluoranthene       207-08-9       E641A       0.05       mg/k									
acenaphthene       83-32-9       E641A       0.05       mg/kg       0.5 mg/kg       91.0       60.0       130          acenaphthylene       208-96-8       E641A       0.05       mg/kg       0.5 mg/kg       98.5       60.0       130          acridine       260-94-6       E641A       0.05       mg/kg       0.5 mg/kg       80.5       60.0       130          anthracene       120-12-7       E641A       0.05       mg/kg       0.5 mg/kg       86.8       60.0       130          benz(a)anthracene       56-55-3       E641A       0.05       mg/kg       0.5 mg/kg       86.4       60.0       130          benzo(a)pyrene       50-32-8       E641A       0.05       mg/kg       0.5 mg/kg       81.4       60.0       130          benzo(b+j)fluoranthene       n/a       E641A       0.05       mg/kg       0.5 mg/kg       84.0       60.0       130          benzo(b,fluoranthene       191-24-2       E641A       0.05       mg/kg       0.5 mg/kg       98.6       60.0       130          benzo(k)fluoranthene       207-08-9       E641A       0.05       mg/kg	Polycyclic Aromatic Hydrocarbons (QCLot: 709446)								
acridine 260-94-6 E641A 0.05 mg/kg 0.5 mg/kg 80.5 60.0 130 anthracene 120-12-7 E641A 0.05 mg/kg 0.5 mg/kg 86.8 60.0 130 benzo(a)anthracene 56-55-3 E641A 0.05 mg/kg 0.5 mg/kg 86.4 60.0 130 benzo(a)pyrene 50-32-8 E641A 0.05 mg/kg 0.5 mg/kg 81.4 60.0 130 benzo(b+j)fluoranthene n/a E641A 0.05 mg/kg 0.5 mg/kg 0.5 mg/kg 84.0 60.0 130 benzo(b+j)fluoranthene 191-24-2 E641A 0.05 mg/kg 0.5 mg/kg 98.6 60.0 130 benzo(k)fluoranthene 207-08-9 E641A 0.05 mg/kg 0.5 mg/kg 85.5 60.0 130		3-32-9 E641A	0.05	mg/kg	0.5 mg/kg	91.0	60.0	130	
anthracene 120-12-7 E641A 0.05 mg/kg 0.5 mg/kg 86.8 60.0 130 benz(a)anthracene 56-55-3 E641A 0.05 mg/kg 0.5 mg/kg 86.4 60.0 130 benzo(a)pyrene 50-32-8 E641A 0.05 mg/kg 0.5 mg/kg 81.4 60.0 130 benzo(b+j)fluoranthene n/a E641A 0.05 mg/kg 0.5 mg/kg 0.5 mg/kg 84.0 60.0 130 benzo(g,h,i)perylene 191-24-2 E641A 0.05 mg/kg 0.5 mg/kg 0.5 mg/kg 98.6 60.0 130 benzo(k)fluoranthene 207-08-9 E641A 0.05 mg/kg 0.5 mg/kg 0.5 mg/kg 85.5 60.0 130	acenaphthylene 2	3-96-8 E641A	0.05	mg/kg	0.5 mg/kg	98.5	60.0	130	
benz(a)anthracene 56-55-3 E641A 0.05 mg/kg 0.5 mg/kg 86.4 60.0 130 benzo(a)pyrene 50-32-8 E641A 0.05 mg/kg 0.5 mg/kg 81.4 60.0 130 benzo(b+j)fluoranthene n/a E641A 0.05 mg/kg 0.5 mg/kg 0.5 mg/kg 84.0 60.0 130 benzo(g,h,i)perylene 191-24-2 E641A 0.05 mg/kg 0.5 mg/kg 98.6 60.0 130 benzo(k)fluoranthene 207-08-9 E641A 0.05 mg/kg 0.5 mg/kg 85.5 60.0 130	acridine 2	)-94-6 E641A	0.05	mg/kg	0.5 mg/kg	80.5	60.0	130	
benzo(a)pyrene 50-32-8 E641A 0.05 mg/kg 0.5 mg/kg 81.4 60.0 130 benzo(b+j)fluoranthene n/a E641A 0.05 mg/kg 0.5 mg/kg 84.0 60.0 130 benzo(g,h,i)perylene 191-24-2 E641A 0.05 mg/kg 0.5 mg/kg 98.6 60.0 130 benzo(k)fluoranthene 207-08-9 E641A 0.05 mg/kg 0.5 mg/kg 85.5 60.0 130	anthracene 1	)-12-7 E641A	0.05	mg/kg	0.5 mg/kg	86.8	60.0	130	
benzo(b+j)fluoranthene	benz(a)anthracene	6-55-3 E641A	0.05	mg/kg	0.5 mg/kg	86.4	60.0	130	
benzo(g,h,i)perylene 191-24-2 E641A 0.05 mg/kg 0.5 mg/kg 98.6 60.0 130 benzo(k)fluoranthene 207-08-9 E641A 0.05 mg/kg 0.5 mg/kg 85.5 60.0 130	benzo(a)pyrene	)-32-8 E641A	0.05	mg/kg	0.5 mg/kg	81.4	60.0	130	
benzo(k)fluoranthene 207-08-9 E641A 0.05 mg/kg 0.5 mg/kg 85.5 60.0 130	benzo(b+j)fluoranthene	n/a E641A	0.05	mg/kg	0.5 mg/kg	84.0	60.0	130	
	benzo(g,h,i)perylene 1	I-24-2 E641A	0.05	mg/kg	0.5 mg/kg	98.6	60.0	130	
chrysene 218-01-9 E641A 0.05 mg/kg 0.5 mg/kg 80.7 60.0 130	benzo(k)fluoranthene 2	7-08-9 E641A	0.05	mg/kg	0.5 mg/kg	85.5	60.0	130	
	chrysene 2	3-01-9 E641A	0.05	mg/kg	0.5 mg/kg	80.7	60.0	130	

Page : 10 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.



Sub-Matrix: Soil/Solid						Laboratory Co	ntrol Sample (LCS)	Report	
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (Q	CLot: 709446) - continue	d							
dibenz(a,h)anthracene	53-70-3	E641A	0.05	mg/kg	0.5 mg/kg	108	60.0	130	
fluoranthene	206-44-0	E641A	0.05	mg/kg	0.5 mg/kg	105	60.0	130	
fluorene	86-73-7	E641A	0.05	mg/kg	0.5 mg/kg	103	60.0	130	
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.05	mg/kg	0.5 mg/kg	106	60.0	130	
methylnaphthalene, 1-	90-12-0	E641A	0.03	mg/kg	0.5 mg/kg	92.6	60.0	130	
methylnaphthalene, 2-	91-57-6	E641A	0.03	mg/kg	0.5 mg/kg	91.2	60.0	130	
naphthalene	91-20-3	E641A	0.01	mg/kg	0.5 mg/kg	89.3	50.0	130	
phenanthrene	85-01-8	E641A	0.05	mg/kg	0.5 mg/kg	104	60.0	130	
pyrene	129-00-0	E641A	0.05	mg/kg	0.5 mg/kg	106	60.0	130	
quinoline	91-22-5	E641A	0.05	mg/kg	0.5 mg/kg	94.3	60.0	130	

Page : 11 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



#### Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Soil/So	id						Matrix Spik	e (MS) Report		
					Spi	ke	Recovery (%)	Recovery	Limits (%)	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic	Compounds (QCLo	t: 709167)								
YL2201870-003	22102NT-02	benzene	71-43-2	E611A	1.64 mg/kg	2.5 mg/kg	91.4	60.0	140	
		ethylbenzene	100-41-4	E611A	2.29 mg/kg	2.5 mg/kg	128	60.0	140	
		toluene	108-88-3	E611A	1.56 mg/kg	2.5 mg/kg	87.3	60.0	140	
		xylene, m+p-	179601-23-1	E611A	4.28 mg/kg	5 mg/kg	119	60.0	140	
		xylene, o-	95-47-6	E611A	2.46 mg/kg	2.5 mg/kg	137	60.0	140	
olycyclic Aroma	atic Hydrocarbons(	QCLot: 709446)								
YL2201870-002	22102NT-01	acenaphthene	83-32-9	E641A	0.364 mg/kg	0.5 mg/kg	92.2	50.0	140	
		acenaphthylene	208-96-8	E641A	0.398 mg/kg	0.5 mg/kg	101	50.0	140	
		acridine	260-94-6	E641A	0.438 mg/kg	0.5 mg/kg	111	50.0	140	
	anthracene	120-12-7	E641A	0.430 mg/kg	0.5 mg/kg	109	50.0	140		
	benz(a)anthracene	56-55-3	E641A	0.342 mg/kg	0.5 mg/kg	86.6	50.0	140		
		benzo(a)pyrene	50-32-8	E641A	0.379 mg/kg	0.5 mg/kg	96.1	50.0	140	
		benzo(b+j)fluoranthene	n/a	E641A	0.346 mg/kg	0.5 mg/kg	87.6	50.0	140	
		benzo(g,h,i)perylene	191-24-2	E641A	0.355 mg/kg	0.5 mg/kg	90.1	50.0	140	
		benzo(k)fluoranthene	207-08-9	E641A	0.350 mg/kg	0.5 mg/kg	88.7	50.0	140	
		chrysene	218-01-9	E641A	0.282 mg/kg	0.5 mg/kg	71.5	50.0	140	
		dibenz(a,h)anthracene	53-70-3	E641A	0.422 mg/kg	0.5 mg/kg	107	50.0	140	
		fluoranthene	206-44-0	E641A	0.417 mg/kg	0.5 mg/kg	106	50.0	140	
		fluorene	86-73-7	E641A	0.418 mg/kg	0.5 mg/kg	106	50.0	140	
		indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.404 mg/kg	0.5 mg/kg	102	50.0	140	
		methylnaphthalene, 1-	90-12-0	E641A	0.367 mg/kg	0.5 mg/kg	93.1	50.0	140	
		methylnaphthalene, 2-	91-57-6	E641A	0.355 mg/kg	0.5 mg/kg	90.0	50.0	140	
		naphthalene	91-20-3	E641A	0.342 mg/kg	0.5 mg/kg	86.7	50.0	140	
		phenanthrene	85-01-8	E641A	0.422 mg/kg	0.5 mg/kg	107	50.0	140	
		pyrene	129-00-0	E641A	0.419 mg/kg	0.5 mg/kg	106	50.0	140	
		quinoline	91-22-5	E641A	0.366 mg/kg	0.5 mg/kg	92.7	50.0	140	

Page : 12 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.



Page : 13 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.

Project : 22-102NT



### Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

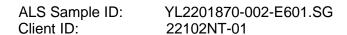
Sub-Matrix:						Refere	nce Material (RM) Re	port	
					RM Target	Recovery (%)	Recovery L	imits (%)	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Physical Tests	(QCLot: 710342)								
	RM	pH (1:2 soil:CaCl2-aq)		E108B	7.82 pH units	97.8	96.0	104	
Particle Size (C	CLot: 711109)								
	RM	sand (>0.075mm)		E178	36.4 %	106	91.0	109	
Metals (QCLot:	713795)								
	RM	mercury	7439-97-6	E510	0.059 mg/kg	92.7	70.0	130	
Metals (QCLot:	713796)								
	RM	aluminum	7429-90-5	E440	9817 mg/kg	122	70.0	130	
	RM	antimony	7440-36-0	E440	3.99 mg/kg	102	70.0	130	
	RM	arsenic	7440-38-2	E440	3.73 mg/kg	118	70.0	130	
	RM	barium	7440-39-3	E440	105 mg/kg	120	70.0	130	
	RM	beryllium	7440-41-7	E440	0.349 mg/kg	110	70.0	130	
	RM	boron	7440-42-8	E440	8.5 mg/kg	117	40.0	160	
	RM	cadmium	7440-43-9	E440	0.91 mg/kg	117	70.0	130	
	RM	calcium	7440-70-2	E440	31082 mg/kg	111	70.0	130	
	RM	chromium	7440-47-3	E440	101 mg/kg	113	70.0	130	
	RM	cobalt	7440-48-4	E440	6.9 mg/kg	115	70.0	130	
	RM	copper	7440-50-8	E440	123 mg/kg	111	70.0	130	
	RM	iron	7439-89-6	E440	23558 mg/kg	112	70.0	130	
	RM	lead	7439-92-1	E440	267 mg/kg	112	70.0	130	
	RM	lithium	7439-93-2	E440	9.5 mg/kg	112	70.0	130	
	RM	magnesium	7439-95-4	E440	5509 mg/kg	117	70.0	130	
	RM	manganese	7439-96-5	E440	269 mg/kg	112	70.0	130	
	RM	molybdenum	7439-98-7	E440	1.03 mg/kg	116	70.0	130	
	RM	nickel	7440-02-0	E440	26.7 mg/kg	116	70.0	130	
	RM	phosphorus	7723-14-0	E440	752 mg/kg	125	70.0	130	
	RM	potassium	7440-09-7	E440	1587 mg/kg	116	70.0	130	
	RM	silver	7440-22-4	E440	4.06 mg/kg	95.1	50.0	150	
	RM	sodium	7440-23-5	E440	797 mg/kg	117	70.0	130	

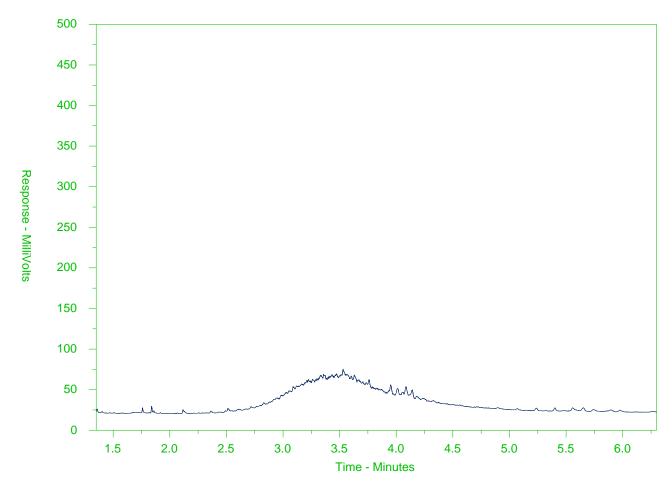
Page : 14 of 14 Work Order : YL2201870

Client : KBL Environmental Ltd.



Sub-Matrix:				Reference Material (RM) Report					
					RM Target	Recovery (%)	Recovery	Limits (%)	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Metals (QCLot: 713796) - continued									
	RM	strontium	7440-24-6	E440	86.1 mg/kg	106	70.0	130	
	RM	thallium	7440-28-0	E440	0.0786 mg/kg	103	40.0	160	
	RM	tin	7440-31-5	E440	10.6 mg/kg	104	70.0	130	
	RM	titanium	7440-32-6	E440	839 mg/kg	107	70.0	130	
	RM	uranium	7440-61-1	E440	0.52 mg/kg	109	70.0	130	
	RM	vanadium	7440-62-2	E440	32.7 mg/kg	113	70.0	130	
	RM	zinc	7440-66-6	E440	297 mg/kg	110	70.0	130	
	RM	zirconium	7440-67-7	E440	5.73 mg/kg	110	70.0	130	
Hydrocarbons (	QCLot: 709445)								
	RM	F2 (C10-C16)		E601.SG	4316 mg/kg	76.8	70.0	130	
	RM	F3 (C16-C34)		E601.SG	12844 mg/kg	78.8	70.0	130	
	RM	F4 (C34-C50)		E601.SG	1156 mg/kg	82.3	70.0	130	
Hydrocarbons (QCLot: 714237)									
	RM	F4G-sg		E601.F4G	8598 mg/kg	87.3	70.0	130	



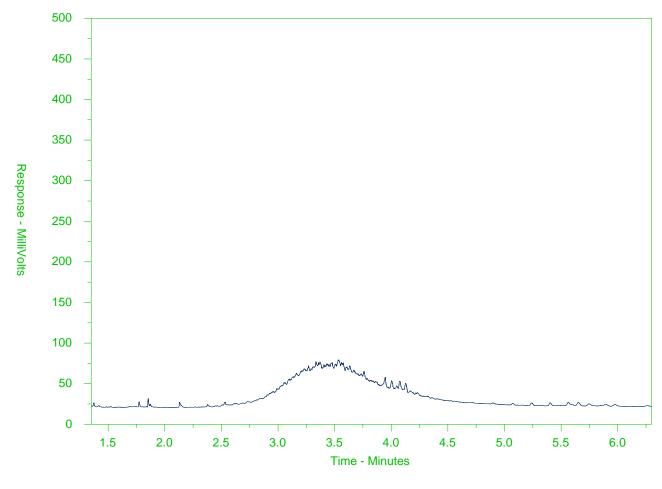


<b>←</b> F:	2—▶◀	F3	▶◀	F4 → >F4 →
nC10	nC16		nC34	nC50
174°C	287°C		481°C	575°C
346°F	549°F		898°F	1067°F
← Gasolii	ne>	←		<ul> <li>Motor Oils/ Lube Oils/ Grease→</li> </ul>
←	Diesel/ Jet F	uels		

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

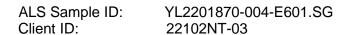
ALS Sample ID: YL2201870-003-E601.SG Client ID: 22102NT-02

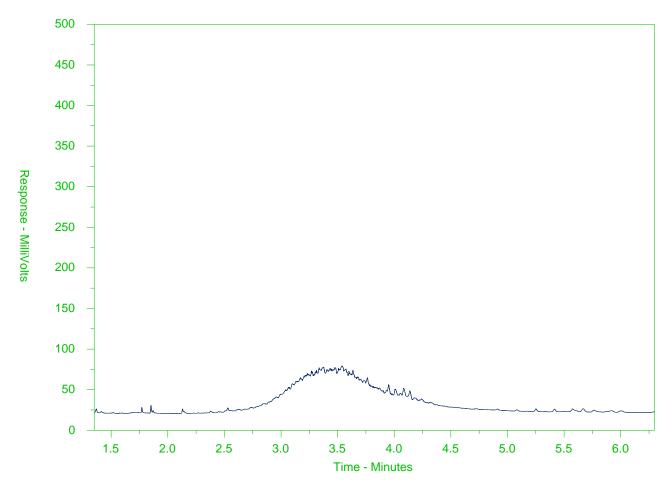


<b>←</b> F:	2—▶◀	F3	▶◀	F4 → >F4 →
nC10	nC16		nC34	nC50
174°C	287°C		481°C	575°C
346°F	549°F		898°F	1067°F
← Gasolii	ne>	←		<ul> <li>Motor Oils/ Lube Oils/ Grease→</li> </ul>
←	Diesel/ Jet F	uels		

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:



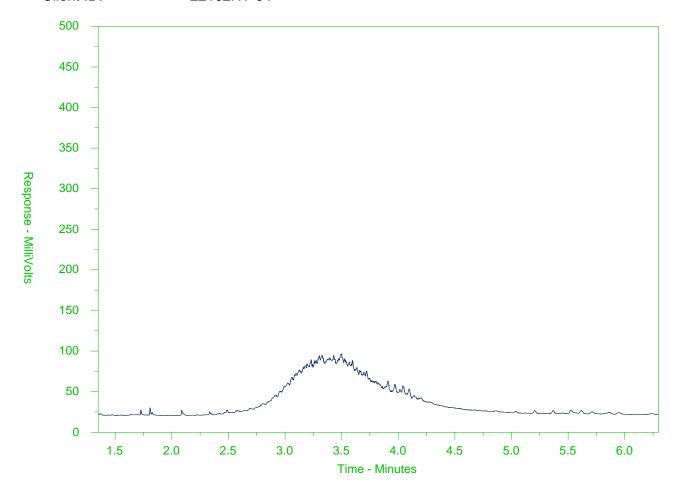


<b>←</b> F:	2—▶◀	F3	<b>→</b> ◆ F	4>F4>
nC10	nC16		nC34	nC50
174°C	287°C		481°C	575°C
346°F	549°F		898°F	1067°F
← Gasolii	ne>	←		Motor Oils/ Lube Oils/ Grease→
←	Diesel/ Jet Fu	uels>		

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

ALS Sample ID: YL2201870-005-E601.SG Client ID: 22102NT-04

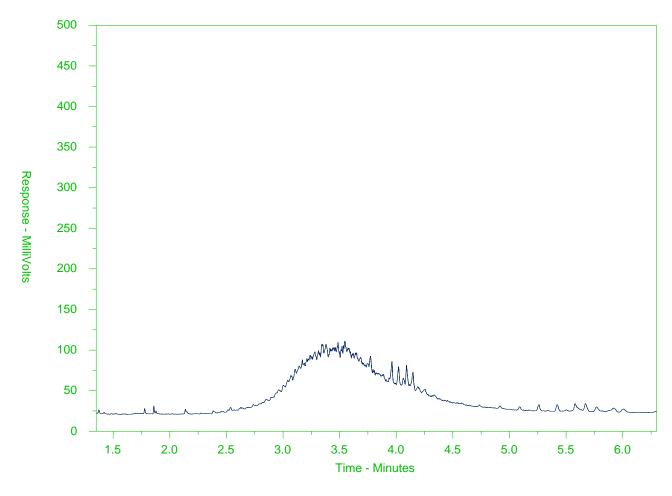


<b>←</b> F:	2—▶◀	F3	<b>→</b> ◆ F	4>F4>
nC10	nC16		nC34	nC50
174°C	287°C		481°C	575°C
346°F	549°F		898°F	1067°F
← Gasolii	ne>	<b>-</b>		Motor Oils/ Lube Oils/ Grease →
<	Diesel/ Jet Fue	els		

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

ALS Sample ID: YL2201870-006-E601.SG Client ID: 22102NT-05

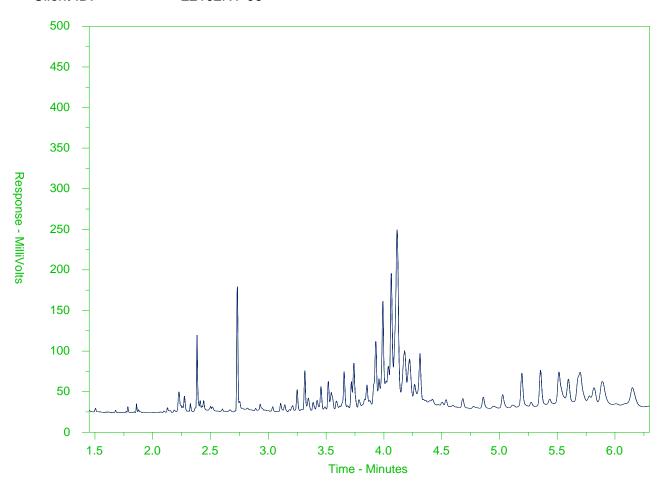


<b>←</b> F:	2—▶◀	F3	<b>→</b> ◆ F	4>F4>
nC10	nC16		nC34	nC50
174°C	287°C		481°C	575°C
346°F	549°F		898°F	1067°F
← Gasolii	ne>	<b>-</b>		Motor Oils/ Lube Oils/ Grease →
<	Diesel/ Jet Fue	els		

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

ALS Sample ID: YL2201870-007-E601.SG Client ID: 22102NT-06

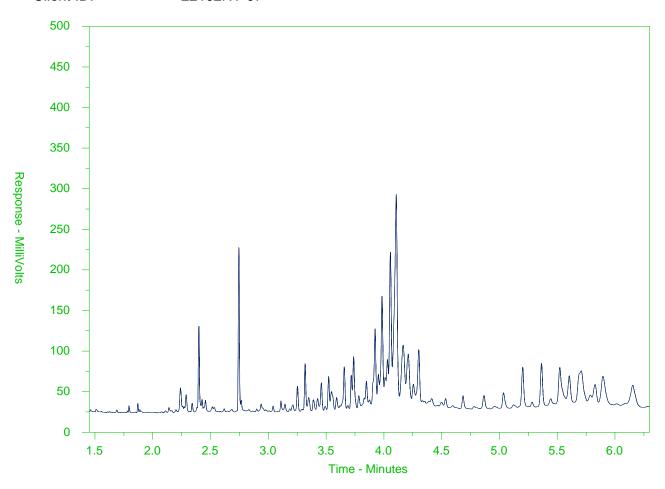


<b>←</b> F2 -	<b>&gt;</b> 4	F3 F4	->F4>
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
← Gasol	line>	← Mo	tor Oils/ Lube Oils/ Grease
←	Diesel/ Jet Fue	Is	

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

ALS Sample ID: YL2201870-008-E601.SG Client ID: 22102NT-07

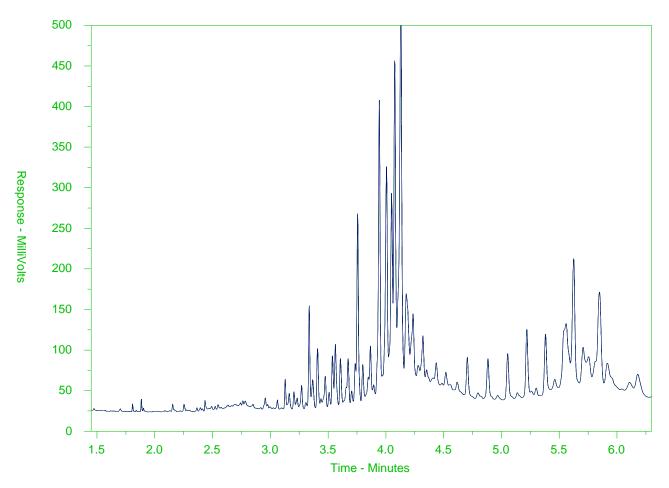


<b>←</b> — F2 -	<b>→</b>	F3 F4	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
← Gasol	ine →	← Mot	or Oils/ Lube Oils/ Grease
←	Diesel/ Jet Fue	ls	

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

ALS Sample ID: YL2201870-009-E601.SG Client ID: 22102NT-08

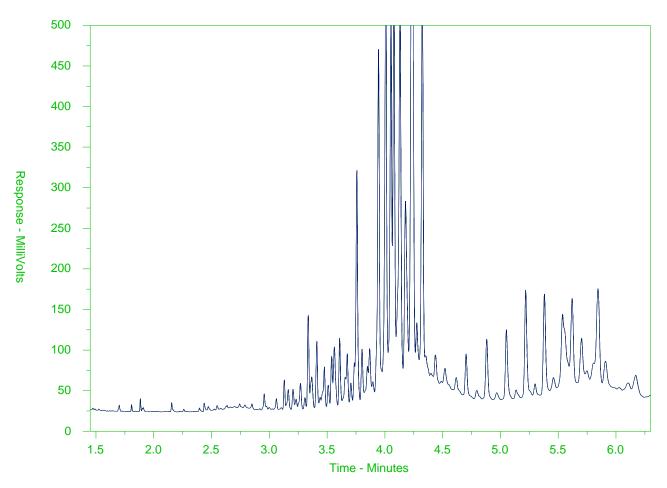


<b>←</b> — F2 -	<b>→</b>	F3 F4	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
← Gasol	ine →	← Mot	or Oils/ Lube Oils/ Grease
←	Diesel/ Jet Fue	ls	

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

ALS Sample ID: YL2201870-010-E601.SG Client ID: 22102NT-DUP



<b>←</b> F2 -	→-	- F3	- F4
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
← Gasol	ine ──→	<del></del>	Motor Oils/ Lube Oils/ Grease →
←	Diesel/ Jet I	Fuels ———→	

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

#### Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

age of

----

ALS www.alsglobal.co

Canada Toll Free: 1 800 668 9878

Report To	Contact and company name below will appea	r on the final report	Reports / F	Recipients				Tu	ırnaro	und Ti	me (TA	AT) Re	quest	ed		П				1633		
Company:	KBL Environmental	Selec	ct Report Format:  PDF	EXCEL E	DD (DIGITAL)	□ Ro	outine [	R] if red	ceived t	y 3pm	M-F -	no surc	harges	apply		$\neg$						
Contact:	Katie Oliver	Merg	ge QC/QCI Reports with COA	YES N	0	□ 4	day [P4	] if rece	eived b	y 3pm I	M-F - 2	0% rus	h surch	narge m	ninimum	1	AFF	IX ALS	BARCO	ODE L	ABEL H	ERE
Phone:	780.452.7779		ompare Results to Criteria on Report	- provide details bel	ow if box checked										minimun				(ALS us			40.000
	Company address below will appear on the final	report Selec	ct Distribution:	☐ MAIL ☐	FAX										minimun minimun							
Street:	3909, 68 Avenue	Emai	I 1 or Fax koliver@kblenv.co	m		1 day [E] if received by 3pm M-F - 100% rush surcharge minimum     Same day [E2] if received by 10am M-S - 200% rush surcharge.																
City/Province:	Leduc, AB	Emai	12 nprince@kblenv.c	om				ddition	al fees	may ap	ply to n	ush req	uests o	on week	kends, s	statuton	y holida	ys and f	for non-re	outine te	ests.	1115
Postal Code:	T9E 0Z4	Emai	13 kbl@esdat.net			1	Date an	d Time	Requi	ired for	all E&F	P TATS	=			dd-	mmm	-yy (1)	1:7nm e	m/pm		
Invoice To	Same as Report To	NO	Invoice R	ecipients					For a	all tests	with rus	h TATs	request	ted, plea	ise cont	act your	AM to	confirm a	availabilit	у.		
	Copy of Invoice with Report	NO Selec	ct Invoice Distribution: 🗵 🗈	MAIL [ MAIL [	FAX	_							Ana	lysis	Requ	est				110		
Company:		Emai	I 1 or Fax accounting@kbler			188		I	ndicate	Filtered	1 (F), Pr	reserve	d (P) or	r Filtere	ed and F	Preserv	ed (F/P	) below				(Se
Contact:		Emai				뿌														_	1 4	Jot l
	Project Information		Oil and Gas Require		use)	CONTAINERS				-										1	Ιğ	96
ALS Account #	# / Quote #:	AFE/C	cost Center:	PO#		15				cror										15	2	(s
Job #:	22-102NT	Major/	Minor Code:	Routing Code:		ō	ı			5 m										ON HOLD	19	18
PO / AFE:	KO059	Requ	isitioner:	. No.		F C	1		2	e (7						1				Z	1 8	N
LSD:		Local	tion:			Ö	ı		ercu	Sieve (75 micron)		- 1										主
ALS Lab Wor	k Order # (ALS use only):	ALS	Contact:	Sampler:		NUMBER	-F4		Total Metals + Mercury	Particle Size by	pH (Cacl 2:1)									SAMPLES	EXTENDED	
ALS Sample #	Sample Identification a	ind/or Coordinates	Date	Time		ΙĒ	BTEX-F1-F4		M.	cle	Cacl					. 1				Σ	E	SPE
(ALS use only)	(This description will ap		(dd-mmm-yy)	(hh:mm)	Sample Type	13	BTE	PAH	Tota	Parti	Ha									V.	X	Sus
	22102NT-STF Acceptance		14-10-22	12.17	soil	1			R	R	R					tol F		ion			1	
See	22102NT-01		14-10-22	12:30	soil	4	R	R							men		JIVIS	1011				
1 12 14	22102NT-02		14-10-22	12:20	soil	4	R	R					W	ork (	Order	Refe	erenc	e				
THE SECTION	22102NT-03		14-10-22	12:30	soil	4	R	R					Y	1	22	01	8	70			1	
DETERMINE	22102NT-04		14-10-22	12:37	soil	4 R R			_							$\top$						
Barrier Man	22102NT-05		14-10-22		soil	4	R	R							א שו	32 N	W.	1111				
	22102NT-06		14-10-22		soil	4	R	R							Maril 1	A. N	$M_{\rm c}$					
CO-LUM	22102NT-07		14-10-22		soil	4	R	R						III (T	Y	86 V	33.					
A State of the	22102NT-08		14-10-22		soil	4	R	R						III "	V.Y.	141	")"					
	22102NT-DUP		14-10-22		soil	4	R	R					Teleph	none :	+ 1 86	7 873 5	5593					
												_								J.		
Drinking	Water (DW) Samples <sup>1</sup> (client use)	Notes / Specify Limits	for result evaluation by selecti (Excel COC only)	ng from drop-dov	wn below	Cool	ing Me	athod:		NONE	-			OE PAC	TAILS	FRO.		only)	7	ING INI	*******	2030
Are samples tak	en from a Regulated DW System?		,2,,			-									pt Noti			YE		□ NO	ITATED	
	YES 7 NO						er Cus				PAR COLUMN			-	•		2017	Seals I			YES [	l M/A
	human consumption/ use?					COOL				R TEM				1	Samp				TEMPER			NA
	YES V NO					13									17.17						T	
	SHIPMENT RELEASE (client use)	The second	INITIAL SHIPMEN	RECEPTION (	ALS use only)	11)	. /				FI	NAL S	SHIPN	MENT	RECE	EPTIO	N (AI	S use	only)	-	-	
Released by:	Date:	Time: Reg	pived by:		/	Time	:	Rece	eived	by:				Date				3 230	3,	Tin	ne:	
1410	20 NOON	0		Date:	9/22	Time	35															
peden to pac	PAGE FOR ATS LOCATIONS AND SAMPLING	INFORMATION	WH	TF - LABORATOR		LOW -		TCO	PY												405	2020 FROM



4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - AMENDED REPORT -

Prepared For: Parks Canada

Address: P.O. Box 1840

Inuvik,NT X0E 0T0

Attn: Stephanie Yuill Facsimile: 867-777-8820

#### Final report has been reviewed and approved by:

**Judy Mah** 

**Client Service Officer** 

#### NOTES:

- For Test methods and data are validated by the laboratory's Quality Assurance Program. Taiga Environmental Laboratory is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) to ISO/IEC 17025 as a testing laboratory for specific tests registered with CALA.
- Routine methods are based on recognized procedures from sources such as
  - Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF;
  - o Environment Canada
  - o USEPA
- Samples shall be kept for thirty (30) days after the final report is issued. All microbiological samples shall be disposed of immediately upon completion of analysis to minimize biohazardous risks to laboratory personnel. Please contact the laboratory if you have any special requirements.
- Final results are based on the specific tests at the time of analysis and do not represent the conditions during sampling.

ReportDate: Tuesday, July 5, 2022

Print Date: Thursday, August 4, 2022





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 1 Taiga Sample ID: 001

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

**Location:** Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Subcontracted Organics						
Benzene	0.0350	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.050	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	< 25	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	8320	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	300	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.205	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.145	0.05	mg/kg	02-Jul-22	CCME CWS PHC	





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 2 Taiga Sample ID: 002

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

Location: Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Subcontracted Organics						
Benzene	0.0429	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.050	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	34	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	10800	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	952	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.284	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.148	0.05	mg/kg	02-Jul-22	CCME CWS PHC	





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 3 Taiga Sample ID: 003

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

Location: Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Subcontracted Organics						
Benzene	0.0260	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.063	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	< 25	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	1740	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	190	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.220	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.250	0.05	mg/kg	02-Jul-22	CCME CWS PHC	





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 4 Taiga Sample ID: 004

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

Location: Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Subcontracted Organics						_
Benzene	0.0256	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.079	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	< 25	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	2790	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	264	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.255	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.295	0.05	mg/kg	02-Jul-22	CCME CWS PHC	





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 5 Taiga Sample ID: 005

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

Location: Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Subcontracted Organics						_
Benzene	0.107	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.115	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	< 25	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	600	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	< 50	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.407	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.450	0.05	mg/kg	02-Jul-22	CCME CWS PHC	





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 6 Taiga Sample ID: 006

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

Location: Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Subcontracted Organics						
Benzene	0.0398	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.034	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	< 25	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	< 50	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	< 50	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.138	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.118	0.05	mg/kg	02-Jul-22	CCME CWS PHC	





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 7 Taiga Sample ID: 007

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

Location: Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Subcontracted Organics						
Benzene	0.0397	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.041	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	< 25	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	7220	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	646	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.241	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.136	0.05	mg/kg	02-Jul-22	CCME CWS PHC	





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 8 Taiga Sample ID: 008

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

Location: Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Subcontracted Organics						
Benzene	0.0102	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.032	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	< 25	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	7030	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	315	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.080	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.108	0.05	mg/kg	02-Jul-22	CCME CWS PHC	





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 9 Taiga Sample ID: 009

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

Location: Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b>Subcontracted Organics</b>						
Benzene	0.0504	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.083	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	< 25	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	4140	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	348	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.299	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.337	0.05	mg/kg	02-Jul-22	CCME CWS PHC	





4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: 10 Taiga Sample ID: 010

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

Location: Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
Subcontracted Organics						
Benzene	0.0200	0.005	mg/kg	02-Jul-22	CCME CWS PHC	
Ethylbenzene	0.020	0.015	mg/kg	02-Jul-22	CCME CWS PHC	
F1: C6-C10	< 5	5	mg/kg	02-Jul-22	CCME CWS PHC	
F2: C10-C16	< 25	25	mg/kg	02-Jul-22	CCME CWS PHC	
F3: C16-C34	1890	50	mg/kg	02-Jul-22	CCME CWS PHC	
F4: C34-C50	178	50	mg/kg	02-Jul-22	CCME CWS PHC	
Toluene	0.101	0.05	mg/kg	02-Jul-22	CCME CWS PHC	
Xylenes	0.065	0.05	mg/kg	02-Jul-22	CCME CWS PHC	



Taiga Batch No.: 221247

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: Composite of Samples 1-10 Taiga Sample ID: 011

**Client Project:** 

Sample Type: Sediment Received Date: 28-Jun-22 Sampling Date: 24-Jun-22 Sampling Time: 15:30

**Location:** Pingo Landmark

Report Status: Amended

Test Parameter	Result	Detection Limit	Units	Analysis Date	Analytical Method *	Qualifer
<b>Subcontracted Physical</b>						
% Clay	7.0	1	%	02-Aug-22	SSIR-51, 3.2.1	
% Sand	85.0	1	%	02-Aug-22	SSIR-51, 3.2.1	
% Silt	8.0	1	%	02-Aug-22	SSIR-51, 3.2.1	
Texture	Loamy Sand	d		02-Aug-22	SSIR-51, 3.2.1	

ReportDate: Page 12 of 13

Print Date: Thursday, August 4, 2022



Taiga Batch No.: 221247

4601-52nd Ave., Box 1320, Yellowknife, NT. X1A 2L9 Tel: (867)-767-9235 Fax: (867)-920-8740

#### - CERTIFICATE OF ANALYSIS -

Client Sample ID: Composite of Samples 1-10

Taiga Sample ID: 011

\* Taiga analytical methods are based on the following standard analytical methods

SM - Standard Methods for the Examination of Water and Wastewater EPA - United States Environmental Protection Agency

**Comments** Sample -011 added, PSA analysis of composite samples 1-10

ReportDate: Page 13 of 13

Print Date: Thursday, August 4, 2022



KBL Environmental Ltd.

ATTN: David Vanderkley

3601, 75 Avenue Leduc ab T9E 0Z5 Date Received: 05-JUL-21

Report Date: 19-JUL-21 15:16 (MT)

Version: FINAL

Client Phone: 780-893-3305

# Certificate of Analysis

Lab Work Order #: L2609511

Project P.O. #:

JG004

Job Reference:

21-057NT

C of C Numbers:

17-818607

Legal Site Desc:

Oliver Gregg Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 314 Old Airport Road, Unit 116, Yellowknife, NT X1A 3T3 Canada | Phone: +1 867 873 5593 | ALS CANADA LTD Part of the ALS Group An ALS Limited Company



L2609511 CONTD.... PAGE 2 of 6 Version: FINAL

### ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier* D.L.	Units	Extracted	Analyzed	Batch
L2609511-1 21EXO1SW-210705						
Sampled By: CLIENT on 05-JUL-21 @ 08:35						
Matrix: WATER						
BTEX & F1-F4						
BTEX, Styrene and F1 (C6-C10)						
Benzene	<0.00050	0.00050	mg/L	14-JUL-21	15-JUL-21	R5508763
Toluene	<0.00050	0.00050	mg/L	14-JUL-21	15-JUL-21	R5508763
EthylBenzene	<0.00050	0.00050	mg/L	14-JUL-21	15-JUL-21	R5508763
m+p-Xylene	<0.00050	0.00050	mg/L	14-JUL-21	15-JUL-21	R5508763
o-Xylene	<0.00050	0.00050	mg/L	14-JUL-21	15-JUL-21	R5508763
F1(C6-C10)	<0.10	0.10	mg/L	14-JUL-21	15-JUL-21	R5508763
F1-BTEX	<0.10	0.10	mg/L	14-JUL-21	15-JUL-21	R5508763
Xylenes	<0.00071	0.00071	mg/L	14-JUL-21	15-JUL-21	R5508763
Surrogate: 1,4-Difluorobenzene (SS)	80.8	70-130	%	14-JUL-21	15-JUL-21	R5508763
Surrogate: 4-Bromofluorobenzene (SS)	83.6	70-130	%	14-JUL-21	15-JUL-21	R5508763
Surrogate: 3,4-Dichlorotoluene (SS)	111.5	70-130	%	14-JUL-21	15-JUL-21	R5508763
F2, F3, F4						
F2 (C10-C16)	<0.10	0.10	mg/L	07-JUL-21	07-JUL-21	R5516062
F3 (C16-C34)	<0.25	0.25	mg/L	07-JUL-21	07-JUL-21	R5516062
F4 (C34-C50)	<0.25	0.25	mg/L	07-JUL-21	07-JUL-21	R5516062
Surrogate: 2-Bromobenzotrifluoride	95.4	60-140	%	07-JUL-21	07-JUL-21	R5516062
Dissolved Metals - CCME						
Dissolved Mercury in Water by CVAAS						
Dissolved Mercury Filtration Location	LAB				07-JUL-21	R5513706
Mercury (Hg)-Dissolved	0.0000095	0.0000050	mg/L		07-JUL-21	R5514055
Dissolved Metals in Water by CRC ICPMS	EIEL D				07 1111 04	D554.4000
Dissolved Metals Filtration Location	FIELD	0.0040	a/I		07-JUL-21 08-JUL-21	R5514230
Aluminum (Al)-Dissolved Antimony (Sb)-Dissolved	0.0137 0.00591	0.0010 0.00010	mg/L mg/L		08-JUL-21	R5515893 R5515893
Arsenic (As)-Dissolved	0.0691	0.00010	mg/L		08-JUL-21	R5515893
Barium (Ba)-Dissolved	0.0091	0.00010	mg/L		08-JUL-21	R5515893
Beryllium (Be)-Dissolved	<0.0010	0.00010	mg/L		08-JUL-21	R5515893
Boron (B)-Dissolved	0.077	0.00010	mg/L		08-JUL-21	R5515893
Cadmium (Cd)-Dissolved	0.000116	0.0000050	mg/L		08-JUL-21	R5515893
Calcium (Ca)-Dissolved	99.1	0.050	mg/L		08-JUL-21	R5515893
Chromium (Cr)-Dissolved	0.00274	0.00010	mg/L		08-JUL-21	R5515893
Cobalt (Co)-Dissolved	0.00474	0.00010	mg/L		08-JUL-21	R5515893
Copper (Cu)-Dissolved	0.0732	0.00020	mg/L		08-JUL-21	R5515893
Iron (Fe)-Dissolved	0.047	0.010	mg/L		08-JUL-21	R5515893
Lead (Pb)-Dissolved	0.000124	0.000050	mg/L		08-JUL-21	R5515893
Lithium (Li)-Dissolved	0.0032	0.0010	mg/L		08-JUL-21	R5515893
Magnesium (Mg)-Dissolved	8.17	0.0050	mg/L		08-JUL-21	R5515893
Manganese (Mn)-Dissolved	0.0745	0.00010	mg/L		08-JUL-21	R5515893
Molybdenum (Mo)-Dissolved	0.00266	0.000050	mg/L		08-JUL-21	R5515893
Nickel (Ni)-Dissolved	0.0160	0.00050	mg/L		08-JUL-21	R5515893
Potassium (K)-Dissolved	13.9	0.050	mg/L		08-JUL-21	R5515893
Selenium (Se)-Dissolved	0.000424	0.000050	mg/L		08-JUL-21	R5515893
Silver (Ag)-Dissolved	<0.000010	0.000010	mg/L		08-JUL-21	R5515893
Sodium (Na)-Dissolved	12.2	0.050	mg/L		08-JUL-21	R5515893
Thallium (TI)-Dissolved	0.000027	0.000010	mg/L		08-JUL-21	R5515893
Tin (Sn)-Dissolved	<0.00010	0.00010	mg/L		08-JUL-21	R5515893
Titanium (Ti)-Dissolved	0.00032	0.00030	mg/L		08-JUL-21	R5515893
Uranium (U)-Dissolved	0.00372	0.000010	mg/L		08-JUL-21	R5515893
Vanadium (V)-Dissolved	0.00086	0.00050	mg/L		08-JUL-21	R5515893
Zinc (Zn)-Dissolved	0.0148	0.0010	mg/L		08-JUL-21	R5515893
Hardness (from Dissolved Ca and Mg)						

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2609511 CONTD.... PAGE 3 of 6 Version: FINAL

### ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
12600511 1							
L2609511-1 21EXO1SW-210705							
Sampled By: CLIENT on 05-JUL-21 @ 08:35							
Matrix: WATER							
Hardness (from Dissolved Ca and Mg) Hardness (as CaCO3)	281		0.13	mg/L		09-JUL-21	
Total Metals - CCME	201		0.10	9, =		00000	
Hardness (from Total Ca and Mg)							
Hardness (as CaCO3)	282	HTC	0.13	mg/L		12-JUL-21	
Total Mercury in Water by CVAAS							
Mercury (Hg)-Total	0.0000141		0.0000050	mg/L		07-JUL-21	R5514055
Total Metals in Water by CRC ICPMS Aluminum (Al)-Total	0.327		0.0030	mg/L		11-JUL-21	R5517198
Antimony (Sb)-Total	0.00584		0.0030	mg/L		11-30L-21	R5517198
Arsenic (As)-Total	0.0764		0.00010	mg/L		11-JUL-21	R5517198
Barium (Ba)-Total	0.0294		0.00010	mg/L		11-JUL-21	R5517198
Beryllium (Be)-Total	<0.00010		0.00010	mg/L		11-JUL-21	R5517198
Boron (B)-Total	0.091		0.010	mg/L		11-JUL-21	R5517198
Cadmium (Cd)-Total	0.000144		0.0000050	mg/L		11-JUL-21	R5517198
Calcium (Ca)-Total	98.3		0.050	mg/L		11-JUL-21	R5517198
Chromium (Cr)-Total	0.0172		0.00010	mg/L		11-JUL-21	R5517198
Cobalt (Co)-Total Copper (Cu)-Total	0.00662 0.0850		0.00010 0.00050	mg/L mg/L		11-JUL-21 11-JUL-21	R5517198 R5517198
Iron (Fe)-Total	0.0650		0.00050	mg/L		11-JUL-21	R5517198
Lead (Pb)-Total	0.000656		0.00050	mg/L		11-JUL-21	R5517198
Lithium (Li)-Total	0.0035		0.0010	mg/L		11-JUL-21	R5517198
Magnesium (Mg)-Total	8.89		0.0050	mg/L		11-JUL-21	R5517198
Manganese (Mn)-Total	0.102		0.00010	mg/L		11-JUL-21	R5517198
Molybdenum (Mo)-Total	0.00277		0.000050	mg/L		11-JUL-21	R5517198
Nickel (Ni)-Total	0.0313		0.00050	mg/L		11-JUL-21	R5517198
Potassium (K)-Total	15.1		0.050	mg/L		11-JUL-21	R5517198
Selenium (Se)-Total	0.000429		0.000050	mg/L		11-JUL-21	R5517198
Silver (Ag)-Total Sodium (Na)-Total	0.000016 12.9		0.000010 0.050	mg/L mg/L		11-JUL-21 11-JUL-21	R5517198 R5517198
Thallium (TI)-Total	0.000030		0.00010	mg/L		11-JUL-21	R5517198
Tin (Sn)-Total	<0.00010		0.00010	mg/L		11-JUL-21	R5517198
Titanium (Ti)-Total	0.00779		0.00030	mg/L		11-JUL-21	R5517198
Uranium (U)-Total	0.00358		0.000010	mg/L		11-JUL-21	R5517198
Vanadium (V)-Total	0.00186		0.00050	mg/L		11-JUL-21	R5517198
Zinc (Zn)-Total	0.0251		0.0030	mg/L		11-JUL-21	R5517198
Miscellaneous Parameters							
pH	7.70		0.10	рН		07-JUL-21	R5514188
PAHs in water by liquid extraction, GCMS Acenaphthene	<0.000010		0.000010	mg/L	07-JUL-21	08-JUL-21	R5517347
Acenaphthylene	<0.000010		0.000010	mg/L	07-JUL-21	08-JUL-21 08-JUL-21	R5517347 R5517347
Acridine	0.000015		0.000010	mg/L	07-JUL-21	08-JUL-21	R5517347
Anthracene	<0.000010		0.000010	mg/L	07-JUL-21	08-JUL-21	R5517347
Benzo(a)anthracene	<0.000010		0.000010	mg/L	07-JUL-21	08-JUL-21	R5517347
Benzo(a)pyrene	<0.000050		0.0000050	mg/L	07-JUL-21	08-JUL-21	R5517347
Benzo(b&j)fluoranthene	<0.000010		0.000010	mg/L	07-JUL-21	08-JUL-21	R5517347
Benzo(e)pyrene	<0.000010		0.000010	mg/L	07-JUL-21	08-JUL-21	R5517347
Benzo(g,h,i)perylene	<0.000010		0.000010	mg/L	07-JUL-21	08-JUL-21	R5517347
Benzo(k)fluoranthene	<0.000010		0.000010	mg/L	07-JUL-21	08-JUL-21	R5517347
Chrysene Dibenzo(a,h)anthracene	<0.000010 <0.0000050		0.000010 0.0000050	mg/L mg/L	07-JUL-21 07-JUL-21	08-JUL-21 08-JUL-21	R5517347 R5517347
Fluoranthene	<0.000050		0.0000050	mg/L	07-JUL-21	08-JUL-21	R5517347 R5517347
Fluorene	<0.000010		0.000010	mg/L	07-JUL-21	08-JUL-21	R5517347

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2609511 CONTD.... PAGE 4 of 6 Version: FINAL

### ALS ENVIRONMENTAL ANALYTICAL REPORT

1-Methyl Naphthalene         <0.000020         0.000020         mg/L         07-JUL-21         08-JUL-21         R55           2-Methyl Naphthalene         <0.000020         mg/L         07-JUL-21         08-JUL-21         R55           Naphthalene         <0.000050         0.000050         mg/L         07-JUL-21         08-JUL-21         R55           Perylene         <0.000010         0.000010         mg/L         07-JUL-21         08-JUL-21         R55           Pyrene         <0.000020         0.000020         mg/L         07-JUL-21         08-JUL-21         R55           Quinoline         <0.000087         DLQ         0.000087         mg/L         07-JUL-21         08-JUL-21         R55           Surrogate: Acridine d9         86.7         60-130         %         07-JUL-21         08-JUL-21         R55           Surrogate: d12-Chrysene         93.3         60-130         %         07-JUL-21         08-JUL-21         R55           Surrogate: d8-Naphthalene         90.9         50-130         %         07-JUL-21         08-JUL-21         R55           Surrogate: d10-Phenanthrene         91.8         60-130         %         07-JUL-21         08-JUL-21         R55	Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Sampled By:         CLIENT on 05-JUL-21 @ 08:35           Matrix:         WATER           PAHs in water by liquid extraction, GCMS           Indeno(1,2,3-cd)pyrene         <0.000010	10000544.4 0457/0407/0407							
Matrix:         WATER           PAHs in water by liquid extraction, GCMS           Indeno(1,2,3-cd)pyrene         <0.000010								
PAHs in water by liquid extraction, GCMS           Indeno(1,2,3-cd)pyrene         <0.000010								
Indeno(1,2,3-cd)pyrene	Matrix: WATER							
1-Methyl Naphthalene       <0.000020								
2-Methyl Naphthalene         <0.000020		<0.000010		I	_			R5517347
Naphthalene         <0.000050         mg/L         07-JUL-21         08-JUL-21         R55           Perylene         <0.000010		<0.000020		0.000020				R5517347
Perylene         <0.000010         0.000010         mg/L         07-JUL-21         08-JUL-21         R55           Pyrene         0.000039         0.000010         mg/L         07-JUL-21         08-JUL-21         R55           Quinoline         0.000087         DLQ         0.000087         mg/L         07-JUL-21         08-JUL-21         R55           Surrogate: Acridine d9         86.7         0.000087         mg/L         07-JUL-21         08-JUL-21         R55           Surrogate: d12-Chrysene         93.3         60-130         %         07-JUL-21         08-JUL-21         R55           Surrogate: d8-Naphthalene         90.9         50-130         %         07-JUL-21         08-JUL-21         R55           Surrogate: d10-Phenanthrene         91.8         60-130         %         07-JUL-21         08-JUL-21         R55				I				R5517347
Phenanthrene         <0.000020         mg/L         07-JUL-21         08-JUL-21         R55           Pyrene         0.000039         0.000010         mg/L         07-JUL-21         08-JUL-21         R55           Quinoline         <0.000087				I				R5517347
Pyrene         0.000039         0.000010         mg/L         07-JUL-21         08-JUL-21         R55           Quinoline         <0.000087								R5517347
Quinoline         <0.000087         DLQ         0.000087         mg/L         07-JUL-21         08-JUL-21         R55           Surrogate: Acridine d9         86.7         60-130         %         07-JUL-21         08-JUL-21         R55           Surrogate: d12-Chrysene         93.3         60-130         %         07-JUL-21         08-JUL-21         R55           Surrogate: d8-Naphthalene         90.9         50-130         %         07-JUL-21         08-JUL-21         R55           Surrogate: d10-Phenanthrene         91.8         60-130         %         07-JUL-21         08-JUL-21         R55				I				R5517347
Surrogate: Acridine d9     86.7     60-130     %     07-JUL-21     08-JUL-21     R55       Surrogate: d12-Chrysene     93.3     60-130     %     07-JUL-21     08-JUL-21     R55       Surrogate: d8-Naphthalene     90.9     50-130     %     07-JUL-21     08-JUL-21     R55       Surrogate: d10-Phenanthrene     91.8     60-130     %     07-JUL-21     08-JUL-21     R55			51.0	I				R5517347
Surrogate: d12-Chrysene       93.3       60-130       %       07-JUL-21       08-JUL-21       R55         Surrogate: d8-Naphthalene       90.9       50-130       %       07-JUL-21       08-JUL-21       R55         Surrogate: d10-Phenanthrene       91.8       60-130       %       07-JUL-21       08-JUL-21       R55			DLQ	I				R5517347
Surrogate: d8-Naphthalene         90.9         50-130         %         07-JUL-21         08-JUL-21         R55           Surrogate: d10-Phenanthrene         91.8         60-130         %         07-JUL-21         08-JUL-21         R55								R5517347
Surrogate: d10-Phenanthrene         91.8         60-130         %         07-JUL-21         08-JUL-21         R55								R5517347
				I				R5517347
(c)) Total Compt Equivalent (C),000(1) (Fig. 1) (C),000(2) (C),000								R5517347
		<0.00010		0.000010	ing/L	UI-JUL-ZI	UO-JUL-ZT	R5517347

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

21-057NT L2609511 CONTD....

**Reference Information** 

PAGE 5 of 6 Version: FINAL

Sample Parameter Qualifier Key:

Qualifier	Description
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

#### **Test Method References:**

ALS Test Code	Matrix	Test Description	Method Reference**
BTXS,F1-ED	Water	BTEX, Styrene and F1 (C6-C10)	EPA 5021/8015&8260 GC-MS & FID
The western served a with a			

The water sample, with added reagents, is heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. BTEX Target compound concentrations are measured using mass spectrometry detection. The instrumental portion of F1 analysis is carried out in accordance with the Canada Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method.

ETL-HARDNESS-DIS-ED Water Hardness (from Dissolved Ca and Mg) APHA 2340 B-Calculation

ETL-HARDNESS-TOT-ED Water Hardness (from Total Ca and Mg) APHA 2340 B-Calculation

F2,F3,F4-ED Water F2, F3, F4 EPA 3510/CCME PHC CWS-GC-FID

Water samples are spiked with 2-BBTF surrogate, and extracted by reciprocal action shaker for 30 minutes using a single micro-extraction with 2 mL hexane. After extraction, hexane extracts are dispensed into GC vials for GC-FID analysis.

HG-D-CVAA-ED Water Dissolved Mercury in Water by CVAAS APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

HG-T-CVAA-ED Water Total Mercury in Water by CVAAS EPA 1631E (mod)

Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

MET-D-CCMS-ED Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

MET-T-CCMS-ED Water Total Metals in Water by CRC ICPMS EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

PAH-ME-GCMS-ED Water PAHs in water by liquid extraction, GCMS EPA 3511 / EPA 8270D GCMS

PAHs are extracted from water using a hexane micro-extraction technique. The final extract is analyzed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation.

PH-ED Water pH APHA 4500 H-Electrode

All samples analyzed by this method for pH will have exceeded the 15 minute recommended hold time from time of sampling (field analysis is recommended for pH where highly accurate results are needed)

\*\* ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

<b>Laboratory Definition Code</b>	Laboratory Location
ED	ALS ENVIRONMENTAL - EDMONTON, ALBERTA, CANADA
-	

**Chain of Custody Numbers:** 

17-818607

21-057NT L2609511 CONTD....

**Reference Information** 

PAGE 6 of 6 Version: FINAL

#### **Test Method References:**

**ALS Test Code** Matrix Method Reference\*\* **Test Description** 

#### **GLOSSARY OF REPORT TERMS**

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Workorder: L2609511 Report Date: 19-JUL-21 Page 1 of 9

Client: KBL Environmental Ltd.

3601, 75 Avenue

Leduc ab T9E 0Z5

Contact: David Vanderkley

est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTXS,F1-ED	Water							
Batch R5508	3763							
WG3573089-4 D Benzene	UP	<b>L2609511-1</b> < 0.00050	<0.00050	RPD-NA	mg/L	N/A	30	15-JUL-21
Toluene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	15-JUL-21
EthylBenzene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	15-JUL-21
m+p-Xylene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	15-JUL-21
o-Xylene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	15-JUL-21
F1(C6-C10)		<0.10	<0.10	RPD-NA	mg/L	N/A	30	15-JUL-21
WG3573089-2 Leader	cs		110.8		%		70-130	15-JUL-21
Toluene			100.0		%		70-130	15-JUL-21
EthylBenzene			86.3		%		70-130	15-JUL-21
m+p-Xylene			103.5		%		70-130	15-JUL-21
o-Xylene			99.7		%		70-130	15-JUL-21
<b>WG3573089-3</b> Lo	cs		81.8		%		70-130	15-JUL-21
WG3573089-1 M Benzene	В		<0.00050		mg/L		0.0005	15-JUL-21
Toluene			< 0.00050		mg/L		0.0005	15-JUL-21
EthylBenzene			<0.00050		mg/L		0.0005	15-JUL-21
m+p-Xylene			<0.00050		mg/L		0.0005	15-JUL-21
o-Xylene			<0.00050		mg/L		0.0005	15-JUL-21
F1(C6-C10)			<0.10		mg/L		0.1	15-JUL-21
Surrogate: 1,4-Diflu	iorobenzene (SS)		80.1		%		70-130	15-JUL-21
Surrogate: 4-Brome	ofluorobenzene (SS)		80.0		%		70-130	15-JUL-21
Surrogate: 3,4-Dich	nlorotoluene (SS)		113.8		%		70-130	15-JUL-21
2,F3,F4-ED	Water							
Batch R5516	6062							
WG3570873-2 L	cs	DIESEL/MOT	OR OIL					
F2 (C10-C16)			95.5		%		70-130	07-JUL-21
F3 (C16-C34)			104.1		%		70-130	07-JUL-21
F4 (C34-C50)			101.1		%		70-130	07-JUL-21
<b>WG3570873-1 M</b> F2 (C10-C16)	В		<0.10		mg/L		0.1	07-JUL-21
F3 (C16-C34)			<0.25		mg/L		0.25	07-JUL-21
F4 (C34-C50)			<0.25		mg/L		0.25	07-JUL-21
Surrogate: 2-Brome	obenzotrifluoride		89.3		%		60-140	07-JUL-21



Workorder: L2609511 Report Date: 19-JUL-21 Page 2 of 9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-CVAA-ED	Water			<u> </u>				
Batch R5514055 WG3570665-2 LCS Mercury (Hg)-Dissolved			95.2		%		80-120	07-JUL-21
WG3570665-1 MB Mercury (Hg)-Dissolved			<0.000005	5C	mg/L		0.000005	07-JUL-21
HG-T-CVAA-ED	Water							
Batch R5514055 WG3570668-3 DUP Mercury (Hg)-Total		<b>L2609511-1</b> 0.0000141	0.0000133	3	mg/L	5.8	20	07-JUL-21
WG3570668-2 LCS Mercury (Hg)-Total			93.7		%		80-120	07-JUL-21
WG3570668-1 MB Mercury (Hg)-Total			<0.000005	5C	mg/L		0.000005	07-JUL-21
MET-D-CCMS-ED	Water							
Batch R5515893								
WG3571268-2 LCS Aluminum (AI)-Dissolved	h		104.4		%		80-120	08-JUL-21
Antimony (Sb)-Dissolved			101.2		%		80-120	08-JUL-21
Arsenic (As)-Dissolved			93.3		%		80-120	08-JUL-21
Barium (Ba)-Dissolved			92.1		%		80-120	08-JUL-21
Beryllium (Be)-Dissolved	d		98.7		%		80-120	08-JUL-21
Boron (B)-Dissolved			83.0		%		80-120	08-JUL-21
Cadmium (Cd)-Dissolve	ed		96.8		%		80-120	08-JUL-21
Calcium (Ca)-Dissolved			96.9		%		80-120	08-JUL-21
Chromium (Cr)-Dissolve	ed		100.1		%		80-120	08-JUL-21
Cobalt (Co)-Dissolved			96.5		%		80-120	08-JUL-21
Copper (Cu)-Dissolved			94.4		%		80-120	08-JUL-21
Iron (Fe)-Dissolved			99.0		%		80-120	08-JUL-21
Lead (Pb)-Dissolved			93.8		%		80-120	08-JUL-21
Lithium (Li)-Dissolved			94.7		%		80-120	08-JUL-21
Magnesium (Mg)-Dissol	ved		92.5		%		80-120	08-JUL-21
Manganese (Mn)-Dissol	ved		95.6		%		80-120	08-JUL-21
Molybdenum (Mo)-Disso	olved		96.0		%		80-120	08-JUL-21
Nickel (Ni)-Dissolved			95.2		%		80-120	08-JUL-21
Potassium (K)-Dissolved	d		92.2		%		80-120	08-JUL-21
Selenium (Se)-Dissolved	d		102.0		%		80-120	08-JUL-21
Silver (Ag)-Dissolved			99.2		%		80-120	08-JUL-21



Workorder: L2609511 Report Date: 19-JUL-21 Page 3 of 9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-ED	Water							
Batch R551589	3							
WG3571268-2 LCS								
Sodium (Na)-Dissolve			94.3		%		80-120	08-JUL-21
Thallium (TI)-Dissolve	d		86.9		%		80-120	08-JUL-21
Tin (Sn)-Dissolved			95.3		%		80-120	08-JUL-21
Titanium (Ti)-Dissolve			94.3		%		80-120	08-JUL-21
Uranium (U)-Dissolve			90.3		%		80-120	08-JUL-21
Vanadium (V)-Dissolv	ed		94.5		%		80-120	08-JUL-21
Zinc (Zn)-Dissolved			91.2		%		80-120	08-JUL-21
WG3571268-1 MB Aluminum (Al)-Dissolv	ved.		<0.0010		mg/L		0.001	08-JUL-21
Antimony (Sb)-Dissolv			<0.0010		mg/L			
Arsenic (As)-Dissolve			<0.00010		mg/L		0.0001	08-JUL-21
Barium (Ba)-Dissolved			<0.00010		mg/L		0.0001	08-JUL-21
Beryllium (Be)-Dissolved			<0.00010		mg/L		0.0001	08-JUL-21 08-JUL-21
Boron (B)-Dissolved	cu		<0.010		mg/L		0.0001 0.01	
Cadmium (Cd)-Dissol	wod		<0.000005	5C	mg/L			08-JUL-21
Calcium (Ca)-Dissolve			<0.050	)C	-		0.000005	08-JUL-21
Chromium (Cr)-Dissolve			<0.000		mg/L		0.05	08-JUL-21
Cobalt (Co)-Dissolved			<0.00010		mg/L mg/L		0.0001	08-JUL-21
, ,							0.0001	08-JUL-21
Copper (Cu)-Dissolved  Iron (Fe)-Dissolved	u		<0.00020		mg/L		0.0002	08-JUL-21
,			<0.010	<b>1</b>	mg/L		0.01	08-JUL-21
Lead (Pb)-Dissolved			<0.000050	J	mg/L		0.00005	08-JUL-21
Lithium (Li)-Dissolved	alva d		<0.0010		mg/L		0.001	08-JUL-21
Magnesium (Mg)-Diss			<0.0050		mg/L		0.005	08-JUL-21
Manganese (Mn)-Diss			<0.00010		mg/L		0.0001	08-JUL-21
Molybdenum (Mo)-Dis	ssolvea		<0.000050	J	mg/L		0.00005	08-JUL-21
Nickel (Ni)-Dissolved			<0.00050		mg/L		0.0005	08-JUL-21
Potassium (K)-Dissolv			<0.050		mg/L		0.05	08-JUL-21
Selenium (Se)-Dissolv	/ed		<0.000050		mg/L		0.00005	08-JUL-21
Silver (Ag)-Dissolved			<0.000010	)	mg/L		0.00001	08-JUL-21
Sodium (Na)-Dissolve			<0.050		mg/L		0.05	08-JUL-21
Thallium (TI)-Dissolve	d		<0.000010	)	mg/L		0.00001	08-JUL-21
Tin (Sn)-Dissolved			<0.00010		mg/L		0.0001	08-JUL-21
Titanium (Ti)-Dissolve			<0.00030		mg/L		0.0003	08-JUL-21
Uranium (U)-Dissolve	d		<0.000010	)	mg/L		0.00001	08-JUL-21



Workorder: L2609511 Report Date: 19-JUL-21 Page 4 of 9

est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ET-D-CCMS-ED	Water							
Batch R5515893								
WG3571268-1 MB			0.00050					
Vanadium (V)-Dissolved			<0.00050		mg/L		0.0005	08-JUL-21
Zinc (Zn)-Dissolved			<0.0010		mg/L		0.001	08-JUL-21
ET-T-CCMS-ED	Water							
Batch R5516718								
WG3572062-2 LCS Aluminum (Al)-Total		HB_WATER	105.0		%		80-120	09-JUL-21
Antimony (Sb)-Total			98.9		%		80-120	09-JUL-21
Arsenic (As)-Total			100.1		%		80-120	09-JUL-21
Barium (Ba)-Total			99.2		%		80-120	09-JUL-21
Beryllium (Be)-Total			86.0		%		80-120 80-120	09-JUL-21
Boron (B)-Total			86.9		%		80-120	09-JUL-21
Cadmium (Cd)-Total			98.6		%		80-120	09-JUL-21
Calcium (Ca)-Total			89.0		%		80-120	09-JUL-21
Chromium (Cr)-Total			107.8		%		80-120	09-JUL-21
Cobalt (Co)-Total			98.8		%		80-120	09-JUL-21
Copper (Cu)-Total			97.8		%		80-120	09-JUL-21
Iron (Fe)-Total			101.5		%		80-120	09-JUL-21
Lead (Pb)-Total			91.2		%		80-120	09-JUL-21
Lithium (Li)-Total			73.4	MES	%		80-120	09-JUL-21
Magnesium (Mg)-Total			100.1		%		80-120	09-JUL-21
Manganese (Mn)-Total			101.6		%		80-120	09-JUL-21
Molybdenum (Mo)-Total			99.1		%		80-120	09-JUL-21
Nickel (Ni)-Total			99.6		%		80-120	09-JUL-21
Potassium (K)-Total			99.95		%		80-120	09-JUL-21
Selenium (Se)-Total			97.7		%		80-120	09-JUL-21
Silver (Ag)-Total			96.7		%		80-120	09-JUL-21
Sodium (Na)-Total			99.0		%		80-120	09-JUL-21
Thallium (TI)-Total			90.5		%		80-120	09-JUL-21
Tin (Sn)-Total			96.6		%		80-120	09-JUL-21
Titanium (Ti)-Total			98.6		%		80-120	09-JUL-21
Uranium (U)-Total			99.9		%		80-120	09-JUL-21
Vanadium (V)-Total			100.0		%		80-120	09-JUL-21
Zinc (Zn)-Total			94.9		%		80-120	09-JUL-21



Workorder: L2609511 Report Date: 19-JUL-21 Page 5 of 9

Test	Matrix	Reference	Result (	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-ED	Water							
Batch R5516718								
WG3572062-1 MB Aluminum (Al)-Total			<0.0030		ma/l		0.000	00 1111 04
Antimony (Sb)-Total			<0.0030		mg/L mg/L		0.003 0.0001	09-JUL-21
Arsenic (As)-Total			<0.00010		mg/L			09-JUL-21
Barium (Ba)-Total			<0.00010		mg/L		0.0001	09-JUL-21
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	09-JUL-21
• • •			<0.00010		-		0.0001	09-JUL-21
Boron (B)-Total					mg/L		0.01	09-JUL-21
Cadmium (Cd)-Total			<0.0000050		mg/L		0.000005	09-JUL-21
Calcium (Ca)-Total			<0.050		mg/L		0.05	09-JUL-21
Chromium (Cr)-Total			<0.00010 <0.00010		mg/L		0.0001	09-JUL-21
Cobalt (Co)-Total					mg/L		0.0001	09-JUL-21
Copper (Cu)-Total			<0.00050		mg/L		0.0005	09-JUL-21
Iron (Fe)-Total			<0.010		mg/L		0.01	09-JUL-21
Lead (Pb)-Total			<0.000050		mg/L		0.00005	09-JUL-21
Lithium (Li)-Total			<0.0010		mg/L		0.001	09-JUL-21
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	09-JUL-21
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	09-JUL-21
Molybdenum (Mo)-Tota	1		<0.000050		mg/L		0.00005	09-JUL-21
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	09-JUL-21
Potassium (K)-Total			<0.050		mg/L		0.05	09-JUL-21
Selenium (Se)-Total			<0.000050		mg/L		0.00005	09-JUL-21
Silver (Ag)-Total			<0.000010		mg/L		0.00001	09-JUL-21
Sodium (Na)-Total			<0.050		mg/L		0.05	09-JUL-21
Thallium (TI)-Total			<0.000010		mg/L		0.00001	09-JUL-21
Tin (Sn)-Total			<0.00010		mg/L		0.0001	09-JUL-21
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	09-JUL-21
Uranium (U)-Total			<0.000010		mg/L		0.00001	09-JUL-21
Vanadium (V)-Total			<0.00050		mg/L		0.0005	09-JUL-21
Zinc (Zn)-Total			<0.0030		mg/L		0.003	09-JUL-21
PAH-ME-GCMS-ED	Water							
Batch R5517347								
WG3570577-2 LCS			402.0		0/		00.400	40 1111 51
Acenaphthene			103.2		%		60-130	12-JUL-21
Acenaphthylene			92.3		%		60-130	12-JUL-21
Acridine			92.3		%		60-130	12-JUL-21



Workorder: L2609511 Report Date: 19-JUL-21 Page 6 of 9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-ME-GCMS-ED	Water							
Batch R5517347								
WG3570577-2 LCS Anthracene			95.3		%		00.400	40 1111 04
					%		60-130	12-JUL-21
Benzo(a)anthracene			90.0				60-130	12-JUL-21
Benzo(a)pyrene			98.6		%		60-130	12-JUL-21
Benzo(b&j)fluoranthene			103.5		%		60-130	12-JUL-21
Benzo(e)pyrene			107.9		%		60-130	12-JUL-21
Benzo(g,h,i)perylene			105.2		%		60-130	12-JUL-21
Benzo(k)fluoranthene			109.8		%		60-130	12-JUL-21
Chrysene			100.5		%		60-130	12-JUL-21
Dibenzo(a,h)anthracene	•		106.8		%		60-130	12-JUL-21
Fluoranthene			110.1		%		60-130	12-JUL-21
Fluorene			102.4		%		60-130	12-JUL-21
Indeno(1,2,3-cd)pyrene			106.2		%		60-130	12-JUL-21
1-Methyl Naphthalene			110.6		%		60-130	12-JUL-21
2-Methyl Naphthalene			110.3		%		60-130	12-JUL-21
Naphthalene			112.1		%		50-130	12-JUL-21
Perylene			105.6		%		60-130	12-JUL-21
Phenanthrene			108.8		%		60-130	12-JUL-21
Pyrene			107.8		%		60-130	12-JUL-21
Quinoline			114.6		%		60-130	12-JUL-21
WG3570577-1 MB								
Acenaphthene			<0.000010	)	mg/L		0.00001	12-JUL-21
Acenaphthylene			<0.000010	)	mg/L		0.00001	12-JUL-21
Acridine			<0.000010	)	mg/L		0.00001	12-JUL-21
Anthracene			<0.000010	)	mg/L		0.00001	12-JUL-21
Benzo(a)anthracene			<0.000010	)	mg/L		0.00001	12-JUL-21
Benzo(a)pyrene			< 0.000005	5C	mg/L		0.000005	12-JUL-21
Benzo(b&j)fluoranthene			<0.000010	)	mg/L		0.00001	12-JUL-21
Benzo(e)pyrene			<0.000010	)	mg/L		0.00001	12-JUL-21
Benzo(g,h,i)perylene			<0.000010	)	mg/L		0.00001	12-JUL-21
Benzo(k)fluoranthene			<0.000010	)	mg/L		0.00001	12-JUL-21
Chrysene			<0.000010	)	mg/L		0.00001	12-JUL-21
Dibenzo(a,h)anthracene	<b>)</b>		<0.000005	5C	mg/L		0.000005	12-JUL-21
Fluoranthene			<0.000010	)	mg/L		0.00001	12-JUL-21
Fluorene			<0.000010	)	mg/L		0.00001	12-JUL-21



Page 7 of 9

Workorder: L2609511 Report Date: 19-JUL-21

RPD Test Matrix Reference Result Qualifier Units Limit Analyzed PAH-ME-GCMS-ED Water **Batch** WG3570577-1 < 0.000010 Indeno(1,2,3-cd)pyrene mg/L 0.00001 12-JUL-21 1-Methyl Naphthalene < 0.000020 mg/L 0.00002 12-JUL-21 2-Methyl Naphthalene mg/L < 0.000020 0.00002 12-JUL-21 Naphthalene < 0.000050 mg/L 0.00005 12-JUL-21 Perylene <0.000010 mg/L 0.00001 12-JUL-21 Phenanthrene < 0.000020 mg/L 0.00002 12-JUL-21 Pyrene < 0.000010 mg/L 0.00001 12-JUL-21 Quinoline < 0.000050 mg/L 0.00005 12-JUL-21 Surrogate: Acridine d9 83.9 % 60-130 12-JUL-21 Surrogate: d12-Chrysene 77.2 % 60-130 12-JUL-21 Surrogate: d8-Naphthalene 105.3 % 50-130 12-JUL-21 Surrogate: d10-Phenanthrene 95.1 % 60-130 12-JUL-21 PH-ED Water **Batch** R5514188 WG3570824-12 LCS ED-PH6 6.05 рΗ рΗ 5.8-6.2 07-JUL-21 WG3570824-2 LCS ED-PH6 6.05 рΗ рΗ 5.8-6.2 07-JUL-21 WG3570824-7 LCS ED-PH6 рΗ 6.04 рΗ 5.8-6.2 07-JUL-21

Workorder: L2609511 Report Date: 19-JUL-21 Page 8 of 9

#### Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

#### **Sample Parameter Qualifier Definitions:**

Qualifier	Description
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Workorder: L2609511 Report Date: 19-JUL-21 Page 9 of 9

#### **Hold Time Exceedances:**

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
рН							
	1	05-JUL-21 08:35	07-JUL-21 10:00	0.25	49	hours	EHTR-FM

#### Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

#### Notes\*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes. Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2609511 were received on 05-JUL-21 09:20.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide confidence in the accuracy of associated test results.

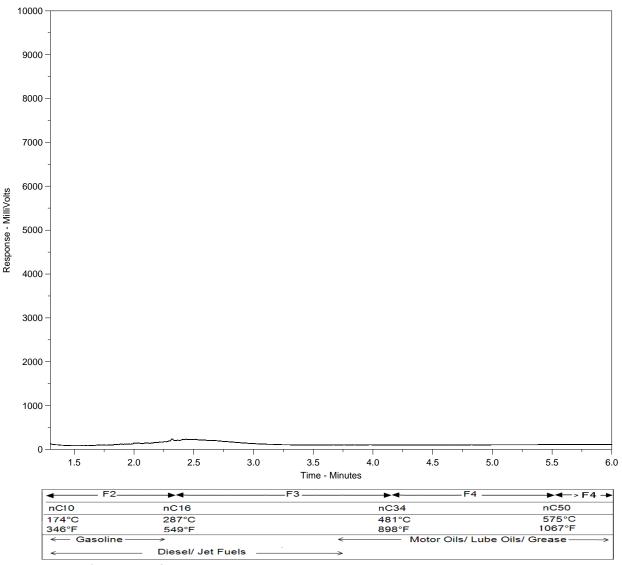
Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

# **Hydrocarbon Distribution Report**



ALS Sample ID: L2609511-1

Client ID: 21EXO1SW-210705



The Canada Wide Standard Hydrocarbon Distribution Report is intended to assist you in characterizing hydrocarbon products that may be present in your sample. The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products as well as a number of specified n-alkane hydrocarbon marker compounds. Comparison of this report with those of reference standards may also assist in characterizing hydrocarbons present in the sample.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

#### Note:

# (ALS) Environmental www.alsglobal.com

# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here

Page of

COC Number: 17 - 818607

a.	ои ногр	SAMPLES ON HOLD SUSPECTED HAZARD (see Special Instructions)
(Laboratory opening fees may apply) ]  dd-mmm-yy hh;mm  ce level selected, you will be contacted.  Analysis Request  Analysis Request	tory opening fees may apply) ] dd-mmm-yy hh.mm lected, you will be contacted. /sis Request illered and Preserved (F/P) below	tory opening fees may apply) ]  dd-mmm-yy hh:mm dected, you will be contacted.  risis Request  iltered and Preserved (FIP) below
1 5   5	for all E&P TATs:	Caboratory opening   Caborat
Date and Time Required for all ESP TATE: rests that can not be performed according to the sen Indicate Filtered (F), Presen	sets that can not be performed according to the ser Indicate Filtered (F), Presen	TEX FI-F4  The performed according to the ser that can not be performed according to the ser that the filtered for all ESP TATE:  A TEXT FILT A STATE TO THE SERVICES A STATE
For tests that can		o Type
	ibution  IL NAL FAX  SA KM ENV. LCFA Felds (client use)	lent use)
Email 3 mac+Ki nolkblenv.em Invoice Distribution		
	- C	Select Invoice Distribution Email 1 or Fax cycco Email 2 Oil and AFE/Cost Center.  MajoriMinor Code: Requisitioner: Location: ALS Contact: (de
5	NO	NO n and/or Coordinates appear on the report)
	with Report TES Project Information	Project Information  Project Information  Sample Identification ?  (This description will ap
COPY OF INVOICE WITH REPORT		Projection (lab use on

#### GENERAL TERMS AND CONDITIONS:

These terms and conditions are incorporated in and form part of the Agreement between ALS Group's Environmental Division and the party named in the Offer (the "Client").

- 1. Definitions. Capitalized Terms not defined in these Terms and Conditions have the definitions set out in the other Agreement documents,
- 2. The Services, ALS will provide the Services to the Client as described in the Offer and in any chain of custody form provided with any sample.
- 3. Prices. ALS may review and change all prices, fees, surcharges or other charges set out in the Agreement if there are changes to ALS's cost beyond ALS's control, including changes in legislative requirements, Client variations of sample numbers and Client requests for changes to standard reporting requirements. Notwithstanding Condition 3. all quotations expire after three years.
- 4. Payment Terms. The Client shall pay ALS within 30 days of the invoice date OAC. ALS may, for reasonable business reasons, require the Client to arrange for payment in advance.
- 5. Quotation Numbers. The Client shall provide the quotation number to ALS (where applicable) to ensure correct pricing.
- 6. Taxes. Applicable taxes are not included in prices. Applicable surcharges and additional fees will be added at the time of invoicing.
- 7. Quality Control. ALS has an extensive QA/QC program. Clients' samples are analyzed using approved, referenced procedures followed by thorough data validation prior to reporting of the analytical results.
- 8. Test Results. Results are obtained from analytical measurements that are subject to inherent variability. Measurement results reflect characteristics of submitted test samples at time of analysis. The Client is responsible for informing itself on the limitation of test results and acknowledges that test results are not guaranteed. When statements of conformity are requested on test reports (e.g. within Criteria Reports), measurement uncertainty is not applied to test results prior to the evaluation.
- 9. Standard of Care. ALS will use reasonable care and diligence as required by the laws of the province or territory where the sample is tested.
- 10. Storage. Where possible, ALS will store; soil and water samples for 45 days from date of receipt, tissue/biota samples for 6 months from date of receipt, air samples or re-usable media for 14 days from date of receipt, and microbiological samples for 3 days from date of receipt.
- 11. Holds. If the Client requests a sample to be placed on hold, ALS will store the samples according to paragraph 10, after which ALS will invoice the Client and discard the sample. Each sample is subject to a minimum \$5.00 hold fee. Longer hold periods are available upon request. See paragraph 12.
- 12. Archives. If the Client requests a sample be archived, ALS will invoice in advance and store the sample for the period requested, after which ALS may discard the sample.
- 13. Legal Sample Handling Protocol. Legal sample handling protocol must be arranged before samples are collected. ALS charges a surcharge on the list price plus the hourly technologist or chemist rates for legal sample protocol. Additional charges will apply for samples that require storage by ALS.
- 14. Samples. The quality, condition, content and source of samples stored and tested are not known to ALS except as declared and described on the chain of custody form completed and submitted by the Client and accompanying the sample.
- 15. Risk of Loss. ALS will use reasonable care to protect samples during storage, however all samples are stored at the Client's risk and the Client is responsible for obtaining appropriate insurance, if desired. The Client acknowledges that during the performance of the Services samples may be altered, lost, damaged, or destroyed and the Client releases ALS from any claim the Client may have for any loss or damage to the sample.
- 16. Environmental. The Client must comply with all applicable environment legislation, including labeling all hazardous samples to comply with GHS and TDG regulations, and must provide appropriate Safety Data that include the nature of the hazard and a contact name and phone number to call for information. The Client will indemnify ALS for all loss or damages, including any fine or cost of complying with an order of any government authority, resulting from the Client's breach of this paragraph.
- 17. Hazardous Materials Disposal. ALS may return, at the Client's cost, hazardous material to the Client for disposal.
- 18. Hazardous Materials Surcharge. ALS may apply an additional surcharge for handling of hazardous samples or samples with Naturally Occurring Radioactive Materials (NORM), H2S, CN, etc.
- 19. Sample Containers. ALS may ship sample containers to the Client's location by the most cost effective means using ALS preferred courier suppliers, within the specified project timeline.
- 20. Additional Charges. ALS may charge the Client (a) its cost for emergency bottle shipments and shipments to and from a remote site, and (b) where pick up and delivery services are provided, subject in each instance to a minimum charge of \$25.00.
- 21. Re-Tests. ALS reserves the right to re-test any samples that remain in its possession. Re-tests requested by the Client may be subject to charges.
- 22. Waiver. The Client is responsible for making any assessment regarding the suitability of the Services and the intended results for the Client's purposes and waives any claims against ALS it may have as a result of the interpretation of the results. The Client shall indemnify ALS for all claims made by any third party against ALS in respect of all losses however arising from the performance of the Services or the use of any report provided in the performance of the Services.
- 24. Notice of Liability. Notwithstanding paragraph 23, ALS shall not be liable to the Client unless the Client provides notice in writing to ALS of such loss or damage, together with full particulars thereof, within 30 days of the Client's receipt of the report of the analysis of the sample giving rise to such liability. The provisions of this paragraph allocate the risk under the Agreement between the Client and ALS, and the fees to be paid by the Client to ALS reflect this allocation of risks and the limitations of liability in this Agreement.
- 25. Third Party Service Provider Indemnity. For testing not performed at ALS, and where the Client requires ALS to forward samples to a third party service provider, the Client indemnifies ALS against any breach of this Agreement, all liabilities or losses incurred in connection with the third party service provider, including but not limited to courier services, testing turn-around time, and any additional costs associated with such third party.
- 26. Third Party Service Provider Indemnity. If ALS is required to engage a third party service provider for whatever reason, the Client indemnifies ALS against any breach of this Agreement, liabilities, or losses incurred in connection with the third party service provider, including but not limited to courier services, testing turn-around time, and any additional costs associated with such third party.
- 27. Entire Agreement. The Agreement is the entire agreement between the parties and supersedes and takes precedence over any terms and conditions contained in any documentation provided by the Client. ALS's execution of any subsequent documentation from the Client only acknowledges receipt and not acceptance of any terms or conditions therein. If there is a conflict between these terms and conditions and any other Agreement document, these terms and conditions prevail.

  28. Term. Providing the first batch of samples to which this tender refers is submitted within three months of the starting date of this quotation, the following prices, terms and conditions will remain firm until the closing date. This offer, and its terms and conditions will automatically lapse if the offer has not been accepted and samples not delivered to ALS by the Closing Date.
- 29. Termination. (a) Either party may terminate this Agreement for any reason by giving the other party thirty (30) days written notice (Notice Period). (b) If the Agreement is terminated pursuant to clause (a), then the Client must pay ALS for all Services performed up to the expiry of the Notice Period.



# **CERTIFICATE OF ANALYSIS**

Work Order : YL2200422

Client : KBL Environmental Ltd.

Contact : Nicole Prince

Address : 17 Cameron Road PO Box 1895

Yellowknife NT Canada X1A 2P4

Telephone : 780-554-7259
Project : 22-071NT

PO : PRINN0002

C-O-C number : --Sampler : --Site : ---

Quote number : YL22-KBLE100-003

No. of samples received : 4
No. of samples analysed : 4

Page : 1 of 5

Laboratory : Yellowknife - Environmental

Account Manager : Oliver Gregg

Address : 314 Old Airport Road, Unit 116

Yellowknife NT Canada X1A 3T3

Telephone : 1 867 446 5593

Date Samples Received : 09-May-2022 11:00

Date Analysis Commenced : 10-May-2022

Issue Date : 11-May-2022 17:24

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

#### **Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Jing Liu	Lab Assistant	Inorganics, Edmonton, Alberta
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Paul Cushing	Team Leader - Organics	Organics, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia

Page : 2 of 5

Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



#### **General Comments**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	Description
μg/L	micrograms per litre
mg/L	milligrams per litre
pH units	pH units

<: less than.

>: greater than.

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

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

#### Qualifiers

Qualifier	Description
DLA	Detection Limit adjusted for required dilution.
DLCI	Detection Limit Raised: Chromatographic interference due to co-elution.
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
SMI	Surrogate recovery could not be measured due to sample matrix interference.

Page : 3 of 5 Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



# Analytical Results

Sub-Matrix: Water			Cli	ient sample ID	EMD Berm 1	EMD Berm 2	KBL Pond 1	KBL Pond 2	
(Matrix: Water)									
			Client samp	ling date / time	07-May-2022	07-May-2022	07-May-2022	07-May-2022	
Analyte	CAS Number	Method	LOR	Unit	YL2200422-001	YL2200422-002	YL2200422-003	YL2200422-004	
					Result	Result	Result	Result	
Physical Tests									
рН		E108	0.10	pH units	7.20	7.24	7.19	7.19	
Total Metals									
antimony, total	7440-36-0	E420	0.00010	mg/L	0.00343	0.00341	0.00170	0.00175	
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00080	0.00078	0.00166	0.00212	
barium, total	7440-39-3	E420	0.00010	mg/L	0.0241	0.0241	0.0365	0.0399	
beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000040 DLA	<0.000040 DLA	0.000024	0.000026	
boron, total	7440-42-8	E420	0.010	mg/L	3.97	4.18	1.99	1.98	
iron, total	7439-89-6	E420	0.010	mg/L	0.138	0.127	0.976	1.51	
manganese, total	7439-96-5	E420	0.00010	mg/L	0.160	0.159	0.113	0.138	
selenium, total	7782-49-2	E420	0.000050	mg/L	0.000976	0.00101	0.00217	0.00215	
uranium, total	7440-61-1	E420	0.000010	mg/L	0.00507	0.00514	0.00245	0.00263	
zinc, total	7440-66-6	E420	0.0030	mg/L	0.522	0.534	0.0628	0.0608	
Aggregate Organics									
phenols, total (4AAP)		E562	0.0010	mg/L	0.0685	0.0689	0.120	0.115	
Volatile Organic Compounds [Fuels]									
benzene	71-43-2	E611A	0.50	μg/L	<0.50	<0.50	<0.50	<0.50	
ethylbenzene	100-41-4	E611A	0.50	μg/L	1.70	1.70	<0.50	<0.50	
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	μg/L	<0.50	<0.50	<0.50	<0.50	
styrene	100-42-5	E611A	0.50	μg/L	<0.50	<0.50	<0.50	<0.50	
toluene	108-88-3	E611A	0.50	μg/L	2.39	2.30	0.62	0.68	
xylene, m+p-	179601-23-1	E611A	0.40	μg/L	7.69	7.52	2.05	1.95	
xylene, o-	95-47-6	E611A	0.30	μg/L	5.67	5.56	1.32	1.34	
xylenes, total	1330-20-7	E611A	0.50	μg/L	13.4	13.1	3.37	3.29	
Volatile Organic Compounds Surrogates									
bromofluorobenzene, 4-	460-00-4	E611A	1.0	%	94.7	97.9	97.2	92.3	
difluorobenzene, 1,4-	540-36-3	E611A	1.0	%	98.7	99.2	97.3	98.6	
Hydrocarbons									
F1 (C6-C10)		E581.VH+F1	100	μg/L	<100	110	<100	<100	
F2 (C10-C16)		E601	300	μg/L	7760	13100	670	640	
VHw (C6-C10)		E581.VH+F1	100	μg/L	<100	<100	<100	<100	
F1-BTEX		EC580	100	μg/L	<100	<100	<100	<100	

Page : 4 of 5 Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT

# ALS

# Analytical Results

Sub-Matrix: Water			C	lient sample ID	EMD Berm 1	EMD Berm 2	KBL Pond 1	KBL Pond 2	
(Matrix: Water)									
			Client samr	oling date / time	07-May-2022	07-May-2022	07-May-2022	07-May-2022	
Analyte	CAS Number	Method	LOR	Unit	YL2200422-001	YL2200422-002	YL2200422-003	YL2200422-004	
Analyte	CAS Number	Wichiod	LON	O/m	Result	Result	Result	Result	
Hydrocarbons					rtoduit	rtodut	rtoduk	rtoduk	
VPHw		EC580A	100	μg/L	<100	<100	<100	<100	
Hydrocarbons Surrogates				10					
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601	1.0	%	94.6	94.9	91.7	91.3	
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	98.6	111	71.8	104	
Polycyclic Aromatic Hydrocarbons									
acenaphthene	83-32-9	E641A	0.010	μg/L	<2.00 DLCI	<2.20 DLCI	0.465	0.430	
acenaphthylene	208-96-8	E641A	0.010	μg/L	<0.590 DLCI	<0.630 DLCI	0.123	0.113	
anthracene	120-12-7	E641A	0.010	μg/L	<0.480 DLCI	<0.600 DLCI	<0.060 DLCI	<0.050 DLCI	
benz(a)anthracene	56-55-3	E641A	0.010	μg/L	0.412	0.627	0.017	0.017	
benzo(a)pyrene	50-32-8	E641A	0.0050	μg/L	0.0536	0.0858	<0.0050	<0.0050	
benzo(b+j)fluoranthene	n/a	E641A	0.010	μg/L	0.256	0.429	<0.010	<0.010	
benzo(b+j+k)fluoranthene	n/a	E641A	0.015	μg/L	0.355	0.595	<0.015	<0.015	
benzo(g,h,i)perylene	191-24-2	E641A	0.010	μg/L	0.036	0.054	<0.010	<0.010	
benzo(k)fluoranthene	207-08-9	E641A	0.010	μg/L	0.099	0.166	<0.010	<0.010	
chrysene	218-01-9	E641A	0.010	μg/L	0.408	0.635	<0.030 DLCI	<0.030 DLCI	
dibenz(a,h)anthracene	53-70-3	E641A	0.0050	μg/L	0.0121	0.0183	<0.0050	<0.0050	
fluoranthene	206-44-0	E641A	0.010	μg/L	3.90	6.05	0.243	0.241	
fluorene	86-73-7	E641A	0.010	μg/L	2.62	3.12	0.439	0.410	
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.010	μg/L	0.053	0.087	<0.010	<0.010	
naphthalene	91-20-3	E641A	0.050	μg/L	<8.50 DLQ	<9.40 DLQ	3.25	2.97	
phenanthrene	85-01-8	E641A	0.020	μg/L	4.92	6.18	0.704	0.667	
pyrene	129-00-0	E641A	0.010	μg/L	2.31	3.56	0.126	0.128	
B(a)P total potency equivalents [B(a)P TPE]		E641A	0.010	μg/L	0.152	0.242	<0.010	<0.010	
PAHs, total (EPA 16)	n/a	E641A	0.065	μg/L	15.1	21.0	5.37	4.98	
Polycyclic Aromatic Hydrocarbons Surrogates									
chrysene-d12	1719-03-5	E641A	0.1	%	98.5	105	116	109	
naphthalene-d8	1146-65-2	E641A	0.1	%	Not <sup>SMI</sup>	Not <sup>smi</sup>	126	123	
phenanthrene-d10	1517-22-2	E641A	0.1	%	Determined 91.4	Determined 91.0	86.8	80.7	
Polychlorinated Biphenyls									
polychlorinated biphenyls [PCBs], total		E685	1.0	μg/L	<1.0	<1.0	<1.0	<1.0	

Page : 5 of 5

Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT

# ALS

# Analytical Results

Sub-Matrix: Water		Cl	ient sample ID	EMD Berm 1	EMD Berm 2	KBL Pond 1	KBL Pond 2		
(Matrix: Water)									
			Client samp	ling date / time	07-May-2022	07-May-2022	07-May-2022	07-May-2022	
Analyte	CAS Number	Method	LOR	Unit	YL2200422-001	YL2200422-002	YL2200422-003	YL2200422-004	
					Result	Result	Result	Result	
Polychlorinated Biphenyls Surrogates									
decachlorobiphenyl	2051-24-3	E685	1.0	%	83.8	88.9	84.5	91.3	

Please refer to the General Comments section for an explanation of any qualifiers detected.



Yellowknife NT Canada X1A 2P4

# QUALITY CONTROL INTERPRETIVE REPORT

Work Order : YL2200422 Page : 1 of 9

Client : KBL Environmental Ltd. Laboratory : Yellowknife - Environmental

Contact : Nicole Prince Account Manager : Oliver Gregg

Address : 17 Cameron Road PO Box 1895 Address : 314 Old Airport Road, Unit 116

Yellowknife, Northwest Territories Canada X1A 3T3

 Telephone
 : 780-554-7259
 Telephone
 : 1 867 446 5593

 Project
 : 22-071NT
 Date Samples Received
 : 09-May-2022 11:00

 PO
 : PRINN0002
 Issue Date
 : 11-May-2022 17:24

C-O-C number : ---Sampler : ---Site : ----

Quote number : YL22-KBLE100-003

No. of samples received : 4
No. of samples analysed : 4

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

#### Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

#### **Workorder Comments**

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

# **Summary of Outliers**

# **Outliers: Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

# Outliers: Reference Material (RM) Samples

• No Reference Material (RM) Sample outliers occur.

# **Outliers : Analysis Holding Time Compliance (Breaches)**

• Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers: Frequency of Quality Control Samples  ■ No Quality Control Sample Frequency Outliers occur.		

Page : 3 of 9
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



# **Analysis Holding Time Compliance**

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Water					Ev	aluation: 🗴 =	Holding time exce	edance ; 🔻	= Within	Holding Time
Analyte Group	Method	Sampling Date	Ext	raction / Pr	eparation			Analys	is	
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	Times	Eval
			Date	Rec	Actual			Rec	Actual	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid)										
EMD Berm 1	E562	07-May-2022					11-May-2022	28 days	5 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid)										
EMD Berm 2	E562	07-May-2022					11-May-2022	28 days	5 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid)										
KBL Pond 1	E562	07-May-2022					11-May-2022	28 days	5 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid)										
KBL Pond 2	E562	07-May-2022					11-May-2022	28 days	5 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)	5004		40.14 0000			,	44.14 0000	40.1		,
EMD Berm 1	E601	07-May-2022	10-May-2022	14	4 days	✓	11-May-2022	40 days	1 days	✓
				days						
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)	E004	07.140000	40.14 0000				44.14 0000	40.1		,
EMD Berm 2	E601	07-May-2022	10-May-2022	14	4 days	✓	11-May-2022	40 days	1 days	✓
				days						
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)	F004	07.140000	40.140000		4 1		44.140000	40.1	4 1	
KBL Pond 1	E601	07-May-2022	10-May-2022	14	4 days	✓	11-May-2022	40 days	1 days	✓
				days						

Page : 4 of 9
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



Matrix: Water					Ev	aluation: × =	Holding time exce	edance ; •	✓ = Within	Holding Time
Analyte Group	Method	Sampling Date	Ext	traction / Pi	reparation			Analys	sis	
Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
KBL Pond 2	E601	07-May-2022	10-May-2022	14	4 days	✓	11-May-2022	40 days	1 days	✓
				days						
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
EMD Berm 1	E581.VH+F1	07-May-2022	11-May-2022				11-May-2022	14 days	4 davs	✓
		·	,				,		,	
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)							I			
EMD Berm 2	E581.VH+F1	07-May-2022	11-May-2022				11-May-2022	14 days	4 days	<b>√</b>
EIND BOTTLE	200	0. may 2022							· aayo	
Hydrocarbons: VH and F1 by Headspace GC-FID							I			
Glass vial (sodium bisulfate) KBL Pond 1	E581.VH+F1	07-May-2022	11-May-2022				11-May-2022	14 days	4 days	<b>✓</b>
KBL POH I	E301.VH+F1	07-Way-2022	11-May-2022				1 1-Way-2022	14 uays	4 uays	<b>,</b>
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)	5504.1/11.54	07.14								,
KBL Pond 2	E581.VH+F1	07-May-2022	11-May-2022				11-May-2022	14 days	4 days	✓
Physical Tests : pH by Meter										
HDPE										
EMD Berm 1	E108	07-May-2022					11-May-2022	0.25	102 hrs	*
								hrs		EHTR-FM
Physical Tests : pH by Meter										
HDPE										
EMD Berm 2	E108	07-May-2022					11-May-2022	0.25	102 hrs	×
								hrs		EHTR-FM
Physical Tests : pH by Meter										
HDPE										
KBL Pond 1	E108	07-May-2022					11-May-2022	0.25	102 hrs	sc sc
								hrs		EHTR-FM
Physical Tests : pH by Meter										1
HDPE										
KBL Pond 2	E108	07-May-2022					11-May-2022	0.25	102 hrs	sc sc
		,					,	hrs		EHTR-FM
								10		

Page : 5 of 9
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



Matrix: Water Evaluation: x = Holding time exceedance; ✓ = Within Holding Time Analyte Group Extraction / Preparation Method Sampling Date Analysis Container / Client Sample ID(s) Preparation **Holding Times** Eval Analysis Date Holding Times Eval Rec Rec Actual Actual Date Polychlorinated Biphenyls: PCB Aroclors by GC-ECD Amber glass/Teflon lined cap 07-May-2022 10-May-2022 EMD Berm 1 E685 11-May-2022 40 days 1 days ✓ Polychlorinated Biphenyls: PCB Aroclors by GC-ECD Amber glass/Teflon lined cap ✓ FMD Berm 2 E685 07-May-2022 10-May-2022 11-May-2022 40 days 1 days --------Polychlorinated Biphenyls: PCB Aroclors by GC-ECD Amber glass/Teflon lined cap KBL Pond 1 E685 07-May-2022 10-May-2022 11-May-2022 40 days 1 days 1 Polychlorinated Biphenyls: PCB Aroclors by GC-ECD Amber glass/Teflon lined cap KBL Pond 2 E685 07-May-2022 10-May-2022 11-May-2022 40 days 1 days ✓ Polycyclic Aromatic Hydrocarbons: PAHs by Hexane LVI GC-MS Amber glass/Teflon lined cap (sodium bisulfate) E641A 07-May-2022 10-May-2022 4 days 1 11-May-2022 40 days 1 days EMD Berm 1 14 days Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS Amber glass/Teflon lined cap (sodium bisulfate) EMD Berm 2 E641A 07-May-2022 10-May-2022 4 davs ✓ 11-May-2022 40 days 1 davs ✓ 14 days Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS Amber glass/Teflon lined cap (sodium bisulfate) KBL Pond 1 E641A 07-May-2022 10-May-2022 4 days 1 11-May-2022 40 days 1 days 1 14 days Polycyclic Aromatic Hydrocarbons: PAHs by Hexane LVI GC-MS Amber glass/Teflon lined cap (sodium bisulfate) ✓ E641A 10-May-2022 ✓ 11-May-2022 40 days 1 days KBL Pond 2 07-May-2022 14 4 days days Total Metals: Total Metals in Water by CRC ICPMS HDPE - total (lab preserved) E420 07-May-2022 ✓ EMD Berm 1 11-May-2022 5 days ----180 ---days

Page : 6 of 9
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



Matrix: Water Evaluation: ▼ = Holding time exceedance; ✓ = Within Holding Time

atrix: water					L,	aluation. • -	Holding time excee	suarice,	- *************************************	riolaling
Analyte Group	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	Times	Eva
			Date	Rec	Actual			Rec	Actual	
otal Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
EMD Berm 2	E420	07-May-2022					11-May-2022	180	5 days	✓
								days		
otal Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
KBL Pond 1	E420	07-May-2022					11-May-2022	180	5 days	✓
								days		
otal Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
KBL Pond 2	E420	07-May-2022					11-May-2022	180	5 days	✓
								days		
olatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
EMD Berm 1	E611A	07-May-2022	11-May-2022				11-May-2022	14 days	4 days	✓
olatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)	EC44A	07.140000	44.84 0000				44.140000	44 1	4 1	<b>√</b>
EMD Berm 2	E611A	07-May-2022	11-May-2022				11-May-2022	14 days	4 days	•
olatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS				1				I		
Glass vial (sodium bisulfate) KBL Pond 1	E611A	07-May-2022	11-May-2022				11-May-2022	14 days	4 days	1
KBL POHU I	LOTIA	07-Way-2022	1 1-Way-2022				11-Way-2022	14 days	4 uays	•
L'IL COLLEGE DE LA PIENT III LA COLLEGE										
olatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS							I			
Glass vial (sodium bisulfate)  KBL Pond 2	E611A	07-May-2022	11-May-2022				11-May-2022	14 days	1 days	<b>✓</b>
NDL FUIIU Z	LOTIA	01-Way-2022	1 1-11/1ay-2022				1 1-101ay-2022	14 uays	- uays	•

#### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 7 of 9
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



# **Quality Control Parameter Frequency Compliance**

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Water		Evaluat	ion: × = QC freque	ency outside spe	ecification; ✓ = 0	QC frequency wit	thin specification
Quality Control Sample Type		·	Co	ount		)	
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	483551	1	4	25.0	5.0	✓
pH by Meter	E108	483389	1	10	10.0	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	484591	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	483152	1	5	20.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	E581.VH+F1 483550			25.0	5.0	✓
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	483551	1	4	25.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	483524	1	4	25.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	483523	1	13	7.6	5.0	✓
PCB Aroclors by GC-ECD	E685	483149	1	5	20.0	5.0	✓
pH by Meter	E108	483389	1	10	10.0	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	484591	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	483152	1	5	20.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	483550	1	4	25.0	5.0	✓
Method Blanks (MB)							
BTEX by Headspace GC-MS	E611A	483551	1	4	25.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	483524	1	4	25.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	483523	1	13	7.6	5.0	✓
PCB Aroclors by GC-ECD	E685	483149	1	5	20.0	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	484591	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	483152	1	5	20.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	483550	1	4	25.0	5.0	✓
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	483551	1	4	25.0	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	484591	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	483152	1	5	20.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	483550	1	4	25.0	5.0	✓

Page : 8 of 9
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



# **Methodology References and Summaries**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter	E108	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results,
	Vancouver - Environmental			pH should be measured in the field within the recommended 15 minute hold time.
Total Metals in Water by CRC ICPMS	E420	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.
	Vancouver -			
	Environmental			Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Phenols (4AAP) in Water by Colorimetry	E562	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide (K3Fe(CN)6) and 4-amino-antipyrine (4-AAP) to
	Edmonton -			form a red complex which is measured colorimetrically.
	Environmental			
VH and F1 by Headspace GC-FID	E581.VH+F1	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace
	Vancouver - Environmental		1 (mod)	autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
CCME PHCs - F2-F4 by GC-FID	E601	Water	CCME PHC in Soil - Tier	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4).
	Vancouver - Environmental			
BTEX by Headspace GC-MS	E611A	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the
	Vancouver -			headspace autosampler, causing VOCs to partition between the aqueous phase and
DALL 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Environmental	107	EDA 0070E ( 1)	the headspace in accordance with Henry's law.
PAHs by Hexane LVI GC-MS	E641A	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
	Vancouver -			
PCB Aroclors by GC-ECD	Environmental E685	Water	EPA 8082A (mod)	PCB Aroclors are analyzed by GC-ECD
	Vancouver -			
	Environmental			
F1-BTEX	EC580	Water	CCME PHC in Soil - Tier	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
	Vancouver -			
	Environmental			
VPH: VH-BTEX-Styrene	EC580A	Water	BC MOE Lab Manual (VPH in Water and	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH6-10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and
	Vancouver -		Solids) (mod)	styrene.
	Environmental			

 Page
 : 9 of 9

 Work Order
 : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs Preparation for Headspace Analysis	EP581	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the
				headspace autosampler. An aliquot of the headspace is then injected into the
	Vancouver -			GC/MS-FID system.
	Environmental			
PHCs and PAHs Hexane Extraction	EP601	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are
				extracted using a hexane liquid-liquid extraction.
	Vancouver -			
	Environmental			
PCB Aroclors Extraction	EP685	Water	EPA 3510C (mod)	PCBs are extracted using an organic solvent liquid-liquid extraction. The hexane extract
				undergoes one or more of the following clean-up procedures (if required): florisil
	Vancouver -			clean-up, silica gel clean-up, sulphur clean-up and/or sulphuric acid clean-up.
	Environmental			



# **QUALITY CONTROL REPORT**

 Work Order
 :YL2200422
 Page
 : 1 of 8

Client : KBL Environmental Ltd. Laboratory : Yellowknife - Environmental

Contact : Nicole Prince Account Manager : Oliver Gregg

:17 Cameron Road PO Box 1895 Address :314 Old Airport Road, Unit 116

Yellowknife, Northwest Territories Canada X1A 3T3

Telephone : 1 867 446 5593

Date Samples Received : 09-May-2022 11:00

: 22-071NT Date Samples Received : 09-May-2022 11: PRINN0002 Date Analysis Commenced : 10-May-2022

C-O-C number :---- Issue Date :11-May-2022 17:24
Sampler :---

Site :---

No. of samples received : 4

No. of samples analysed : 4

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits

Yellowknife NT Canada X1A 2P4

: 780-554-7259

: YL22-KBLE100-003

- Matrix Spike (MS) Report; Recovery and Acceptance Limits
- Reference Material (RM) Report; Recovery and Acceptance Limits
- Method Blank (MB) Report; Recovery and Acceptance Limits
- Laboratory Control Sample (LCS) Report; Recovery and Acceptance Limits

#### Signatories

Address

Telephone

Quote number

Project

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Jing Liu	Lab Assistant	Inorganics, Edmonton, Alberta
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Paul Cushing	Team Leader - Organics	Organics, Burnaby, British Columbia
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia

Page : 2 of 8
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



#### **General Comments**

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

#### Key:

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Services number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percentage Difference

# = Indicates a QC result that did not meet the ALS DQO.

#### **Workorder Comments**

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Page : 3 of 8
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



# Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test specific).

Sub-Matrix: Water	Matrix: Water						Labora	Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier				
Physical Tests (QC	Lot: 483389)														
VA22A9961-001	Anonymous	pH		E108	0.10	pH units	8.12	8.18	0.736%	4%					
Total Metals (QC Lo	ot: 483152)														
VA22A9962-001	Anonymous	antimony, total	7440-36-0	E420	0.00010	mg/L	0.00634	0.00622	1.91%	20%					
		arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00055	0.00056	0.000006	Diff <2x LOR					
		barium, total	7440-39-3	E420	0.00010	mg/L	0.0203	0.0205	1.02%	20%					
		beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR					
		boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR					
		iron, total	7439-89-6	E420	0.010	mg/L	0.020	0.021	0.001	Diff <2x LOR					
		manganese, total	7439-96-5	E420	0.00010	mg/L	0.0167	0.0166	0.631%	20%					
		selenium, total	7782-49-2	E420	0.000050	mg/L	0.000091	0.000088	0.000004	Diff <2x LOR					
		uranium, total	7440-61-1	E420	0.000010	mg/L	0.000017	0.000015	0.000002	Diff <2x LOR					
		zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR					
Aggregate Organics	(QC Lot: 484591)														
SK2201916-006	Anonymous	phenols, total (4AAP)		E562	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR					
Volatile Organic Co	mpounds (QC Lot: 483	551)													
YL2200422-001	EMD Berm 1	benzene	71-43-2	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR					
		ethylbenzene	100-41-4	E611A	0.50	μg/L	1.70	1.64	0.06	Diff <2x LOR					
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR					
		styrene	100-42-5	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR					
		toluene	108-88-3	E611A	0.50	μg/L	2.39	2.33	0.06	Diff <2x LOR					
		xylene, m+p-	179601-23-1	E611A	0.40	μg/L	7.69	7.07	8.36%	30%					
		xylene, o-	95-47-6	E611A	0.30	μg/L	5.67	5.22	8.36%	30%					
Hydrocarbons (QC	Lot: 483550)														
YL2200422-001	EMD Berm 1	F1 (C6-C10)		E581.VH+F1	100	μg/L	<100	<100	0.0%	30%					
		VHw (C6-C10)		E581.VH+F1	100	μg/L	<100	<100	0.0%	30%					

Page : 4 of 8
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT

# ALS

# Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 483152)						
antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	
arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	
barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	
beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	
boron, total	7440-42-8	E420	0.01	mg/L	<0.010	
iron, total	7439-89-6	E420	0.01	mg/L	<0.010	
manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	
selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	
uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	
zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	
Aggregate Organics (QCLot: 484591)						
phenols, total (4AAP)		E562	0.001	mg/L	<0.0010	
Volatile Organic Compounds (QCLot	: 483551)					
benzene	71-43-2	E611A	0.5	μg/L	<0.50	
ethylbenzene	100-41-4	E611A	0.5	μg/L	<0.50	
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	μg/L	<0.50	
styrene	100-42-5	E611A	0.5	μg/L	<0.50	
toluene	108-88-3	E611A	0.5	μg/L	<0.50	
xylene, m+p-	179601-23-1	E611A	0.4	μg/L	<0.40	
xylene, o-	95-47-6	E611A	0.3	μg/L	<0.30	
Hydrocarbons (QCLot: 483524)						
F2 (C10-C16)		E601	100	μg/L	<100	
Hydrocarbons (QCLot: 483550)						
F1 (C6-C10)		E581.VH+F1	100	μg/L	<100	
VHw (C6-C10)		E581.VH+F1	100	μg/L	<100	
Polycyclic Aromatic Hydrocarbons (0	QCLot: 483523)					
acenaphthene	83-32-9	E641A	0.01	μg/L	<0.010	
acenaphthylene	208-96-8	E641A	0.01	μg/L	<0.010	
anthracene	120-12-7	E641A	0.01	μg/L	<0.010	
benz(a)anthracene	56-55-3	E641A	0.01	μg/L	<0.010	
benzo(a)pyrene	50-32-8	E641A	0.005	μg/L	<0.0050	
benzo(b+j)fluoranthene	n/a	E641A	0.01	μg/L	<0.010	
benzo(g,h,i)perylene	191-24-2	E641A	0.01	μg/L	<0.010	

Page : 5 of 8 Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT

#### Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (Q	CLot: 483523) - contin	ued				
benzo(k)fluoranthene	207-08-9	E641A	0.01	μg/L	<0.010	
chrysene	218-01-9	E641A	0.01	μg/L	<0.010	
dibenz(a,h)anthracene	53-70-3	E641A	0.005	μg/L	<0.0050	
fluoranthene	206-44-0	E641A	0.01	μg/L	<0.010	
fluorene	86-73-7	E641A	0.01	μg/L	<0.010	
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	μg/L	<0.010	
naphthalene	91-20-3	E641A	0.05	μg/L	<0.050	
phenanthrene	85-01-8	E641A	0.02	μg/L	<0.020	
pyrene	129-00-0	E641A	0.01	μg/L	<0.010	



Page : 6 of 8
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



# Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water		Laboratory Control Sample (LCS) Report							
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 483389)									
pH		E108		pH units	7 pH units	99.7	98.0	102	
Total Metals (QCLot: 483152)									
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	107	80.0	120	
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	104	80.0	120	
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	103	80.0	120	
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	99.1	80.0	120	
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	102	80.0	120	
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	104	80.0	120	
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	101	80.0	120	
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	103	80.0	120	
Aggregate Organics (QCLot: 484591)									
phenols, total (4AAP)		E562	0.001	mg/L	0.02 mg/L	103	85.0	115	
Volatile Organic Compounds (QCLot: 4	83551)								
benzene	71-43-2	E611A	0.5	μg/L	100 μg/L	96.5	70.0	130	
ethylbenzene	100-41-4	E611A	0.5	μg/L	100 μg/L	104	70.0	130	
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	μg/L	100 μg/L	97.2	70.0	130	
styrene	100-42-5	E611A	0.5	μg/L	100 μg/L	102	70.0	130	
toluene	108-88-3	E611A	0.5	μg/L	100 μg/L	99.6	70.0	130	
xylene, m+p-	179601-23-1	E611A	0.4	μg/L	200 μg/L	105	70.0	130	
xylene, o-	95-47-6	E611A	0.3	μg/L	100 μg/L	103	70.0	130	
Hydrocarbons (QCLot: 483524)									
F2 (C10-C16)		E601	100	μg/L	3538 μg/L	109	70.0	130	
Hydrocarbons (QCLot: 483550)									
F1 (C6-C10)		E581.VH+F1	100	μg/L	6310 μg/L	85.5	70.0	130	
VHw (C6-C10)		E581.VH+F1	100	μg/L	6310 μg/L	78.2	70.0	130	
Polycyclic Aromatic Hydrocarbons (QC	tl ot: 483523)								1
acenaphthene	83-32-9	E641A	0.01	μg/L	0.5 μg/L	112	60.0	130	
r - Table 1		I		•				I	T

Page : 7 of 8 Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



Sub-Matrix: Water			Laboratory Co	ntrol Sample (LCS)	Report				
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QC	Lot: 483523) - continue	ed							
acenaphthylene	208-96-8	E641A	0.01	μg/L	0.5 μg/L	111	60.0	130	
anthracene	120-12-7	E641A	0.01	μg/L	0.5 μg/L	124	60.0	130	
benz(a)anthracene	56-55-3	E641A	0.01	μg/L	0.5 μg/L	118	60.0	130	
benzo(a)pyrene	50-32-8	E641A	0.005	μg/L	0.5 μg/L	116	60.0	130	
benzo(b+j)fluoranthene	n/a	E641A	0.01	μg/L	0.5 μg/L	102	60.0	130	
benzo(g,h,i)perylene	191-24-2	E641A	0.01	μg/L	0.5 μg/L	120	60.0	130	
benzo(k)fluoranthene	207-08-9	E641A	0.01	μg/L	0.5 μg/L	110	60.0	130	
chrysene	218-01-9	E641A	0.01	μg/L	0.5 μg/L	115	60.0	130	
dibenz(a,h)anthracene	53-70-3	E641A	0.005	μg/L	0.5 μg/L	116	60.0	130	
fluoranthene	206-44-0	E641A	0.01	μg/L	0.5 μg/L	115	60.0	130	
fluorene	86-73-7	E641A	0.01	μg/L	0.5 μg/L	118	60.0	130	
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	μg/L	0.5 μg/L	120	60.0	130	
naphthalene	91-20-3	E641A	0.05	μg/L	0.5 μg/L	104	50.0	130	
phenanthrene	85-01-8	E641A	0.02	μg/L	0.5 μg/L	123	60.0	130	
pyrene	129-00-0	E641A	0.01	μg/L	0.5 μg/L	115	60.0	130	

Page : 8 of 8
Work Order : YL2200422

Client : KBL Environmental Ltd.

Project : 22-071NT



# Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water				Matrix Spike (MS) Report							
					Sp	ike	Recovery (%)	Recovery	Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier	
Total Metals (QC	Lot: 483152)										
YL2200422-001	EMD Berm 1	antimony, total	7440-36-0	E420	0.0373 mg/L	0.04 mg/L	93.4	70.0	130		
		arsenic, total	7440-38-2	E420	0.0405 mg/L	0.04 mg/L	101	70.0	130		
		barium, total	7440-39-3	E420	0.0402 mg/L	0.04 mg/L	100	70.0	130		
		beryllium, total	7440-41-7	E420	0.0758 mg/L	0.08 mg/L	94.7	70.0	130		
		boron, total	7440-42-8	E420	ND mg/L	0.2 mg/L	ND	70.0	130		
		iron, total	7439-89-6	E420	3.91 mg/L	4 mg/L	97.8	70.0	130		
		manganese, total	7439-96-5	E420	ND mg/L	0.04 mg/L	ND	70.0	130		
		selenium, total	7782-49-2	E420	0.0817 mg/L	0.08 mg/L	102	70.0	130		
		uranium, total	7440-61-1	E420	0.00786 mg/L	0.008 mg/L	98.2	70.0	130		
		zinc, total	7440-66-6	E420	0.817 mg/L	0.8 mg/L	102	70.0	130		
Aggregate Orgar	nics (QCLot: 484591)										
SK2201916-006	Anonymous	phenols, total (4AAP)		E562	0.0214 mg/L	0.02 mg/L	107	75.0	125		
Volatile Organic	Compounds (QCLot	: 483551)									
YL2200422-001	EMD Berm 1	benzene	71-43-2	E611A	98.6 μg/L	100 μg/L	98.6	70.0	130		
		ethylbenzene	100-41-4	E611A	103 µg/L	100 μg/L	103	70.0	130		
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	98.8 µg/L	100 μg/L	98.8	70.0	130		
		styrene	100-42-5	E611A	102 μg/L	100 μg/L	102	70.0	130		
		toluene	108-88-3	E611A	100 μg/L	100 μg/L	100	70.0	130		
		xylene, m+p-	179601-23-1	E611A	208 μg/L	200 μg/L	104	70.0	130		
		xylene, o-	95-47-6	E611A	103 μg/L	100 μg/L	103	70.0	130		
Hydrocarbons (	QCLot: 483550)										
YL2200422-002	EMD Berm 2	F1 (C6-C10)		E581.VH+F1	4520 μg/L	6310 µg/L	71.6	60.0	140		
		VHw (C6-C10)		E581.VH+F1	4050 μg/L	6310 µg/L	64.2	60.0	140		

# Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

Page of



Canada Toll Free: 1 800 668 9878

Report To	Contact and company name below will appear or	n the final report					Г	-	Turr	around T	ime (T	AT) Red	quested					100		-11	
Company:	KBL		Select Report F	ormat: \ Def		DD (DIGITAL)	Ro	outine [R]	if recei	ved by 3pn	M-F -	no surch	narges app	oly							
Contact:	Nicole Prince			Reports with COA	The second secon		40	day [P4]	f receiv	ed by 3pm	M-F - 3	20% rust	h surcharg	e minimu	ım	AFFI	X ALS B	ARCOD	FLABI	EL HEI	RE
Phone:	(7895547259		Compare Resul	Its to Criteria on Report	- provide details bel	ow if box checked				red by 3pm								LS use			
THOTIC:	Company address below will appear on the final rep		Select Distributi		☐ MAIL ☐					ved by 3pm ed by 3pm											
Street:	3909-68 Ave 1 ed.				e care	rvicon	-			eceived by				Service and the	The second second						
City/Province:	AB		Email 2		re KBI			Ad	ditional	fees may a	pply to	rush requ	uests on v	reekends	, statutor	y holida	ys and for	non-rout	ne tests		
Postal Code:	+9F 024		Email 3	100				Date and	Time R	equired fo	r all E8	P TATS			dd-	minin	yy bhar	im am/	()en		$\neg$
Invoice To	Same as Report To	10		Invoice R	ecipients					For all tests	s with ru	sh TATs r	equested,	please co	ntact you	AM to c	onfirm avai	ilability.			
	Copy of Invoice with Report YES N	10	Select Invoice D	Distribution: E	MAIL MAIL	FAX							Analys	sis Req	uest						
Company:			Email 1 or Fax				g		Ind	cate Filter	ed (F), F	reserve	d (P) or Fi	tered and	d Preserv	red (F/P	) below			0	s)
Contact:			Email 2				H				T		T					T	1 1	IRE	ote
	Project Information			and Gas Require	ed Fields (client	use)	Z			-	<								ا ۔ ا	REQUIRED	9
ALS Account #		,	AFE/Cost Center:		PO#		CONTAINERS		1	14-14	(total	2							ON HOLD	RE	(se
Job #:		,	Major/Minor Code:		Routing Code:		1Z			7	7	7							우	GE	8
PO / AFE:	22-071NT PRINN 0602		Requisitioner:			_	1000			17	2	7			1 1				늘	RA	Z
LSD:	Kilore		Location:				P	4	5	S	0	7								STORAGE	SUSPECTED HAZARD (see notes)
								4	3	x - V	67								ES		ED
ALS Lab Worl	k Order # (ALS use only):		ALS Contact:		Sampler:		NUMBER	Jun Out	Net	4	20	07							SAMPLES	EXTENDED	CT
ALS Sample #	Sample Identification and	d/or Coordinates		Date	Time		ΙĘ	0	2	24	0	0							Σ	TE	SP
(ALS use only)	(This description will appe			(dd-mmm-yy)	(hh:mm)	Sample Type	ž	8		00	7								s/s	EX	SU
No. of the last of	EMD Bermi			0\$70py-2	7	water	9		1	1	1/	1									
Maria Rose		rvironmental	Division	Tild			a		1	1		1	^								
		ellowknife				+	9	1	1	7	1	1	_	+-	1	-	-	+			
	The foral	Work Order Ret	terence			11/	9	V	-	-	-	1	_	-	+	-	_	+		-	
	KBL fond 2	Work Order Ref	1422			V	1	0	4	//	/	1		-	$\vdash$	-		_			
			1422																		
			## <b>-          </b>																		
									$\neg$					_							
(1-1) (1-1) (1-1)			ev IIII ser	2			-		_		-			+-	1	_		+			
			58 1111		A STATE OF THE STA		-	$\vdash$	$\rightarrow$	_	-	-	_	+-	-	-	+	+	-	-	
	Tele	ophone: +1 867 873 55					_		_		_		-			_		_	$\vdash$		
		00/ 8/3 55	93																		
			2 1	1																	
		Notes / Specify Li	imits for result e	valuation by select	ing from drop-do	wn below			188		SAM	PLE RE	CEIPT	DETAIL	LS (AL	S use	only)			Me i	
Drinking	Water (DW) Samples <sup>1</sup> (client use)			xcel COC only)	300		Cooli	ing Met	hod:	□ NON	E	ICE	ICE !	PACKS	FRO	DZEN		COOLING	_	ATED	
	Are samples taken from a Regulated DW System?			. 1	1 1		Subn	mission	Comn	nents ide	ntified						YES	-	NO		
□ YES □ NO			A DI	Scharge	Crite	204	Cool			eals Intac				San			Seals Int		YES		I/A
Are samples for human consumption/ use?			iscussed we oliver ?			INIITIAL COOLER TEMPERATURES °C				FI	NAL CO	OLER TE	MPERAT	URES	C						
	YES NO	215																			
	SHIPMENT RELEASE (client use)			NITIAL SHIPMEN		ALS use only)	T-:			- 11	F	INAL S			CEPTIC	N (AL	S use o	nly)	Ties		
Released by:	LPin Phay 8/20	Time:	Received by:		Date:		Time		Recei	ved by:			D	ate:					Time:		1
10,	C PAGE FOR ALS LOCATIONS AND SAMPLING IN	EORMATION		WIL	ITE LABORATOR	RY COPY YEL	IOW -	CLIENT	COPY	,		-								AUG 202	IN FRONT

# **APPENDIX B**

Appendix B: Outgoing Soil and Water



From: <u>Katie Oliver</u>

To: <u>Lloyd Gruben@gov.nt.ca</u>
Cc: <u>Skylar Kraus; Nicole Prince</u>

**Subject:** RE: Inuvik STF Outgoing Water Analytical

**Date:** July 27, 2022 1:51:00 PM

Attachments: <u>image001.jpg</u>

Hi Lloyd;

Thank you far taking my call. As per our conversation we are approved to discharge the water.

Thank you;

Thank you | Merci | Mársı | Kinanāskomitin | Hại' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsì

#### Logo

# Katie Oliver, MBA, CET, PMP

#### **General Manager, Environmental Consulting**



**m:** 780.893.3305 **d:** 587.601.5736

**p:** 780.452.7779 **f:** 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

This email and any accompanying attachments may contain confidential information and are intended only for the named recipients. Content may not be used or relied upon by any party other than KBL's client unless otherwise authorized in writing by KBL. Any unauthorized use of information contained in this email is at the sole risk of the user. If you have received this email in error, please notify the sender and destroy the email.

From: Katie Oliver

**Sent:** July 26, 2022 1:10 PM **To:** Lloyd\_Gruben@gov.nt.ca

**Cc:** Skylar Kraus <SKraus@kblenv.com>; Nicole Prince <nprince@kblenv.com>

Subject: Inuvik STF Outgoing Water Analytical

Lloyd;

Please find attached water sampling results for 98m3 of water treated at the Inuvik Soil Treatment

Facility. As per our permit we are submitting the results to the inspector.

Water will be discharge to the Facility's discharge point SNP 0037-3 at no more than 300L per minute and not to exceed 50m3 per day. We are planning on completing the discharge this week on Wednesday and Thursday afternoon.

Thank you;

Thank you | Merci | Mársı | Kinanāskomitin | Hại' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsì



# Katie Oliver, MBA, CET, PMP

**General Manager, Environmental Consulting** 

**m:** 780.893.3305

**d:** 587.601.5736

**p:** 780.452.7779

**f**: 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

This email and any accompanying attachments may contain confidential information and are intended only for the named recipients. Content may not be used or relied upon by any party other than KBL's client unless otherwise authorized in writing by KBL. Any unauthorized use of information contained in this email is at the sole risk of the user. If you have received this email in error, please notify the sender and destroy the email.

From: <u>Katie Oliver</u>
To: <u>Lloyd Gruben</u>

Cc: Wendy Bidwell; Norman Snowshoe
Subject: RE: Outbound Soil - Inuvik STF
Date: October 14, 2022 5:00:00 PM

Attachments: <u>image001.jpg</u>

Hi Lloyd;

Thank you for the clarification. We will not be removing the soil that exceeds, only the soil that meets criteria. We will schedule the removal for as soon as the permit renewal is received.

Thank you;

Thank you | Merci | Mársı | Kinanāskomitin | Hại' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsì

# Logo

# Katie Oliver, MBA, CET, PMP

#### **General Manager, Environmental Consulting**

?

**m:** 780.893.3305 **d:** 587.601.5736 **p:** 780.452.7779 **f:** 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

This email and any accompanying attachments may contain confidential information and are intended only for the named recipients. Content may not be used or relied upon by any party other than KBL's client unless otherwise authorized in writing by KBL. Any unauthorized use of information contained in this email is at the sole risk of the user. If you have received this email in error, please notify the sender and destroy the email.

From: Lloyd Gruben <Lloyd\_Gruben@gov.nt.ca>

**Sent:** October 14, 2022 4:37 PM

To: Katie Oliver <koliver@kblenv.com>

**Cc:** Wendy Bidwell < Wendy\_Bidwell@gov.nt.ca>; Norman Snowshoe

<Norman Snowshoe@gov.nt.ca>

Subject: FW: Outbound Soil - Inuvik STF

Good Afternoon Katie

KBL must meet the criteria set out in license G17L1-0002 prior removal of any treated material from the facility. Upon review of the results forwarded, it was noted that certain parameters (i.e. F2 & F3 fractions) still exceed license Effluent Quality Criteria (EQC). Given this and as per Part E. 19 of the license, KBL cannot remove this material. The Town of Inuvik's Water license does not outline any acceptance criteria for treated PHC soil. Most Landfill facilities in the Territories can only accept treated soils that meet Industrial re-use criteria outlined in ENR's Contaminated Sites Remediation Guidelines. Table 1 below outlines criteria for industrial re-use:

Table 1 below presents a summary of Tier 1 remediation criteria for petroleum hydrocarbons (PHC) in surface soil. Additional remediation criteria for other contaminants in soil (i.e., BTEX, metals, PAHs) can be found in Appendix 5. Table 1. Summary of Tier 1 levels (mg/kg) for PHCs in surface soil.\*

Table 1. Summary of Tier 1 levels (mg/kg) for PHCs in surface soil.\*

Land Use	Soil Texture	Fraction 1	Fraction 2	Fraction 3	Fraction 4
Agricultural	Coarse-grained soil	130	450 (150 <sup>a</sup> )	400	2800
	Fine-grained soil	260 (180 <sup>b</sup> )	900 (250 <sup>b</sup> )	800	5600
Residential/Parkland	Coarse-grained soil	30 <sup>c</sup>	150 <sup>c</sup>	400	2800
	Fine-grained soil	260 (180 <sup>b</sup> )	900 (250 <sup>b</sup> )	800	5600
Commercial	Coarse-grained soil	310 (230 <sup>a</sup> )	760 (150 <sup>a</sup> )	1700	3300
	Fine-grained soil	660 (180 <sup>b</sup> )	1500 (250 <sup>b</sup> )	2500	6600
Industrial	Coarse-grained soil	310 (230 <sup>a</sup> )	760 (150 <sup>a</sup> )	1700	3300
	Fine-grained soil	660 (180 <sup>b</sup> )	1500 (250 b)	<mark>2500</mark>	6600

<sup>\*</sup> Additional Tier 1 levels for PHC soils are presented in the Appendix 3.

ar residence with slab-on-grade construction.

As you will note, the criteria in KBL's license is the same as the acceptance criteria in the above noted guidelines.

In addition, KBL does not currently have an active water license, thus the inspector cannot authorize any activities associated with license operations until an active license is in place.

Please contact the inspector with this request once the active license is in place and treated soils meet re-use criteria noted above.

Regards,

#### Lloyd Gruben

Water Resource Officer
Inuvik Region
Department of Environment and Natural Resources
Government of Northwest Territories

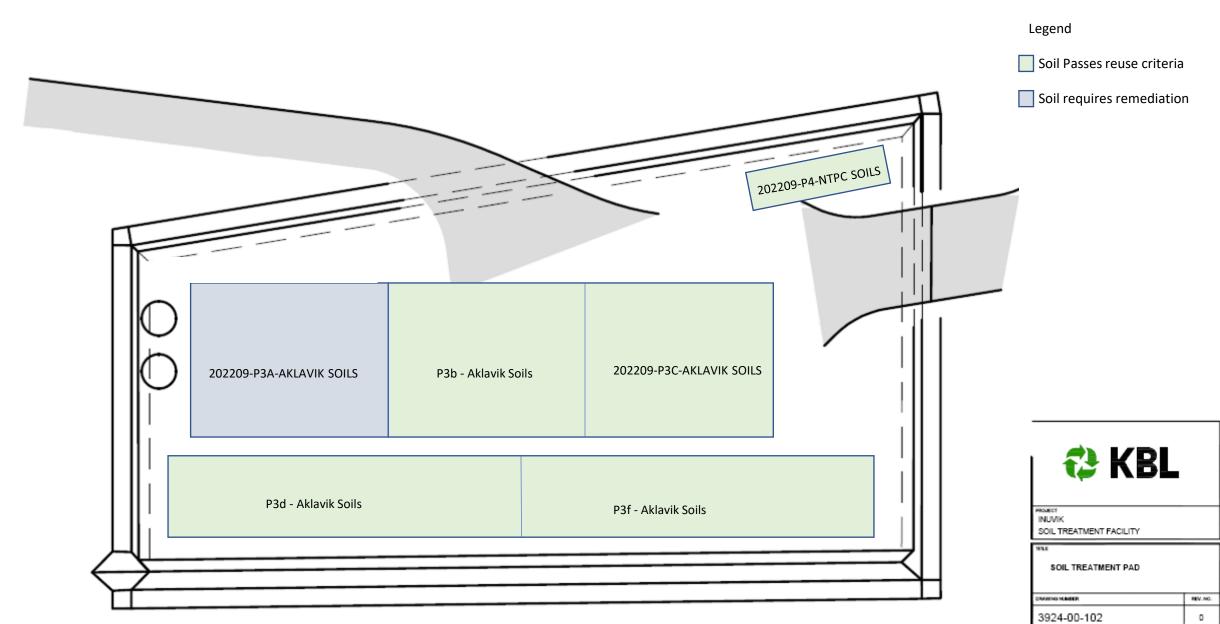
Phone: 867-678-6652 Cell: 867-678-0623

a = Where applicable, for protection against contaminated groundwater discharge to an adjacent surface water body. ter.

Fax: 867-678-6699 www.gov.nt.ca

			29-Jun-	29-Jun-
		Date Sampled	2022	2022
		Date campica		YL220079
		ALS Sample ID	7-001	7-002
	KBL Permit		Sub-	Sub-
	Discharge	Units	Matrix:	Matrix:
Parameter	Limits		Water	Water
antimony, total	0.006	mg/L	<0.00010	<0.00020
arsenic, total	0.005	mg/L	0.00016	<0.00020
barium, total	1	mg/L	0.0218	0.0237
		mg/L	<0.00002	0.000504
beryllium, total	100	mg/L	0	0.000304
boron, total	1.5	mg/L	0.034	0.088
iron, total	0.3	mg/L	<0.010	<0.020
manganese, total	0.05	mg/L	0.00724	0.00845
		mg/L	<0.00005	<0.00010
selenium, total	0.001	_	0	0
uranium, total	0.02	mg/L	0.000034	0.000280
zinc, total	0.03	mg/L	0.0068	0.0198
phenols, total (4AAP)	0.004	mg/L	<0.0010	<0.0010
benzene	5	μg/L	<0.50	<0.50
ethylbenzene	2.4	μg/L	< 0.50	<0.50
styrene	72	μg/L	< 0.50	<0.50
toluene	24	μg/L	<0.50	<0.50
xylenes, total	300	µg/L	0.54	<0.50
F1 (C6-C10)	2200 1100	µg/L	<100	<100
F2 (C10-C16)	1100	μg/L	<300	<300
acenaphthene	5.8	μg/L	<0.010	<0.010
acenaphthylene	46	μg/L	<0.010	<0.010
anthracene	0.012	μg/L	<0.010	<0.010
benz(a)anthracene	0.018	μg/L	<0.010	<0.010
benzo(a)pyrene	0.017	μg/L	<0.0050	<0.0050
benzo(b+j)fluoranthene	0.48	μg/L	<0.010	<0.010
benzo(k)fluoranthene	0.48	μg/L	<0.010	<0.010
chrysene	1.4	μg/L	<0.010	<0.010
dibenz(a,h)anthracene	0.28	μg/L	<0.0050	<0.0050
fluoranthene	0.04	μg/L	<0.010	<0.010
fluorene	3	μg/L	<0.010	<0.010
indeno(1,2,3-c,d)pyrene	0.23	μg/L	<0.010	<0.010
naphthalene	1.1	μg/L	0.065	<0.050
phenanthrene	0.4	μg/L	<0.020	<0.020
pyrene	0.025	μg/L	<0.010	<0.010
B(a)P total potency equivalents [B(a)P TPE]	0.01	μg/L	<0.010	<0.010





			General		Pŀ	lCs			ВТ	EX		Inorganics
			Soil Particle Size	F1 minus BTEX	F2	F3	F4	Benzene	Toluene	Ethylbenzene	Xylene Total	Moisture
-			-	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%
Inuvik	STF Outgoing Criteria - A	DC Fine Grained Soil (mg/kg)	-	660	1,500	2,500	6,600	5	0.8	20	20	-
Sample Code	Date	Field ID										
YL2201261-001	08-12-2022	P4 - NTPC Soils	FINE	21.3	<u>1,530</u>	1,790	1,140	0.0179	0.120	0.070	0.437	15.9
YL2201752-001	10-02-2022	202209-P4-NTPC SOILS	-	202	1210	1490	95	0.0288	< 0.050	0.372	0.651	30.2
YL2201261-002	08-12-2022	P3a - Aklavik Soils	FINE	921	1,920	2,200	80	0.0735	0.208	4.18	17.4	22.5
YL2201752-002	10-02-2022	202209-P3A-AKLAVIK SOILS	-	141	2100	1070	555	0.0190	0.066	0.114	0.681	17.2
YL2201261-003	08-12-2022	P3b - Aklavik Soils	FINE	102	827	987	58	0.0074	<0.050	0.057	0.805	27.3
YL2201261-004	08-12-2022	P3c - Aklavik Soils	FINE	112	<u>1,870</u>	2,710	107	0.0303	< 0.050	0.934	1.24	24.6
YL2201752-003	10-02-2022	202209-P3C-AKLAVIK SOILS	-	179	1350	1570	<50	0.0214	<0.050	0.368	0.904	26.9
YL2201261-005	08-12-2022	P3d - Aklavik Soils	FINE	140	1,360	1,940	149	0.0194	0.065	0.460	1.13	24.1
YL2201261-007	08-12-2022	P3f - Aklavik Soils	FINE	157	1,340	1,940	90	0.0176	< 0.050	0.436	1.06	22.6

Exceeding only Fine Grained
"-" Not Analyzed



Yellowknife NT Canada X1A 2P4

# **CERTIFICATE OF ANALYSIS**

**Work Order** : **YL2200486** Page : 1 of 5

Amendment : 1

Client : KBL Environmental Ltd. Laboratory : Yellowknife - Environmental

Contact : Katie Oliver : Manager : Oliver Gregg

Address : 17 Cameron Road PO Box 1895 Address : 314 Old Airport Road, Unit 116

Yellowknife NT Canada X1A 3T3

: 03-Jun-2022 09:24

 Telephone
 : 780 893 3305
 Telephone
 : 1 867 446 5593

 Project
 : 4200
 Date Samples Received
 : 17-May-2022 15:25

C-O-C number : ---- Issue Date
Sampler : ---Site : ----

Quote number : YL22-KBLE100-001

No. of samples received : 5
No. of samples analysed : 5

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

#### **Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Austin Wasylyshyn	Lab Analyst	Metals, Edmonton, Alberta
Christian Murera	Lab Analyst	Organics, Edmonton, Alberta
Fahad Husain	Lab Assistant	Inorganics, Edmonton, Alberta
Joan Wu	Lab Analyst	Metals, Edmonton, Alberta
Leah Yee	Lab Assistant	Inorganics, Edmonton, Alberta
Yan Zhang	Lab Analyst	Organics, Edmonton, Alberta

Page : 2 of 5

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



#### **General Comments**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	Description					
-	No Unit					
%	percent					
mg/kg	milligrams per kilogram					
pH units	pH units					

<: less than.

>: greater than.

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

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

#### **Workorder Comments**

Sample(s) XXX: Soil jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).

Page : 3 of 5

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



# Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)			C	lient sample ID	Bags Unit 65-01	Bags Unit 65-02	Bags Unit 110-02	Bags Unit 110-01	Bags-PSPC-01
Client sampling date / time					13-May-2022 12:00	13-May-2022 12:40	13-May-2022 13:15	13-May-2022 12:26	13-May-2022 12:52
Analyte	CAS Number	Method	LOR	Unit	YL2200486-001	YL2200486-002	YL2200486-003	YL2200486-004	YL2200486-005
					Result	Result	Result	Result	Result
Physical Tests		E144	0.05	0/	02.0	40.0	47.0	47.0	40.4
moisture			0.25	%	23.0	19.2	17.6	17.0	19.4
pH (1:2 soil:water)		E108	0.10	pH units	7.02	6.91	7.41	7.24	7.42
Particle Size		E470	4.0	0/	54.0	54.0	70.0	47.0	44.0
sand (>0.075mm)		E178	1.0	%	54.0	54.9	76.2	47.8	44.2
fines (<0.075mm)		E178	1.0	%	46.0	45.1	23.8	52.2	55.8
texture class		E178	-	-	Coarse	Coarse	Coarse	Fine	Fine
Metals		5440	50		40000	40400	7050	44500	40400
aluminum	7429-90-5	E440	50	mg/kg	12200	12100	7850	11500	10100
antimony	7440-36-0	E440	0.10	mg/kg	1.25	1.19	1.83	1.28	1.17
arsenic	7440-38-2	E440	0.10	mg/kg	13.3	13.6	86.7	16.0	16.4
barium	7440-39-3	E440	0.50	mg/kg	460	452	247	521	474
beryllium	7440-41-7	E440	0.10	mg/kg	0.74	0.66	0.87	0.67	0.69
bismuth	7440-69-9	E440	0.20	mg/kg	0.28	0.26	<0.20	0.23	<0.20
boron	7440-42-8	E440	5.0	mg/kg	9.0	8.7	12.9	8.4	7.6
cadmium	7440-43-9	E440	0.020	mg/kg	0.435	0.434	0.536	0.391	0.410
calcium	7440-70-2	E440	50	mg/kg	4660	4800	68500	11500	15600
chromium	7440-47-3	E440	0.50	mg/kg	25.7	26.5	39.6	49.5	95.9
cobalt	7440-48-4	E440	0.10	mg/kg	13.8	12.6	26.1	11.9	11.9
copper	7440-50-8	E440	0.50	mg/kg	45.4	42.1	22.1	41.6	38.0
iron	7439-89-6	E440	50	mg/kg	39600	33400	97900	37600	44500
lead	7439-92-1	E440	0.50	mg/kg	14.5	13.8	16.6	13.7	12.8
lithium	7439-93-2	E440	2.0	mg/kg	24.2	23.5	15.1	21.4	18.4
magnesium	7439-95-4	E440	20	mg/kg	4480	4030	10400	4830	6070
manganese	7439-96-5	E440	1.0	mg/kg	283	230	6370	394	674
mercury	7439-97-6	E510	0.0050	mg/kg	0.0671	0.0647	0.160	0.0701	0.0647
molybdenum	7439-98-7	E440	0.10	mg/kg	3.76	3.68	6.13	3.38	3.86
nickel	7440-02-0	E440	0.50	mg/kg	54.1	49.8	61.6	56.6	76.3
phosphorus	7723-14-0	E440	50	mg/kg	440	426	7320	475	766
potassium	7440-09-7	E440	100	mg/kg	1240	1190	1000	1340	1130
selenium	7782-49-2	E440	0.20	mg/kg	1.21	1.07	2.61	1.03	0.95
1	1102-49-2		1 3.20	9/1/9	1.21	1.01	2.01	1.00	1 0.00

Page : 4 of 5

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



# Analytical Results

Sub-Matrix: Soil/Solid			CI	ient sample ID	Bags Unit 65-01	Bags Unit 65-02	Bags Unit	Bags Unit	Bags-PSPC-01
(Matrix: Soil/Solid)							110-02	110-01	
			Client samp	ling date / time	13-May-2022 12:00	13-May-2022 12:40	13-May-2022 13:15	13-May-2022 12:26	13-May-2022 12:52
Analyte	CAS Number	Method	LOR	Unit	YL2200486-001	YL2200486-002	YL2200486-003	YL2200486-004	YL2200486-005
					Result	Result	Result	Result	Result
Metals									
silver	7440-22-4	E440	0.10	mg/kg	0.17	0.17	0.18	0.15	0.15
sodium	7440-23-5	E440	50	mg/kg	344	258	464	116	107
strontium	7440-24-6	E440	0.50	mg/kg	32.3	32.9	231	44.4	54.6
sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	14700	<1000	1000
thallium	7440-28-0	E440	0.050	mg/kg	0.214	0.209	0.362	0.216	0.205
tin	7440-31-5	E440	2.0	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0
titanium	7440-32-6	E440	1.0	mg/kg	11.9	11.7	42.7	10.3	11.5
tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
uranium	7440-61-1	E440	0.050	mg/kg	0.617	0.614	1.90	0.708	0.672
vanadium	7440-62-2	E440	0.20	mg/kg	41.7	42.1	61.2	38.9	36.7
zinc	7440-66-6	E440	2.0	mg/kg	172	159	123	147	143
zirconium	7440-67-7	E440	1.0	mg/kg	1.4	1.2	3.2	1.4	1.4
Volatile Organic Compounds [Fuels]									
benzene	71-43-2	E611A	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	0.0274	0.0265
ethylbenzene	100-41-4	E611A	0.015	mg/kg	<0.015	<0.015	<0.015	0.307	0.433
toluene	108-88-3	E611A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
xylene, m+p-	179601-23-1	E611A	0.050	mg/kg	<0.050	<0.050	<0.050	0.382	0.258
xylene, o-	95-47-6	E611A	0.050	mg/kg	<0.050	<0.050	<0.050	0.093	0.126
xylenes, total	1330-20-7	E611A	0.075	mg/kg	<0.075	<0.075	<0.075	0.475	0.384
Volatile Organic Compounds Surrogates									
bromofluorobenzene, 4-	460-00-4	E611A	0.10	%	77.5	87.5	106	108	104
difluorobenzene, 1,4-	540-36-3	E611A	0.10	%	86.0	87.6	87.6	82.9	81.0
Hydrocarbons									
F1 (C6-C10)		E581.VH+F1	5.0	mg/kg	<5.0	<5.0	5.1	158	132
F1-BTEX		EC580	5.0	mg/kg	<5.0	<5.0	5.1	157	131
F2 (C10-C16)		E601.SG	30	mg/kg	298	287	<30	1240	1680
F3 (C16-C34)		E601.SG	50	mg/kg	385	336	93	420	601
F4 (C34-C50)		E601.SG	50	mg/kg	76	55	52	<50	<50
chromatogram to baseline at nC50	n/a	E601.SG	-	-	No	Yes	Yes	Yes	Yes
Hydrocarbons Surrogates									
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601.SG	1.0	%	83.6	87.8	83.4	90.3	91.8
•	'		•	. '		'		•	•

Page : 5 of 5

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



# Analytical Results

Sub-Matrix: Soil/Solid			CI	ient sample ID	Bags Unit 65-01	Bags Unit 65-02	Bags Unit	Bags Unit	Bags-PSPC-01
(Matrix: Soil/Solid)							110-02	110-01	
			Client samp	ling date / time	13-May-2022 12:00	13-May-2022 12:40	13-May-2022 13:15	13-May-2022 12:26	13-May-2022 12:52
Analyte	CAS Number	Method	LOR	Unit	YL2200486-001	YL2200486-002	YL2200486-003	YL2200486-004	YL2200486-005
					Result	Result	Result	Result	Result
Hydrocarbons Surrogates									
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	89.3	86.1	93.0	95.9	83.3

Please refer to the General Comments section for an explanation of any qualifiers detected.



# **QUALITY CONTROL INTERPRETIVE REPORT**

**Work Order** : **YL2200486** Page : 1 of 10

Amendment : 1

Client : KBL Environmental Ltd. Laboratory : Yellowknife - Environmental

Contact : Katie Oliver : Oliver Gregg

Address : 17 Cameron Road PO Box 1895 Address : 314 Old Airport Road, Unit 116

Yellowknife, Northwest Territories Canada X1A 3T3

Telephone : 780 893 3305 Telephone : 1 867 446 5593

 Project
 : 4200
 Date Samples Received
 : 17-May-2022 15:25

 PO
 : 22-071NT
 Issue Date
 : 03-Jun-2022 09:24

C-O-C number : ---Sampler : ---Site : ----

Quote number : YL22-KBLE100-001

No. of samples received : 5
No. of samples analysed : 5

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

#### Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

Yellowknife NT Canada X1A 2P4

**DQO: Data Quality Objective.** 

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

#### **Workorder Comments**

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

## **Summary of Outliers**

#### **Outliers: Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### Outliers: Reference Material (RM) Samples

• No Reference Material (RM) Sample outliers occur.

## Outliers : Analysis Holding Time Compliance (Breaches)

• Analysis Holding Time Outliers exist - please see following pages for full details.

**Outliers : Frequency of Quality Control Samples** 

<u>No</u> Quality Control Sample Frequency Outliers occur.		

Page : 3 of 10

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Hydrocarbons: CCME PHCs - F2-F4 by GC-FID

Hydrocarbons : VH and E1 by Headspace GC-FID

Glass soil jar/Teflon lined cap

Bags-PSPC-01

Project : 4200

Matrix: Soil/Solid

Analyte Group



Evaluation: **x** = Holding time exceedance; ✓ = Within Holding Time

Analysis

40 days 0 days

# **Analysis Holding Time Compliance**

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Sampling Date

Method

E601.SG

Extraction / Preparation

14 days

14 days 6 days

✓

19-May-2022

19-May-2022

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Container / Client Sample ID(s) **Holding Times** Eval Analysis Date Holding Times Eval Preparation Actual Rec Actual Date Rec Hydrocarbons: CCME PHCs - F2-F4 by GC-FID Glass soil jar/Teflon lined cap E601.SG 13-May-2022 19-May-2022 1 19-May-2022 1 Bags Unit 110-01 14 6 days 40 days 0 days days Hydrocarbons : CCME PHCs - F2-F4 by GC-FID Glass soil jar/Teflon lined cap Bags Unit 110-02 E601.SG 13-May-2022 19-May-2022 6 days ✓ 19-May-2022 40 days 0 days ✓ 14 days Hydrocarbons: CCME PHCs - F2-F4 by GC-FID Glass soil jar/Teflon lined cap E601.SG 19-May-2022 Bags Unit 65-01 13-May-2022 6 days ✓ 19-May-2022 40 days 0 days 14 days Hydrocarbons: CCME PHCs - F2-F4 by GC-FID Glass soil jar/Teflon lined cap Bags Unit 65-02 E601.SG 13-May-2022 19-May-2022 6 days ✓ 19-May-2022 40 days 0 days

Glass soil jar/Teflon lined cap Bags Unit 110-01	E581.VH+F1	13-May-2022	20-May-2022	0 days	7 days	# EHTR-FM	20-May-2022	0 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap Bags Unit 110-02	E581.VH+F1	13-May-2022	20-May-2022	0 days	7 days	# EHTR-FM	20-May-2022	0 days	0 days	✓

13-May-2022

Page : 4 of 10

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



Matrix: Soil/Solid					E	valuation: ≭ =	Holding time exce	edance ; •	✓ = Within	Holding Ti
Analyte Group	Method	Sampling Date	Ex	traction / Pr	eparation			Analys	sis	
Container / Client Sample ID(s)			Preparation	Holding	Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap										
Bags Unit 65-01	E581.VH+F1	13-May-2022	20-May-2022	0 days	7 days	# EHTR-FM	20-May-2022	0 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap										
Bags Unit 65-02	E581.VH+F1	13-May-2022	20-May-2022	0 days	7 days	# EHTR-FM	20-May-2022	0 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap										
Bags-PSPC-01	E581.VH+F1	13-May-2022	20-May-2022	0 days	7 days	EHTR-FM	20-May-2022	0 days	0 days	✓
Metals : Mercury in Soil/Solid by CVAAS						1				
Glass soil jar/Teflon lined cap										
Bags Unit 110-01	E510	13-May-2022	24-May-2022				25-May-2022	28 days	12 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
Bags Unit 110-02	E510	13-May-2022	24-May-2022				25-May-2022	28 days	12 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
Bags Unit 65-01	E510	13-May-2022	24-May-2022				25-May-2022	28 days	12 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
Bags Unit 65-02	E510	13-May-2022	24-May-2022				25-May-2022	28 days	12 days	✓
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap										
Bags-PSPC-01	E510	13-May-2022	24-May-2022				25-May-2022	28 days	12 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap										
Bags Unit 110-01	E440	13-May-2022	24-May-2022				25-May-2022	180 days	12 days	✓

Page : 5 of 10

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200

Bags-PSPC-01



✓

11 days

180

days

24-May-2022

Matrix: Soil/Solid Evaluation: x = Holding time exceedance; ✓ = Within Holding Time Extraction / Preparation Analyte Group Method Sampling Date Analysis Container / Client Sample ID(s) Preparation **Holding Times** Eval Analysis Date Holding Times Eval Rec Date Rec Actual Actual Metals: Metals in Soil/Solid by CRC ICPMS Glass soil jar/Teflon lined cap Bags Unit 110-02 E440 13-May-2022 24-May-2022 25-May-2022 12 days ✓ 180 days Metals: Metals in Soil/Solid by CRC ICPMS Glass soil jar/Teflon lined cap ✓ Bags Unit 65-01 E440 13-May-2022 24-May-2022 25-May-2022 180 12 days -------days Metals : Metals in Soil/Solid by CRC ICPMS Glass soil jar/Teflon lined cap Bags Unit 65-02 E440 13-May-2022 24-May-2022 25-May-2022 12 days 1 180 days Metals : Metals in Soil/Solid by CRC ICPMS Glass soil jar/Teflon lined cap Bags-PSPC-01 E440 13-May-2022 24-May-2022 25-May-2022 12 days ✓ 180 days Particle Size: CCME fine/coarse Particle Size Analysis by wet sieve LDPE bag E178 13-May-2022 24-May-2022 11 days ✓ Bags Unit 110-01 180 days Particle Size: CCME fine/coarse Particle Size Analysis by wet sieve LDPE bag E178 13-May-2022 24-May-2022 11 davs ✓ Bags Unit 110-02 180 days Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve LDPE bag Bags Unit 65-01 E178 13-May-2022 24-May-2022 11 days 1 180 days Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve LDPE bag ✓ 13-May-2022 24-May-2022 11 days Bags Unit 65-02 E178 180 days Particle Size: CCME fine/coarse Particle Size Analysis by wet sieve LDPE bag

13-May-2022

----

E178

Page : 6 of 10

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



nalyte Group	Method	Sampling Date	Evi	= Holding time exceedance ; ✓ = Within Ho						
· ·	Metriod	Sampling Date		raction / Pr		F I	Augustusia Data			
Container / Client Sample ID(s)			Preparation Date	Rec	7 Times Actual	Eval	Analysis Date	Rec	g Times Actual	Eval
hysical Tests : Moisture Content by Gravimetry			<i>B</i> 4.0							
Glass soil jar/Teflon lined cap										
Bags Unit 110-01	E144	13-May-2022					19-May-2022			
hysical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
Bags Unit 110-02	E144	13-May-2022					19-May-2022			
hysical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
Bags Unit 65-01	E144	13-May-2022					19-May-2022			
hysical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
Bags Unit 65-02	E144	13-May-2022					19-May-2022			
hysical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap										
Bags-PSPC-01	E144	13-May-2022					19-May-2022			
hysical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
Bags Unit 110-01	E108	13-May-2022	23-May-2022				23-May-2022	30 days	10 days	<b>✓</b>
hysical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap										
Bags Unit 110-02	E108	13-May-2022	23-May-2022				23-May-2022	30 days	10 days	<b>✓</b>
hysical Tests : pH by Meter (1:2 Soil:Water Extraction)								1		
Glass soil jar/Teflon lined cap										
Bags Unit 65-01	E108	13-May-2022	23-May-2022				23-May-2022	30 days	10 days	<b>√</b>
hysical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap									10 days	
Bags Unit 65-02	E108	13-May-2022	23-May-2022				23-May-2022			✓

Page : 7 of 10

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



Matrix: Soil/Solid Evaluation: ▼ = Holding time exceedance; ✓ = Within Holding Time

Method	0 " 0 "	_								
Metriod	Sampling Date	Ext	traction / Pr	eparation			Analys	Analysis		
		Preparation	Holding	g Times	Eval	Analysis Date	Holding	g Times	Eval	
		Date	Rec	Actual			Rec	Actual		
E108	13-May-2022	23-May-2022				23-May-2022	30 days	10 days	✓	
E611A	13-May-2022	20-May-2022	0 days	7 days	*	20-May-2022	0 days	0 days	✓	
					EHTR-FM					
E611A	13-May-2022	20-May-2022	0 days	7 days		20-May-2022	0 days	0 days	✓	
					EU I K-LINI					
							1			
F044A	40.140000	00.140000	0.1	7		00.140000	0.1	0.1	1	
E011A	13-May-2022	20-May-2022	0 days	7 days		20-May-2022	0 days	u days	•	
					LITTIX-I IVI					
							I			
E611A	13 May 2022	20 May 2022	0 days	7 days		20 May 2022	0 days	0 daya	1	
EOTIA	13-iviay-2022	20-May-2022	0 days	7 days	·	20-May-2022	0 days	0 days	•	
F611A	13-May-2022	20-May-2022	0 days	7 days	<u>*</u>	20-May-2022	0 days	0 days	<b>√</b>	
LUTTA	13-11/ay-2022	20-11/1ay-2022	o uays	, uays	EHTR-FM	20-111ay-2022	o uays	0 uays	•	
	E108  E611A  E611A  E611A	E108 13-May-2022  E611A 13-May-2022  E611A 13-May-2022  E611A 13-May-2022	E108 13-May-2022 23-May-2022  E611A 13-May-2022 20-May-2022  E611A 13-May-2022 20-May-2022  E611A 13-May-2022 20-May-2022	Preparation Date         Holding Rec           E108         13-May-2022         23-May-2022            E611A         13-May-2022         20-May-2022         0 days           E611A         13-May-2022         20-May-2022         0 days           E611A         13-May-2022         20-May-2022         0 days           E611A         13-May-2022         20-May-2022         0 days	Preparation Date         Holding Times Rec         Actual           E108         13-May-2022         23-May-2022             E611A         13-May-2022         20-May-2022         0 days         7 days           E611A         13-May-2022         20-May-2022         0 days         7 days           E611A         13-May-2022         20-May-2022         0 days         7 days           E611A         13-May-2022         20-May-2022         0 days         7 days	Preparation Date         Holding Times Rec         Eval           E108         13-May-2022         23-May-2022             E611A         13-May-2022         20-May-2022         0 days         7 days         * EHTR-FM           E611A         13-May-2022         20-May-2022         0 days         7 days         * EHTR-FM           E611A         13-May-2022         20-May-2022         0 days         7 days         * EHTR-FM           E611A         13-May-2022         20-May-2022         0 days         7 days         * EHTR-FM	Preparation Date         Holding Times Rec         Eval Analysis Date           E108         13-May-2022         23-May-2022           23-May-2022           E611A         13-May-2022         20-May-2022         0 days         7 days         *         20-May-2022           E611A         13-May-2022         20-May-2022         0 days         7 days         *         20-May-2022           E611A         13-May-2022         20-May-2022         0 days         7 days         *         20-May-2022           E611A         13-May-2022         20-May-2022         0 days         7 days         *         20-May-2022           E611A         13-May-2022         20-May-2022         0 days         7 days         *         20-May-2022	Preparation Date   Holding Times   Eval   Analysis Date   Holding Rec   Actual	Preparation Date   Holding Times   Rec   Actual   Eval   Analysis Date   Holding Times   Rec   Actual	

#### **Legend & Qualifier Definitions**

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended Rec. HT: ALS recommended hold time (see units).

Page : 8 of 10

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



# **Quality Control Parameter Frequency Compliance**

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Soil/Solid		Evaluati	ion: × = QC freque	ency outside spe	ecification; ✓ =	QC frequency wit	thin specification
Quality Control Sample Type			Co	ount		Frequency (%)	)
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	494408	1	9	11.1	5.0	✓
CCME fine/coarse Particle Size Analysis by wet sieve	E178	497789	1	6	16.6	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	493384	1	9	11.1	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	497691	1	5	20.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	497690	1	9	11.1	5.0	✓
Moisture Content by Gravimetry	E144	493455	1	10	10.0	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	496964	1	6	16.6	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	494409	1	9	11.1	5.0	✓
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	494408	1	9	11.1	5.0	✓
CCME fine/coarse Particle Size Analysis by wet sieve	E178	497789	1	6	16.6	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	493384	2	9	22.2	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	497691	2	5	40.0	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	497690	2	9	22.2	10.0	✓
Moisture Content by Gravimetry	E144	493455	1	10	10.0	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	496964	2	6	33.3	10.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	494409	1	9	11.1	5.0	✓
Method Blanks (MB)							
BTEX by Headspace GC-MS	E611A	494408	1	9	11.1	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	493384	1	9	11.1	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	497691	1	5	20.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	497690	1	9	11.1	5.0	✓
Moisture Content by Gravimetry	E144	493455	1	10	10.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	494409	1	9	11.1	5.0	✓
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	494408	1	9	11.1	5.0	✓

Page : 9 of 10

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



# **Methodology References and Summaries**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
pH by Meter (1:2 Soil:Water Extraction)	E108 Edmonton - Environmental	Soil/Solid	BC Lab Manual	pH is determined by potentiometric measurement with a pH electrode at ambient laboratory temperature (normally $20\pm5^{\circ}\text{C}$ ), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at <60 °C) and sieved (10mesh/2mm) sample with ultra pure water at a 1:2 ratio of sediment to water. The pH is then measured by a standard pH probe.
Moisture Content by Gravimetry	E144  Edmonton -  Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
CCME fine/coarse Particle Size Analysis by wet sieve	E178 Edmonton - Environmental	Soil/Solid	CCME Vol 4 Analytical Methods	An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (sodium hexametaphosphate). The sample is washed through a 200 mesh (0.075 mm) sieve. The retained mass of sample is used to determine % sand fraction. If the percentage of sand is >50%, the soil is considered to be coarse textured soil. If the percentage of sand is <50%, the soil is considered to be fine textured.
Metals in Soil/Solid by CRC ICPMS	E440 Edmonton - Environmental	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCI.  Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines.  Analysis is by Collision/Reaction Cell ICPMS.
Mercury in Soil/Solid by CVAAS	E510 Edmonton - Environmental	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl, followed by CVAAS analysis.
VH and F1 by Headspace GC-FID	E581.VH+F1  Edmonton -  Environmental	Soil/Solid	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
CCME PHCs - F2-F4 by GC-FID	E601.SG  Edmonton -  Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4).
BTEX by Headspace GC-MS	E611A Edmonton - Environmental	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.

Page : 10 of 10

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
F1-BTEX	EC580	Soil/Solid	CCME PHC in Soil - Tier	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
	Edmonton -			
	Environmental			
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108	Soil/Solid	BC WLAP METHOD:	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample
			PH, ELECTROMETRIC,	with deionized/distilled water at a 1:2 ratio of sediment to water.
	Edmonton -		SOIL	
	Environmental			
Digestion for Metals and Mercury	EP440	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCI.
	Edmonton -			This method is intended to liberate metals that may be environmentally available.
	Environmental			
VOCs Methanol Extraction for Headspace	EP581	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted with methanol. Extracts are then prepared in headspace
Analysis	21 001			vials and are heated and agitated on the headspace autosampler, causing VOCs to
, and year	Edmonton -			partition between the aqueous phase and the headspace in accordance with Henry's
	Environmental			law.
PHCs and PAHs Hexane-Acetone Tumbler	EP601	Soil/Solid	CCME PHC in Soil - Tier	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted
Extraction			1 (mod)	with 1:1 hexane:acetone using a rotary extractor.
	Edmonton -			
	Environmental			
Dry and Grind	EPP442	Soil/Solid	Soil Sampling and	After removal of any coarse fragments and reservation of wet subsamples a portion of
			Methods of Analysis,	homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is
	Edmonton -		Carter 2008	then particle size reduced with an automated crusher or mortar and pestle, typically to
	Environmental			<2 mm. Further size reduction may be needed for particular tests.



# **QUALITY CONTROL REPORT**

**Work Order** :YL2200486

Amendment

Client : KBL Environmental Ltd.

Contact : Katie Oliver

Address :17 Cameron Road PO Box 1895

Yellowknife NT Canada X1A 2P4

Telephone :780 893 3305

Project : 4200 PO : 22-071NT

C-O-C number Sampler Site

:YL22-KBLE100-001 Quote number

No. of samples received : 5 No. of samples analysed : 5 Page : 1 of 11

Laboratory : Yellowknife - Environmental

**Account Manager** : Oliver Gregg

Address :314 Old Airport Road, Unit 116

Yellowknife, Northwest Territories Canada X1A 3T3

Telephone :1 867 446 5593

**Date Samples Received** : 17-May-2022 15:25

**Date Analysis Commenced** : 19-May-2022

:03-Jun-2022 09:24 Issue Date

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives

- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

#### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Austin Wasylyshyn	Lab Analyst	Edmonton Metals, Edmonton, Alberta
Christian Murera	Lab Analyst	Edmonton Organics, Edmonton, Alberta
Fahad Husain	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Joan Wu	Lab Analyst	Edmonton Metals, Edmonton, Alberta
Leah Yee	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Yan Zhang	Lab Analyst	Edmonton Organics, Edmonton, Alberta

Page : 2 of 11

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



#### **General Comments**

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key:

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

# = Indicates a QC result that did not meet the ALS DQO.

#### **Workorder Comments**

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Page : 3 of 11

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



## Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

ub-Matrix: Soil/Solid							Labora	atory Duplicate (D	UP) Report		
aboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifie
hysical Tests (QC	C Lot: 493455)										
O2203518-001	Anonymous	moisture		E144	0.25	%	43.4	47.3	8.80%	20%	
hysical Tests (QC	C Lot: 496964)										
/L2200486-001	Bags Unit 65-01	pH (1:2 soil:water)		E108	0.10	pH units	7.02	6.98	0.571%	3%	
article Size (QC L	ot: 497789)										
/L2200486-001	Bags Unit 65-01	sand (>0.075mm)		E178	1.0	%	54.0	58.1	7.29%	10%	
letals (QC Lot: 49	7690)										
O2203489-001	Anonymous	aluminum	7429-90-5	E440	50	mg/kg	7140	7150	0.0222%	40%	
		antimony	7440-36-0	E440	0.10	mg/kg	0.40	0.40	0.0008	Diff <2x LOR	
		arsenic	7440-38-2	E440	0.10	mg/kg	7.73	7.78	0.576%	30%	
		barium	7440-39-3	E440	0.50	mg/kg	144	150	3.83%	40%	
		beryllium	7440-41-7	E440	0.10	mg/kg	0.50	0.52	0.02	Diff <2x LOR	
		bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	
		boron	7440-42-8	E440	5.0	mg/kg	7.8	7.2	0.6	Diff <2x LOR	
		cadmium	7440-43-9	E440	0.020	mg/kg	0.173	0.168	2.87%	30%	
		calcium	7440-70-2	E440	50	mg/kg	15600	13000	17.9%	30%	
		chromium	7440-47-3	E440	0.50	mg/kg	69.1	82.5	17.6%	30%	
		cobalt	7440-48-4	E440	0.10	mg/kg	8.39	9.01	7.05%	30%	
		copper	7440-50-8	E440	0.50	mg/kg	14.9	15.3	3.20%	30%	
		lead	7439-92-1	E440	0.50	mg/kg	7.95	7.94	0.108%	40%	
		lithium	7439-93-2	E440	2.0	mg/kg	9.8	9.8	0.06	Diff <2x LOR	
		magnesium	7439-95-4	E440	20	mg/kg	6120	5730	6.57%	30%	
		molybdenum	7439-98-7	E440	0.10	mg/kg	1.67	1.82	8.90%	40%	
		nickel	7440-02-0	E440	0.50	mg/kg	51.2	58.8	13.9%	30%	
		phosphorus	7723-14-0	E440	50	mg/kg	480	470	2.20%	30%	
		potassium	7440-09-7	E440	100	mg/kg	970	980	0.609%	40%	
		selenium	7782-49-2	E440	0.20	mg/kg	0.36	0.33	0.03	Diff <2x LOR	
		silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	
		sodium	7440-23-5	E440	50	mg/kg	186	188	1	Diff <2x LOR	
		strontium	7440-24-6	E440	0.50	mg/kg	47.1	46.1	2.02%	40%	
		sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	
		thallium	7440-28-0	E440	0.050	mg/kg	0.133	0.133	0.0004	Diff <2x LOR	

Page : 4 of 11

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



Metals (QC Lot: 497690) - continued   Result   Result	dicate Qualified mits
EO2203489-001 Anonymous tin 7440-31-5 E440 2.0 mg/kg <2.0 <2.0 0 Diff titanium 7440-32-6 E440 1.0 mg/kg 66.6 65.2 2.19% tungsten 7440-33-7 E440 0.50 mg/kg <0.50 <0.50 0 Diff uranium 7440-61-1 E440 0.050 mg/kg 0.952 0.927 2.73% vanadium 7440-62-2 E440 0.20 mg/kg 24.0 24.4 1.45% zinc 7440-66-6 E440 2.0 mg/kg 52.1 53.5 2.70% zirconium 7440-67-7 E440 1.0 mg/kg 5.4 5.0 0.4 Diff Metals (QC Lot: 497691)	tx LOR
titanium 7440-32-6 E440 1.0 mg/kg 66.6 65.2 2.19% tungsten 7440-33-7 E440 0.50 mg/kg <0.50 <0.50 0 Diff uranium 7440-61-1 E440 0.050 mg/kg 0.952 0.927 2.73% vanadium 7440-62-2 E440 0.20 mg/kg 24.0 24.4 1.45% zinc 7440-66-6 E440 2.0 mg/kg 52.1 53.5 2.70% zirconium 7440-67-7 E440 1.0 mg/kg 5.4 5.0 0.4 Diff Metals (QC Lot: 497691)	?x LOR
tungsten 7440-33-7 E440 0.50 mg/kg <0.50 <0.50 0 0 Diff uranium 7440-61-1 E440 0.050 mg/kg 0.952 0.927 2.73% vanadium 7440-62-2 E440 0.20 mg/kg 24.0 24.4 1.45% zinc 7440-66-6 E440 2.0 mg/kg 52.1 53.5 2.70% zirconium 7440-67-7 E440 1.0 mg/kg 5.4 5.0 0.4 Diff  Metals (QC Lot: 497691)	
uranium     7440-61-1     E440     0.050     mg/kg     0.952     0.927     2.73%       vanadium     7440-62-2     E440     0.20     mg/kg     24.0     24.4     1.45%       zinc     7440-66-6     E440     2.0     mg/kg     52.1     53.5     2.70%       zirconium     7440-67-7     E440     1.0     mg/kg     5.4     5.0     0.4     Diff    Metals (QC Lot: 497691)	0%
vanadium     7440-62-2     E440     0.20     mg/kg     24.0     24.4     1.45%       zinc     7440-66-6     E440     2.0     mg/kg     52.1     53.5     2.70%       zirconium     7440-67-7     E440     1.0     mg/kg     5.4     5.0     0.4     Diff    Metals (QC Lot: 497691)	2x LOR
zinc 7440-66-6 E440 2.0 mg/kg 52.1 53.5 2.70% zirconium 7440-67-7 E440 1.0 mg/kg 5.4 5.0 0.4 Diff  Metals (QC Lot: 497691)	0%
zirconium 7440-67-7 E440 1.0 mg/kg 5.4 5.0 0.4 Diff  Metals (QC Lot: 497691)	0%
Metals (QC Lot: 497691)	0%
	2x LOR
NU 0000 (00 00 0 0 0 0 0 0 0 0 0 0 0 0 0	
YL2200486-001 Bags Unit 65-01 mercury 7439-97-6 E510 0.0050 mg/kg 0.0671 0.0588 13.2%	0%
Volatile Organic Compounds (QC Lot: 494408)	
YL2200484-001         Anonymous         benzene         71-43-2         E611A         0.0050         mg/kg         <0.0050         <0.0050         0         Diff	2x LOR
ethylbenzene 100-41-4 E611A 0.015 mg/kg <0.015 <0.015 0 Diff	2x LOR
toluene 108-88-3 E611A 0.050 mg/kg <0.050 <0.050 0 Diff	2x LOR
xylene, m+p- 179601-23-1 E611A 0.050 mg/kg <0.050 <0.050 0 Diff	2x LOR
xylene, o- 95-47-6 E611A 0.050 mg/kg <0.050 <0.050 0 Diff	2x LOR
Hydrocarbons (QC Lot: 493384)	
YL2200484-001         Anonymous         F2 (C10-C16)          E601.SG         30         mg/kg         <30         <30         0         Diff	2x LOR
F3 (C16-C34) E601.SG 50 mg/kg <50 <50 0 Diff	2x LOR
F4 (C34-C50) E601.SG 50 mg/kg <50 <50 0 Diff	2x LOR
Hydrocarbons (QC Lot: 494409)	
YL2200484-001         Anonymous         F1 (C6-C10)          E581.VH+F1         5.0         mg/kg         <5.0         0         Diff	

Page : 5 of 11

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



## Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 49345						
noisture		E144	0.25	%	<0.25	
Metals (QCLot: 497690)						
aluminum	7429-90-5		50	mg/kg	<50	
ntimony	7440-36-0		0.1	mg/kg	<0.10	
rsenic	7440-38-2		0.1	mg/kg	<0.10	
arium	7440-39-3	E440	0.5	mg/kg	<0.50	
eryllium	7440-41-7	E440	0.1	mg/kg	<0.10	
ismuth	7440-69-9	E440	0.2	mg/kg	<0.20	
oron	7440-42-8	E440	5	mg/kg	<5.0	
admium	7440-43-9	E440	0.02	mg/kg	<0.020	
alcium	7440-70-2	E440	50	mg/kg	<50	
hromium	7440-47-3	E440	0.5	mg/kg	<0.50	
obalt	7440-48-4	E440	0.1	mg/kg	<0.10	
opper	7440-50-8	E440	0.5	mg/kg	<0.50	
on	7439-89-6	E440	50	mg/kg	<50	
ead	7439-92-1	E440	0.5	mg/kg	<0.50	
thium	7439-93-2	E440	2	mg/kg	<2.0	
nagnesium	7439-95-4	E440	20	mg/kg	<20	
nanganese	7439-96-5	E440	1	mg/kg	<1.0	
nolybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	
ickel	7440-02-0	E440	0.5	mg/kg	<0.50	
hosphorus	7723-14-0	E440	50	mg/kg	<50	
otassium	7440-09-7	E440	100	mg/kg	<100	
elenium	7782-49-2	E440	0.2	mg/kg	<0.20	
ilver	7440-22-4	E440	0.1	mg/kg	<0.10	
odium	7440-23-5	E440	50	mg/kg	<50	
rontium	7440-24-6	E440	0.5	mg/kg	<0.50	
ulfur	7704-34-9	E440	1000	mg/kg	<1000	
allium	7440-28-0	E440	0.05	mg/kg	<0.050	
1	7440-31-5	E440	2	mg/kg	<2.0	
tanium	7440-32-6	E440	1	mg/kg	<1.0	
ungsten	7440-33-7	E440	0.5	mg/kg	<0.50	
ranium	7440-61-1	E440	0.05	mg/kg	<0.050	

Page : 6 of 11

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200

Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 497690) - continue	ed					
vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	
zinc	7440-66-6	E440	2	mg/kg	<2.0	
zirconium	7440-67-7	E440	1	mg/kg	<1.0	
Metals (QCLot: 497691)						
mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	
Volatile Organic Compounds (QCL	ot: 494408)					
benzene	71-43-2	E611A	0.005	mg/kg	<0.0050	
ethylbenzene	100-41-4	E611A	0.015	mg/kg	<0.015	
toluene	108-88-3	E611A	0.05	mg/kg	<0.050	
kylene, m+p-	179601-23-1	E611A	0.03	mg/kg	<0.030	
xylene, o-	95-47-6	E611A	0.03	mg/kg	<0.030	
Hydrocarbons (QCLot: 493384)						
F2 (C10-C16)		E601.SG	25	mg/kg	<25	
F3 (C16-C34)		E601.SG	50	mg/kg	<50	
F4 (C34-C50)		E601.SG	50	mg/kg	<50	
Hydrocarbons (QCLot: 494409)						
-1 (C6-C10)		E581.VH+F1	5	mg/kg	<5.0	



Page : 7 of 11

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



# Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Soil/Solid				Laboratory Control Sample (LCS) Report							
				Spike	Recovery (%)	Recovery	Limits (%)				
Analyte	CAS Number Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier			
Physical Tests (QCLot: 493455)											
moisture	E144	0.25	%	50 %	99.9	90.0	110				
Physical Tests (QCLot: 496964)											
pH (1:2 soil:water)	E108		pH units	6 pH units	100	97.0	103				
Metals (QCLot: 497690)											
aluminum	7429-90-5 E440	50	mg/kg	200 mg/kg	105	80.0	120				
antimony	7440-36-0 E440	0.1	mg/kg	100 mg/kg	108	80.0	120				
arsenic	7440-38-2 E440	0.1	mg/kg	100 mg/kg	103	80.0	120				
barium	7440-39-3 E440	0.5	mg/kg	25 mg/kg	103	80.0	120				
beryllium	7440-41-7 E440	0.1	mg/kg	10 mg/kg	103	80.0	120				
bismuth	7440-69-9 E440	0.2	mg/kg	100 mg/kg	106	80.0	120				
boron	7440-42-8 E440	5	mg/kg	100 mg/kg	101	80.0	120				
cadmium	7440-43-9 E440	0.02	mg/kg	10 mg/kg	104	80.0	120				
calcium	7440-70-2 E440	50	mg/kg	5000 mg/kg	98.2	80.0	120				
chromium	7440-47-3 E440	0.5	mg/kg	25 mg/kg	104	80.0	120				
cobalt	7440-48-4 E440	0.1	mg/kg	25 mg/kg	100	80.0	120				
copper	7440-50-8 E440	0.5	mg/kg	25 mg/kg	104	80.0	120				
iron	7439-89-6 E440	50	mg/kg	100 mg/kg	105	80.0	120				
lead	7439-92-1 E440	0.5	mg/kg	50 mg/kg	99.8	80.0	120				
lithium	7439-93-2 E440	2	mg/kg	25 mg/kg	104	80.0	120				
magnesium	7439-95-4 E440	20	mg/kg	5000 mg/kg	103	80.0	120				
manganese	7439-96-5 E440	1	mg/kg	25 mg/kg	102	80.0	120				
molybdenum	7439-98-7 E440	0.1	mg/kg	25 mg/kg	103	80.0	120				
nickel	7440-02-0 E440	0.5	mg/kg	50 mg/kg	100	80.0	120				
phosphorus	7723-14-0 E440	50	mg/kg	1000 mg/kg	109	80.0	120				
potassium	7440-09-7 E440	100	mg/kg	5000 mg/kg	103	80.0	120				
selenium	7782-49-2 E440	0.2	mg/kg	100 mg/kg	105	80.0	120				
silver	7440-22-4 E440	0.1	mg/kg	10 mg/kg	95.6	80.0	120				
sodium	7440-23-5 E440	50	mg/kg	5000 mg/kg	106	80.0	120				
strontium	7440-24-6 E440	0.5	mg/kg	25 mg/kg	104	80.0	120				
sulfur	7704-34-9 E440	1000	mg/kg	5000 mg/kg	110	80.0	120				
thallium	7440-28-0 E440	0.05	mg/kg	100 mg/kg	99.6	80.0	120				
tin	7440-31-5 E440	2	mg/kg	50 mg/kg	103	80.0	120				
titanium	7440-32-6 E440	1	mg/kg	25 mg/kg	100	80.0	120				

Page : 8 of 11

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report							
					Spike	Recovery (%)	Recovery	Limits (%)				
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier			
Metals (QCLot: 497690) - continued												
tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	100	80.0	120				
uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	98.8	80.0	120				
vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	106	80.0	120				
zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	100	80.0	120				
zirconium	7440-67-7	E440	1	mg/kg	10 mg/kg	97.4	80.0	120				
Metals (QCLot: 497691)												
mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	113	70.0	130				
Volatile Organic Compounds (QCLot: 49	4408)											
benzene	71-43-2	E611A	0.005	mg/kg	2.5 mg/kg	121	70.0	130				
ethylbenzene	100-41-4	E611A	0.015	mg/kg	2.5 mg/kg	90.2	70.0	130				
toluene	108-88-3	E611A	0.05	mg/kg	2.5 mg/kg	101	70.0	130				
xylene, m+p-	179601-23-1	E611A	0.03	mg/kg	5 mg/kg	104	70.0	130				
xylene, o-	95-47-6	E611A	0.03	mg/kg	2.5 mg/kg	101	70.0	130				
Hydrocarbons (QCLot: 493384)												
F2 (C10-C16)		E601.SG	25	mg/kg	576 mg/kg	117	70.0	130				
F3 (C16-C34)	<del></del>	E601.SG	50	mg/kg	1184 mg/kg	104	70.0	130				
F4 (C34-C50)		E601.SG	50	mg/kg	904 mg/kg	106	70.0	130				
Hydrocarbons (QCLot: 494409)												
F1 (C6-C10)		E581.VH+F1	5	mg/kg	86 mg/kg	78.2	70.0	130				

Page : 9 of 11

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



## Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Soil/Solid					Matrix Spike (MS) Report							
					Spi	ke	Recovery (%)	Recovery				
Laboratory sample	Client sample ID	Analyte	CAS Number	Method	Concentration Target		MS	Low	High	Qualifier		
Volatile Organic (	Compounds (QCLot: 49	)4408)										
YL2200484-002	Anonymous	benzene	71-43-2	E611A	2.94 mg/kg	2.5 mg/kg	135	60.0	140			
		ethylbenzene	100-41-4	E611A	2.25 mg/kg	2.5 mg/kg	103	60.0	140			
		toluene	108-88-3	E611A	2.54 mg/kg	2.5 mg/kg	117	60.0	140			
		xylene, m+p-	179601-23-1	E611A	5.29 mg/kg	5 mg/kg	121	60.0	140			
		xylene, o-	95-47-6	E611A	2.61 mg/kg	2.5 mg/kg	120	60.0	140			

Page : 10 of 11

Work Order : YL2200486 Amendment 1
Client : KBL Environmental Ltd.

Project : 4200



## Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:						Refere	nce Material (RM) Re	eport	
					RM Target	Recovery (%)	Recovery	Limits (%)	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Physical Tests	(QCLot: 496964)								
	RM	pH (1:2 soil:water)		E108	8.07 pH units	97.4	96.0	104	
Particle Size (0	QCLot: 497789)								
	RM	sand (>0.075mm)		E178	36.4 %	102	91.0	109	
Metals (QCLot	: 497690)								
	RM	aluminum	7429-90-5	E440	9817 mg/kg	93.7	70.0	130	
	RM	antimony	7440-36-0	E440	3.99 mg/kg	96.5	70.0	130	
	RM	arsenic	7440-38-2	E440	3.73 mg/kg	99.7	70.0	130	
	RM	barium	7440-39-3	E440	105 mg/kg	98.7	70.0	130	
	RM	beryllium	7440-41-7	E440	0.349 mg/kg	94.8	70.0	130	
	RM	boron	7440-42-8	E440	8.5 mg/kg	95.7	40.0	160	
	RM	cadmium	7440-43-9	E440	0.91 mg/kg	102	70.0	130	
	RM	calcium	7440-70-2	E440	31082 mg/kg	95.8	70.0	130	
	RM	chromium	7440-47-3	E440	101 mg/kg	87.3	70.0	130	
	RM	cobalt	7440-48-4	E440	6.9 mg/kg	98.0	70.0	130	
	RM	copper	7440-50-8	E440	123 mg/kg	103	70.0	130	
	RM	iron	7439-89-6	E440	23558 mg/kg	99.6	70.0	130	
	RM	lead	7439-92-1	E440	267 mg/kg	98.1	70.0	130	
	RM	lithium	7439-93-2	E440	9.5 mg/kg	100	70.0	130	
	RM	magnesium	7439-95-4	E440	5509 mg/kg	96.2	70.0	130	
	RM	manganese	7439-96-5	E440	269 mg/kg	97.3	70.0	130	
	RM	molybdenum	7439-98-7	E440	1.03 mg/kg	102	70.0	130	
	RM	nickel	7440-02-0	E440	26.7 mg/kg	97.7	70.0	130	
	RM	phosphorus	7723-14-0	E440	752 mg/kg	100	70.0	130	
	RM	potassium	7440-09-7	E440	1587 mg/kg	90.3	70.0	130	
	RM	silver	7440-22-4	E440	4.06 mg/kg	103	50.0	150	
	RM	sodium	7440-23-5	E440	797 mg/kg	95.7	70.0	130	
	RM	strontium	7440-24-6	E440	86.1 mg/kg	100	70.0	130	
	RM	thallium	7440-28-0	E440	0.0786 mg/kg	91.3	40.0	160	
	RM	tin	7440-31-5	E440	10.6 mg/kg	97.1	70.0	130	

Page

: 11 of 11 : YL2200486 Amendment 1 Work Order Client : KBL Environmental Ltd.

Project : 4200



Sub-Matrix:						Reference Material (RM) Report							
					RM Target	Recovery (%)	Recovery I	imits (%)					
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier				
Metals (QCLot:	497690) - continued												
	RM	titanium	7440-32-6	E440	839 mg/kg	88.6	70.0	130					
	RM	uranium	7440-61-1	E440	0.52 mg/kg	88.5	70.0	130					
	RM	vanadium	7440-62-2	E440	32.7 mg/kg	96.2	70.0	130					
	RM	zinc	7440-66-6	E440	297 mg/kg	97.4	70.0	130					
	RM	zirconium	7440-67-7	E440	5.73 mg/kg	77.9	70.0	130					
Metals (QCLot:	497691)												
	RM	mercury	7439-97-6	E510	0.059 mg/kg	91.1	70.0	130					
Hydrocarbons (	QCLot: 493384)												
	RM	F2 (C10-C16)		E601.SG	4316 mg/kg	83.6	70.0	130					
	RM	F3 (C16-C34)		E601.SG	12844 mg/kg	90.4	70.0	130					
	RM	F4 (C34-C50)		E601.SG	1156 mg/kg	100	70.0	130					

# Chain of Custody (COC) / Analytical Request Form

COC Number: 21 -

Page of



www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Report To	Contact and company name below will appear or	the final report		Reports / R	ecipients		T		Tu	rnarou	ind Time	(TAT) R	eques	ted					1 10			
Company:	KBL Environmental	Sele	ect Report F	ormat: PDF	EXCEL  ED	DD (DIGITAL)	☑ R	outine (F	l] if rec	eived b	y 3pm M-	F - no sui	rcharge	s apply								
Contact:	Katie Oliver	Me	rge QC/QCI	Reports with COA	YES NO	□ N/A	□ 4	day [P4	if rece	ived by	3pm M-F	- 20% ru	ish sur	harge m	ninimum		AFFE	X ALS E	ARCOD	ELAB	EL HE	RE
Phone:	780.452.7779		Compare Resu	Its to Criteria on Report -	provide details belo	w if box checked						F - 25% r		0.00					LS use			
1101101	Company address below will appear on the final rep	port Sele	ect Distributi	on: EMAIL	MAIL	FAX	-					F - 50% r - 100% r										
Street:	Box 1895, 17 Cameron Road	Em	ail 1 or Fax	koliver@kblenv.com	m							n M-S - 2										
City/Province:	Yellowknife, NT	Em	ail 2					A	dditiona	al fees r	may apply	to rush re	quests	on week	kends, s	tatutory	/ holiday	idays and for non-routine tests.				
Postal Code:	X1A 2P4	Em	ail 3				Date and Time Required for all E&P TATs: dd-mmm-yy hkinun ampm									pm						
Invoice To	Same as Report To	0		Invoice Re	cipients			For all tests with rush TATs requested, please contact your AM to confirm availability.														
	Copy of Invoice with Report YES N	o Sele	ect Invoice D	Distribution: 🗸 EM.	AIL MAIL	FAX	Analysis Request									est						
Company:		Em	ail 1 or Fax				Indicate Filtered (F), Preserved (P) or Filtered and Preser									reserve	ed (F/P)	below			0.	s)
Contact:		Em	ail 2				一里														IR.	ote
	Project Information		Oil	and Gas Required		use)	CONTAINERS														STORAGE REQUIRED	96 11
ALS Account	# / Quote #:	AFE	/Cost Center:		PO#		15													딜	28	(s
Job #:	4200	Majo	or/Minor Code:		Routing Code:		١ĕ													НОГР	\GE	RD
PO / AFE:	22-07/NT	Red	quisitioner:																	NO	JR/	4Z
LSD:	•	Loc	ation:				8				Đ.					1					ST	H
ALS Lab Wor	k Order# (ALS use only):	AL	S Contact:		Sampler:		NUMBER	втех	size		CCME Metals +									PLES	EXTENDED	SUSPECTED HAZARD (see notes)
ALS Sample #	Sample Identification and	d/or Coordinates		Date	Time	Sample Type	15	F1-F4/	Particle		W									SAMPL	TEN	SPE
(ALS use only)	(This description will appe	ar on the report)		(dd-mmm-yy)	(hh:mm)	Sample Type	ž	E.	Par	Hd	00	1								S	EX	SU
	Bags Unit 65 - 01			13-07-22	12:00	Soil		R	R	R	R				nenta	וט וג	VISIO	41				
-	Bags Unit 65 - 02			13-07-22	12:40	Soil		R	R	R	R	,	Yello	owkn	nite Irder F	Dafar	ence					
	Bags Unit 65 - 03			13-05-22	13:15	Soil		R	R	R	R		, v	/ (	220	10	12	6				
	Bags - Unit 110 - 01			13-05-22	12:26	Soil		R	R	R	R		1	L	(	JU-	+0	J		-		
	Bags - Unit 110 - 02			() () 72	12.00	Soll	+	-R-	R	R	-R-							11.1				
				12 0000	12:52		+	2		YL	0			$\mathbb{W}$	7.83	3.18	4	III				_
	Bags-PSPC-O)			13-05-22	14170	Soil	+	K		1	1			III W		OK IN		Ш	_			
							-			-		-		ШКУ	IIII	K L		MI.				
		1					_								CW	M.	17	Ш				
												_	Tolont	1000	+ 1 867	873 55	593					
5.0													iolopi	orio .					1			
												-	1	T	1	1	1	1				
1																						
1-1		Notes / Specify Limit	ts for result e	evaluation by selecting	ng from drop-dow	vn below					SA	MPLE R	ECEI	T DE	TAILS	(ALS	use or	nly)		_	_	
Drinking	Water (DW) Samples <sup>1</sup> (client use)			xcel COC only)			Cool	ing Me	thod:		NONE	_ ICE		CE PACK	s 🗌	FROZ	EN.		COOLING	INITIA	ATED	
Are samples tal	ken from a Regulated DW System?						Subr	nission	Com	ments	identific	ed on Sa	mple	Receip	ot Notif	ication	1:	YES		ON		
	YES NO						Cool	er Cus					s 🗌	V/A 5	Sample		-	eals Inta		-	□ N	I/A
Are samples fo	r human consumption/ use?							INI	ITIAL C	COOLER	R TEMPE	RATURES	°C			FINA	AL COO	LER TEA	MPERATI	JRES °C	С	
	YES NO																					
	SHIPMENT RELEASE (client use)		4	INITIAL SHIPMENT		ALS use only)	T		Des			FINAL	SHIP			PTION	(ALS	use or				
Released by:	Linustron May 17,20:	22 1:37pm/	deivled by:		Date:	/22		26		ived b	y:			Date:						Time:		
REFER TO BAC	K PAGE FOR ALS LOCATIONS AND SAMPLING IN	FORMATION 16		WHI	TE - LABORATOR	Y COPY YEL	TOM -	CLIEN	COP	Y											AUG 2020	A FRONT



# **CERTIFICATE OF ANALYSIS**

Work Order : YL2200797

Client : KBL Environmental Ltd.

Contact : Nicole Prince

Address : 17 Cameron Road PO Box 1895

Yellowknife NT Canada X1A 2P4

Telephone : 780-554-7259

Project : ----

PO : 4200ISTF C-O-C number : 17-823726

Sampler : ----Site : ----

Quote number : YL22-KBLE100-003

No. of samples received : 2
No. of samples analysed : 2

Page : 1 of 5

Laboratory : Yellowknife - Environmental

Account Manager : Oliver Gregg

Address : 314 Old Airport Road, Unit 116

Yellowknife NT Canada X1A 3T3

Telephone : 1 867 446 5593

Date Samples Received : 04-Jul-2022 09:38

Date Analysis Commenced : 07-Jul-2022

Issue Date : 21-Jul-2022 16:15

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

#### **Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta

Page : 2 of 5

Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---



#### **General Comments**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit Description	
μg/L micrograms per litre mg/L milligrams per litre	

<: less than.

>: greater than.

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

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

#### Sample Comments

Sample	Client Id	Comment
YL2200797-001	STF-TOTES-A	No raw containers recevied, therefore unable to report pH and TSS.

#### **Qualifiers**

Qualifier	Description
DLA	Detection Limit adjusted for required dilution.

Page : 3 of 5 Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---



# Analytical Results

Sub-Matrix: Water Client sample ID					STF-TOTES-A	STF-TOTES-B	 	
(Matrix: Water)								
Client sampling date / time						29-Jun-2022 15:56	 	
Analyte	CAS Number	Method	LOR	Unit	YL2200797-001	YL2200797-002	 	
					Result	Result	 	
Total Metals								
antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00020 DLA	 	
arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00016	<0.00020 DLA	 	
barium, total	7440-39-3	E420	0.00010	mg/L	0.0218	0.0237	 	
beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	0.000504	 	
boron, total	7440-42-8	E420	0.010	mg/L	0.034	0.088	 	
iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.020 DLA	 	
manganese, total	7439-96-5	E420	0.00010	mg/L	0.00724	0.00845	 	
selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000100 DLA	 	
uranium, total	7440-61-1	E420	0.000010	mg/L	0.000034	0.000280	 	
zinc, total	7440-66-6	E420	0.0030	mg/L	0.0068	0.0198	 	
Aggregate Organics								
phenols, total (4AAP)		E562	0.0010	mg/L	<0.0010	<0.0010	 	
Volatile Organic Compounds [Fuels]								
benzene	71-43-2	E611A	0.50	μg/L	<0.50	<0.50	 	
ethylbenzene	100-41-4	E611A	0.50	μg/L	<0.50	<0.50	 	
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	μg/L	<0.50	<0.50	 	
styrene	100-42-5	E611A	0.50	μg/L	<0.50	<0.50	 	
toluene	108-88-3	E611A	0.50	μg/L	<0.50	<0.50	 	
xylene, m+p-	179601-23-1	E611A	0.40	μg/L	<0.40	<0.40	 	
xylene, o-	95-47-6	E611A	0.30	μg/L	0.54	<0.30	 	
xylenes, total	1330-20-7	E611A	0.50	μg/L	0.54	<0.50	 	
Volatile Organic Compounds Surrogates								
bromofluorobenzene, 4-	460-00-4	E611A	1.0	%	87.4	86.9	 	
difluorobenzene, 1,4-	540-36-3	E611A	1.0	%	100	97.3	 	
Hydrocarbons								
F1 (C6-C10)		E581.VH+F1	100	μg/L	<100	<100	 	
F2 (C10-C16)		E601	300	μg/L	<300	<300	 	
VHw (C6-C10)		E581.VH+F1	100	μg/L	<100	<100	 	
F1-BTEX		EC580	100	μg/L	<100	<100	 	
VPHw		EC580A	100	μg/L	<100	<100	 	
	I			1	· ·		1	

Page : 4 of 5 Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---

# ALS

# Analytical Results

Sub-Matrix: Water			CI	ient sample ID	STF-TOTES-A	STF-TOTES-B	 	
(Matrix: Water)								
			Client samp	ling date / time	29-Jun-2022 15:42	29-Jun-2022 15:56	 	
Analyte	CAS Number	Method	LOR	Unit	YL2200797-001	YL2200797-002	 	
					Result	Result	 	
Hydrocarbons Surrogates								
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601	1.0	%	85.3	86.1	 	
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	103	102	 	
Polycyclic Aromatic Hydrocarbons								
acenaphthene	83-32-9	E641A	0.010	μg/L	<0.010	<0.010	 	
acenaphthylene	208-96-8	E641A	0.010	μg/L	<0.010	<0.010	 	
anthracene	120-12-7	E641A	0.010	μg/L	<0.010	<0.010	 	
benz(a)anthracene	56-55-3	E641A	0.010	μg/L	<0.010	<0.010	 	
benzo(a)pyrene	50-32-8	E641A	0.0050	μg/L	<0.0050	<0.0050	 	
benzo(b+j)fluoranthene	n/a	E641A	0.010	μg/L	<0.010	<0.010	 	
benzo(b+j+k)fluoranthene	n/a	E641A	0.015	μg/L	<0.015	<0.015	 	
benzo(g,h,i)perylene	191-24-2	E641A	0.010	μg/L	<0.010	<0.010	 	
benzo(k)fluoranthene	207-08-9	E641A	0.010	μg/L	<0.010	<0.010	 	
chrysene	218-01-9	E641A	0.010	μg/L	<0.010	<0.010	 	
dibenz(a,h)anthracene	53-70-3	E641A	0.0050	μg/L	<0.0050	<0.0050	 	
fluoranthene	206-44-0	E641A	0.010	μg/L	<0.010	<0.010	 	
fluorene	86-73-7	E641A	0.010	μg/L	<0.010	<0.010	 	
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.010	μg/L	<0.010	<0.010	 	
naphthalene	91-20-3	E641A	0.050	μg/L	0.065	<0.050	 	
phenanthrene	85-01-8	E641A	0.020	μg/L	<0.020	<0.020	 	
pyrene	129-00-0	E641A	0.010	μg/L	<0.010	<0.010	 	
B(a)P total potency equivalents [B(a)P TPE]		E641A	0.010	μg/L	<0.010	<0.010	 	
PAHs, total (EPA 16)	n/a	E641A	0.065	μg/L	0.065	<0.065	 	
Polycyclic Aromatic Hydrocarbons Surrogates								
chrysene-d12	1719-03-5	E641A	0.1	%	110	113	 	
naphthalene-d8	1146-65-2	E641A	0.1	%	102	104	 	
phenanthrene-d10	1517-22-2	E641A	0.1	%	107	109	 	
Polychlorinated Biphenyls								
polychlorinated biphenyls [PCBs], total		E685	1.0	μg/L	<1.0	<1.0	 	
Polychlorinated Biphenyls Surrogates								
decachlorobiphenyl	2051-24-3	E685	1.0	%	83.1	81.8	 	
I and the second	1		1				1	ı

Page : 5 of 5

Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---



Please refer to the General Comments section for an explanation of any qualifiers detected.



# QUALITY CONTROL INTERPRETIVE REPORT

Work Order : YL2200797

Client : KBL Environmental Ltd.

Contact : Nicole Prince

Address : 17 Cameron Road PO Box 1895

Yellowknife NT Canada X1A 2P4

Telephone : 780-554-7259

Project : ---

PO : 4200ISTF C-O-C number : 17-823726

Sampler : ----

Quote number : YL22-KBLE100-003

No. of samples received : 2
No. of samples analysed : 2

Page : 1 of 7

Laboratory : Yellowknife - Environmental

Account Manager : Oliver Gregg

Address : 314 Old Airport Road, Unit 116

Yellowknife, Northwest Territories Canada X1A 3T3

Telephone : 1 867 446 5593

Date Samples Received : 04-Jul-2022 09:38

Issue Date : 21-Jul-2022 16:11

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

#### Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO: Data Quality Objective.** 

LOR: Limit of Reporting (detection limit).

**RPD: Relative Percent Difference.** 

#### **Workorder Comments**

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

## **Summary of Outliers**

# **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### Outliers: Reference Material (RM) Samples

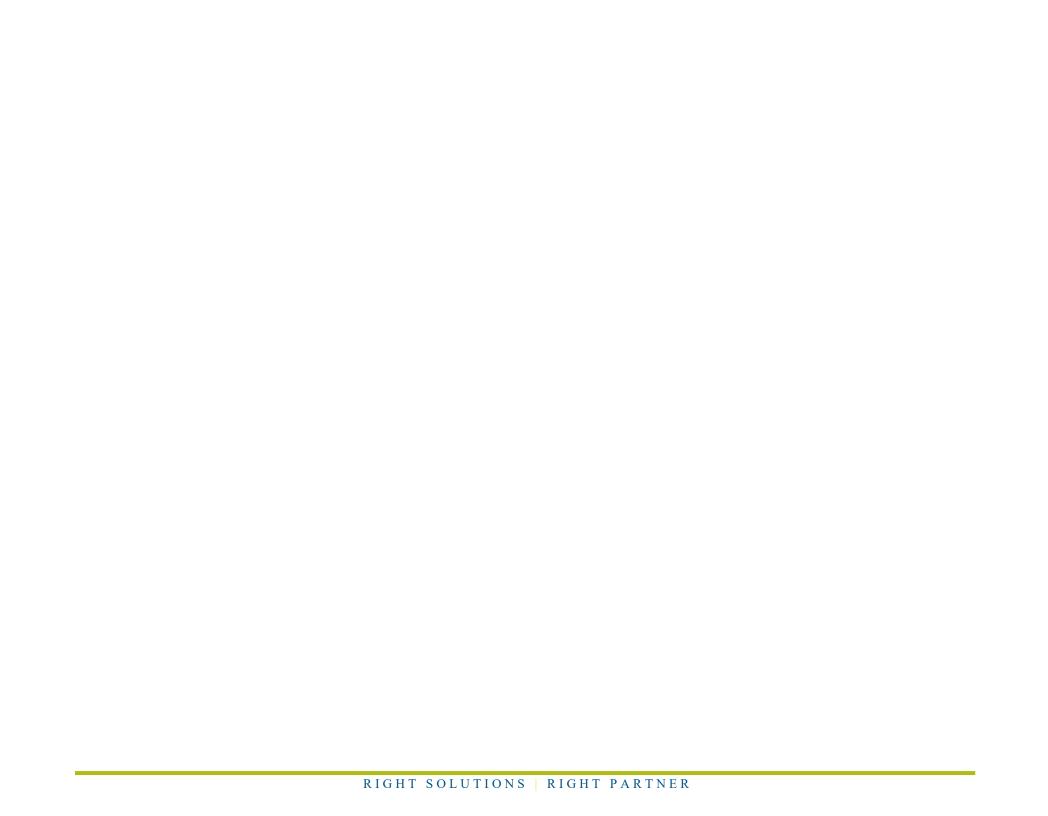
• No Reference Material (RM) Sample outliers occur.

## **Outliers : Analysis Holding Time Compliance (Breaches)**

• No Analysis Holding Time Outliers exist.

#### **Outliers: Frequency of Quality Control Samples**

• No Quality Control Sample Frequency Outliers occur.



Page : 3 of 7
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---



# **Analysis Holding Time Compliance**

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Water					E	/aluation: ≭ =	Holding time exce	edance ; 🔻	= Within	Holding Time
Analyte Group	Method	Sampling Date	Extraction / Preparation					Analys	is	
Container / Client Sample ID(s)			Preparation	Holding	Times	Eval	Analysis Date	Holding	Times	Eval
			Date	Rec	Actual			Rec	Actual	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid)										
STF-TOTES-A	E562	29-Jun-2022					15-Jul-2022	28 days	16 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid)										
STF-TOTES-B	E562	29-Jun-2022					15-Jul-2022	28 days	16 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
STF-TOTES-A	E601	29-Jun-2022	10-Jul-2022	14	11	✓	11-Jul-2022	40 days	1 days	✓
				days	days					
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
STF-TOTES-B	E601	29-Jun-2022	10-Jul-2022	14	11	✓	11-Jul-2022	40 days	1 days	✓
				days	days					
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
STF-TOTES-A	E581.VH+F1	29-Jun-2022	13-Jul-2022				13-Jul-2022	14 days	13 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
STF-TOTES-B	E581.VH+F1	29-Jun-2022	13-Jul-2022				13-Jul-2022	14 days	13 days	✓
Polychlorinated Biphenyls : PCB Aroclors by GC-ECD										
Amber glass/Teflon lined cap										
STF-TOTES-A	E685	29-Jun-2022	14-Jul-2022				15-Jul-2022	40 days	1 days	✓

Page : 4 of 7
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---



Matrix: Water Evaluation: ▼ = Holding time exceedance; ✓ = Within Holding Time

iviatrix. Water						aldation. • =	riolaling time exce	cuarioc , .	- *************************************	riolaling rii
Analyte Group	Method	Sampling Date	Ext	traction / Pr	eparation		Analysis			
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Polychlorinated Biphenyls : PCB Aroclors by GC-ECD										
Amber glass/Teflon lined cap										
STF-TOTES-B	E685	29-Jun-2022	14-Jul-2022				15-Jul-2022	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)	50444	00 1 0000								,
STF-TOTES-A	E641A	29-Jun-2022	10-Jul-2022	14	11	✓	11-Jul-2022	40 days	1 days	✓
				days	days					
Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)	F044A	00 1 0000	40 1-1 0000			<b>✓</b>	44 1-1 0000	40. 1	4 1	<b>√</b>
STF-TOTES-B	E641A	29-Jun-2022	10-Jul-2022	14	11	<b>Y</b>	11-Jul-2022	40 days	1 days	<b>▼</b>
				days	days					
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) STF-TOTES-A	E420	29-Jun-2022					08-Jul-2022	180	9 days	<b>√</b>
31F-101E3-A	L420	29-Juli-2022					00-341-2022	days	3 uays	•
T CLM C I T C I M C I L N C I L CDC I CDM								uays		
Total Metals : Total Metals in Water by CRC ICPMS  HDPE total (nitric acid)							I	I		
STF-TOTES-B	E420	29-Jun-2022					08-Jul-2022	180	9 days	✓
611 161 <u>2</u> 6 <u>B</u>							00 04: 2022	days	0 44,0	
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS								,		
Glass vial (sodium bisulfate)										
STF-TOTES-A	E611A	29-Jun-2022	13-Jul-2022				13-Jul-2022	14 days	13 days	✓
									-	
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
STF-TOTES-B	E611A	29-Jun-2022	13-Jul-2022				13-Jul-2022	14 days	13 days	✓
						I	1			

#### Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

Page : 5 of 7
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : --



# **Quality Control Parameter Frequency Compliance**

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification								
Quality Control Sample Type			unt		Frequency (%)			
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)								
BTEX by Headspace GC-MS	E611A	559795	1	10	10.0	5.0	✓	
Phenols (4AAP) in Water by Colorimetry	E562	564780	1	20	5.0	5.0	✓	
Total Metals in Water by CRC ICPMS	E420	552554	1	20	5.0	5.0	✓	
VH and F1 by Headspace GC-FID	E581.VH+F1	559794	1	8	12.5	5.0	✓	
Laboratory Control Samples (LCS)								
BTEX by Headspace GC-MS	E611A	559795	1	10	10.0	5.0	✓	
CCME PHCs - F2-F4 by GC-FID	E601	556341	1	3	33.3	5.0	✓	
PAHs by Hexane LVI GC-MS	E641A	556340	1	8	12.5	5.0	✓	
PCB Aroclors by GC-ECD	E685	562429	1	13	7.6	5.0	✓	
Phenols (4AAP) in Water by Colorimetry	E562	564780	1	20	5.0	5.0	✓	
Total Metals in Water by CRC ICPMS	E420	552554	1	20	5.0	5.0	✓	
VH and F1 by Headspace GC-FID	E581.VH+F1	559794	1	8	12.5	5.0	✓	
Method Blanks (MB)								
BTEX by Headspace GC-MS	E611A	559795	1	10	10.0	5.0	✓	
CCME PHCs - F2-F4 by GC-FID	E601	556341	1	3	33.3	5.0	✓	
PAHs by Hexane LVI GC-MS	E641A	556340	1	8	12.5	5.0	✓	
PCB Aroclors by GC-ECD	E685	562429	1	13	7.6	5.0	✓	
Phenols (4AAP) in Water by Colorimetry	E562	564780	1	20	5.0	5.0	✓	
Total Metals in Water by CRC ICPMS	E420	552554	1	20	5.0	5.0	✓	
VH and F1 by Headspace GC-FID	E581.VH+F1	559794	1	8	12.5	5.0	✓	
Matrix Spikes (MS)								
BTEX by Headspace GC-MS	E611A	559795	1	10	10.0	5.0	✓	
Phenols (4AAP) in Water by Colorimetry	E562	564780	1	20	5.0	5.0	✓	
Total Metals in Water by CRC ICPMS	E420	552554	1	20	5.0	5.0	✓	
VH and F1 by Headspace GC-FID	E581.VH+F1	559794	1	8	12.5	5.0	✓	

Page : 6 of 7
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : --



# **Methodology References and Summaries**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Water by CRC ICPMS	E420	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.
	Vancouver -		, ,	
	Environmental			Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Phenols (4AAP) in Water by Colorimetry	E562	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide (K3Fe(CN)6) and 4-amino-antipyrine (4-AAP) to
	Edmonton -			form a red complex which is measured colorimetrically.
	Environmental			
VH and F1 by Headspace GC-FID	E581.VH+F1	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace
	Vancouver -		1 (mod)	autosampler, causing VOCs to partition between the aqueous phase and the
	Environmental			headspace in accordance with Henry's law.
CCME PHCs - F2-F4 by GC-FID	E601	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4).
	Vancouver -			
	Environmental			
BTEX by Headspace GC-MS	E611A	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the
	Vancouver -			headspace autosampler, causing VOCs to partition between the aqueous phase and
	Environmental			the headspace in accordance with Henry's law.
PAHs by Hexane LVI GC-MS	E641A	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
	Vancouver -			
	Environmental			
PCB Aroclors by GC-ECD	E685	Water	EPA 8082A (mod)	PCB Aroclors are analyzed by GC-ECD
	Vancouver -			
	Environmental			
F1-BTEX	EC580	Water	CCME PHC in Soil - Tier	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
	Vancouver -			
	Environmental			
VPH: VH-BTEX-Styrene	EC580A	Water	BC MOE Lab Manual	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile
			(VPH in Water and	Hydrocarbons (VH6-10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and
	Vancouver -		Solids) (mod)	styrene.
	Environmental			
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

 Page
 : 7 of 7

 Work Order
 : YL2200797

Client : KBL Environmental Ltd.

Project : --



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs Preparation for Headspace Analysis	EP581	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the
				headspace autosampler. An aliquot of the headspace is then injected into the
	Vancouver -			GC/MS-FID system.
	Environmental			
PHCs and PAHs Hexane Extraction	EP601	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are
				extracted using a hexane liquid-liquid extraction.
	Vancouver -			
	Environmental			
PCB Aroclors Extraction	EP685	Water	EPA 3510C (mod)	PCBs are extracted using an organic solvent liquid-liquid extraction. The hexane extract
				undergoes one or more of the following clean-up procedures (if required): florisil
	Vancouver -			clean-up, silica gel clean-up, sulphur clean-up and/or sulphuric acid clean-up.
	Environmental			



# **QUALITY CONTROL REPORT**

Work Order :YL2200797

Client : KBL Environmental Ltd.

Contact : Nicole Prince

Address : 17 Cameron Road PO Box 1895

Yellowknife NT Canada X1A 2P4

Telephone : 780-554-7259

Project :----

PO :4200ISTF C-O-C number :17-823726

Sampler : ---Site : ----

Quote number : YL22-KBLE100-003

No. of samples received : 2
No. of samples analysed : 2

Page : 1 of 9

Laboratory : Yellowknife - Environmental

Account Manager : Oliver Gregg

Address : 314 Old Airport Road, Unit 116

Yellowknife, Northwest Territories Canada X1A 3T3

Telephone : 1 867 446 5593

Date Samples Received : 04-Jul-2022 09:38

Date Analysis Commenced : 07-Jul-2022

Laboratory Department

Issue Date : 21-Jul-2022 16:12

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives

**Position** 

- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

#### Signatories

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Janice Leung
Supervisor - Organics Instrumentation
Vancouver Organics, Burnaby, British Columbia
Kevin Duarte
Supervisor - Metals ICP Instrumentation
Vancouver Metals, Burnaby, British Columbia
Vancouver Metals, Burnaby, British Columbia
Ping Yeung
Team Leader - Inorganics
Edmonton Inorganics, Edmonton, Alberta

Page : 2 of 9
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : --



#### **General Comments**

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key:

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

# = Indicates a QC result that did not meet the ALS DQO.

#### **Workorder Comments**

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Page : 3 of 9
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : --



# Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water							Labora	tory Duplicate (D	UP) Report		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC L	ot: 552554)										
CG2208562-009	Anonymous	antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		arsenic, total	7440-38-2	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		barium, total	7440-39-3	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.020 µg/L	<0.000020	0	Diff <2x LOR	
		boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	
		iron, total	7439-89-6	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	
		manganese, total	7439-96-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		selenium, total	7782-49-2	E420	0.000050	mg/L	<0.050 µg/L	<0.000050	0	Diff <2x LOR	
		uranium, total	7440-61-1	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	
		zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	
Aggregate Organic	s (QC Lot: 564780)										
VA22B4476-007	Anonymous	phenols, total (4AAP)		E562	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	
Volatile Organic Co	mpounds (QC Lot: 55	9795)									
KS2202375-008	Anonymous	benzene	71-43-2	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		ethylbenzene	100-41-4	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		styrene	100-42-5	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		toluene	108-88-3	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		xylene, m+p-	179601-23-1	E611A	0.40	μg/L	<0.40	<0.40	0	Diff <2x LOR	
		xylene, o-	95-47-6	E611A	0.30	μg/L	<0.30	<0.30	0	Diff <2x LOR	
Hydrocarbons (QC	Lot: 559794)										
KS2202375-008	Anonymous	F1 (C6-C10)		E581.VH+F1	100	μg/L	<100	<100	0.0%	30%	
		VHw (C6-C10)		E581.VH+F1	100	μg/L	<100	<100	0.0%	30%	

Page : 4 of 9
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---

# ALS

# Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 552554)					
antimony, total	7440-36-0 E420	0.0001	mg/L	<0.00010	
arsenic, total	7440-38-2 E420	0.0001	mg/L	<0.00010	
barium, total	7440-39-3 E420	0.0001	mg/L	<0.00010	
beryllium, total	7440-41-7 E420	0.00002	mg/L	<0.000020	
boron, total	7440-42-8 E420	0.01	mg/L	<0.010	
iron, total	7439-89-6 E420	0.01	mg/L	<0.010	
manganese, total	7439-96-5 E420	0.0001	mg/L	<0.00010	
selenium, total	7782-49-2 E420	0.00005	mg/L	<0.000050	
uranium, total	7440-61-1 E420	0.00001	mg/L	<0.000010	
zinc, total	7440-66-6 E420	0.003	mg/L	<0.0030	
Aggregate Organics (QCLot: 56478	30)				ı
phenols, total (4AAP)	E562	0.001	mg/L	<0.0010	
Volatile Organic Compounds (QCL	.ot: 559795)				
benzene	71-43-2 E611A	0.5	μg/L	<0.50	
ethylbenzene	100-41-4 E611A	0.5	μg/L	<0.50	
methyl-tert-butyl ether [MTBE]	1634-04-4 E611A	0.5	μg/L	<0.50	
styrene	100-42-5 E611A	0.5	μg/L	<0.50	
toluene	108-88-3 E611A	0.5	μg/L	<0.50	
xylene, m+p-	179601-23-1 E611A	0.4	μg/L	<0.40	
xylene, o-	95-47-6 E611A	0.3	μg/L	<0.30	
Hydrocarbons (QCLot: 556341)					
F2 (C10-C16)	E601	100	μg/L	<100	
Hydrocarbons (QCLot: 559794)					
F1 (C6-C10)	E581.VH+F1	100	μg/L	<100	
VHw (C6-C10)	E581.VH+F1	100	μg/L	<100	
Polycyclic Aromatic Hydrocarbons	(QCLot: 556340)				
acenaphthene	83-32-9 E641A	0.01	μg/L	<0.010	
acenaphthylene	208-96-8 E641A	0.01	μg/L	<0.010	
anthracene	120-12-7 E641A	0.01	μg/L	<0.010	
benz(a)anthracene	56-55-3 E641A	0.01	μg/L	<0.010	
benzo(a)pyrene	50-32-8 E641A	0.005	μg/L	<0.0050	
benzo(b+j)fluoranthene	n/a E641A	0.01	μg/L	<0.010	
benzo(g,h,i)perylene	191-24-2 E641A	0.01	μg/L	<0.010	

Page : 5 of 9
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---

#### Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons	(QCLot: 556340) - contin	ued				
benzo(k)fluoranthene	207-08-9	E641A	0.01	μg/L	<0.010	
chrysene	218-01-9	E641A	0.01	μg/L	<0.010	
dibenz(a,h)anthracene	53-70-3	E641A	0.005	μg/L	<0.0050	
fluoranthene	206-44-0	E641A	0.01	μg/L	<0.010	
fluorene	86-73-7	E641A	0.01	μg/L	<0.010	
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	μg/L	<0.010	
naphthalene	91-20-3	E641A	0.05	μg/L	<0.050	
phenanthrene	85-01-8	E641A	0.02	μg/L	<0.020	
pyrene	129-00-0	E641A	0.01	μg/L	<0.010	
phenanthrene	85-01-8	E641A	0.02	μg/L	<0.020	



Page : 6 of 9
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---



# Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water						Laboratory Con	trol Sample (LCS)	Report	
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 552554)									
antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	108	80.0	120	
arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	106	80.0	120	
barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	
beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	112	80.0	120	
boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	104	80.0	120	
iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	113	80.0	120	
manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	107	80.0	120	
selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	106	80.0	120	
uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	108	80.0	120	
zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	106	80.0	120	
Aggregate Organics (QCLot: 564780)									
phenols, total (4AAP)		E562	0.001	mg/L	0.02 mg/L	94.6	85.0	115	
Volatile Organic Compounds (QCLot:	559795)								
benzene	71-43-2	E611A	0.5	μg/L	100 μg/L	93.9	70.0	130	
ethylbenzene	100-41-4	E611A	0.5	μg/L	100 μg/L	90.6	70.0	130	
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	μg/L	100 μg/L	98.9	70.0	130	
styrene	100-42-5	E611A	0.5	μg/L	100 μg/L	96.1	70.0	130	
toluene	108-88-3	E611A	0.5	μg/L	100 μg/L	98.2	70.0	130	
xylene, m+p-	179601-23-1	E611A	0.4	μg/L	200 μg/L	97.3	70.0	130	
xylene, o-	95-47-6	E611A	0.3	μg/L	100 μg/L	93.4	70.0	130	
Hydrocarbons (QCLot: 556341)									
F2 (C10-C16)		E601	100	μg/L	3538 μg/L	106	70.0	130	
Hydrocarbons (QCLot: 559794)									
F1 (C6-C10)		E581.VH+F1	100	μg/L	6310 μg/L	105	70.0	130	
VHw (C6-C10)		E581.VH+F1	100	μg/L	6310 µg/L	105	70.0	130	
Polycyclic Aromatic Hydrocarbons (C	CLot: 556340)								
acenaphthene	83-32-9	E641A	0.01	μg/L	0.5 μg/L	94.9	60.0	130	
acenaphthylene	208-96-8	E641A	0.01	μg/L	0.5 μg/L	94.7	60.0	130	
anthracene	120-12-7	E641A	0.01	μg/L	0.5 μg/L	112	60.0	130	
benz(a)anthracene	56-55-3	E641A	0.01	μg/L	0.5 μg/L	116	60.0	130	

Page : 7 of 9
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : ---



Sub-Matrix: Water						Laboratory Co	ntrol Sample (LCS)	Report	
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QC	Lot: 556340) - continue	d							
benzo(a)pyrene	50-32-8	E641A	0.005	μg/L	0.5 μg/L	104	60.0	130	
benzo(b+j)fluoranthene	n/a	E641A	0.01	μg/L	0.5 μg/L	104	60.0	130	
benzo(g,h,i)perylene	191-24-2	E641A	0.01	μg/L	0.5 μg/L	114	60.0	130	
benzo(k)fluoranthene	207-08-9	E641A	0.01	μg/L	0.5 μg/L	110	60.0	130	
chrysene	218-01-9	E641A	0.01	μg/L	0.5 μg/L	117	60.0	130	
dibenz(a,h)anthracene	53-70-3	E641A	0.005	μg/L	0.5 μg/L	111	60.0	130	
fluoranthene	206-44-0	E641A	0.01	μg/L	0.5 μg/L	110	60.0	130	
fluorene	86-73-7	E641A	0.01	μg/L	0.5 μg/L	107	60.0	130	
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	μg/L	0.5 μg/L	115	60.0	130	
naphthalene	91-20-3	E641A	0.05	μg/L	0.5 μg/L	84.4	50.0	130	
phenanthrene	85-01-8	E641A	0.02	μg/L	0.5 μg/L	112	60.0	130	
pyrene	129-00-0	E641A	0.01	μg/L	0.5 μg/L	112	60.0	130	

Page : 8 of 9
Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : --



# Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water							Matrix Spike	e (MS) Report		
					Spi	ke	Recovery (%)	Recovery	Limits (%)	
aboratory sample	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
otal Metals (QC	CLot: 552554)									
CG2208562-010	Anonymous	antimony, total	7440-36-0	E420	0.0200 mg/L	0.02 mg/L	100.0	70.0	130	
		arsenic, total	7440-38-2	E420	0.0192 mg/L	0.02 mg/L	96.2	70.0	130	
		barium, total	7440-39-3	E420	0.0192 mg/L	0.02 mg/L	95.8	70.0	130	
		beryllium, total	7440-41-7	E420	0.0416 mg/L	0.04 mg/L	104	70.0	130	
		boron, total	7440-42-8	E420	0.102 mg/L	0.1 mg/L	102	70.0	130	
		iron, total	7439-89-6	E420	1.98 mg/L	2 mg/L	99.0	70.0	130	
		manganese, total	7439-96-5	E420	0.0199 mg/L	0.02 mg/L	99.4	70.0	130	
		selenium, total	7782-49-2	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	
		uranium, total	7440-61-1	E420	0.00398 mg/L	0.004 mg/L	99.6	70.0	130	
		zinc, total	7440-66-6	E420	0.406 mg/L	0.4 mg/L	101	70.0	130	
ggregate Orgai	nics (QCLot: 564780	)								
VA22B4476-007	Anonymous	phenols, total (4AAP)		E562	0.0191 mg/L	0.02 mg/L	95.7	75.0	125	
olatile Organic	Compounds (QCLot	t: 559795)								
KS2202375-008	Anonymous	benzene	71-43-2	E611A	95.7 μg/L	100 μg/L	95.7	60.0	140	
		ethylbenzene	100-41-4	E611A	87.5 μg/L	100 μg/L	87.5	60.0	140	
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	96.4 µg/L	100 μg/L	96.4	60.0	140	
		styrene	100-42-5	E611A	89.9 µg/L	100 μg/L	89.9	60.0	140	
		toluene	108-88-3	E611A	98.2 μg/L	100 μg/L	98.2	60.0	140	
		xylene, m+p-	179601-23-1	E611A	188 μg/L	200 μg/L	94.1	60.0	140	
		xylene, o-	95-47-6	E611A	89.6 µg/L	100 μg/L	89.6	60.0	140	
ydrocarbons (	QCLot: 559794)									
KS2202375-011	Anonymous	F1 (C6-C10)		E581.VH+F1	4560 μg/L	6310 µg/L	72.3	60.0	140	
		VHw (C6-C10)		E581.VH+F1	4160 µg/L	6310 µg/L	65.9	60.0	140	

Page : 9 of 9 Work Order : YL2200797

Client : KBL Environmental Ltd.

Project : --





# Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 - 823726

Are samples for human consumption/ use? Are samples taken from a Regulated DW System' ALS Account # / Quote #: (lab use only) PO / AFE: Report To nvoice To Phone: City/Province contact: ompany JUNAS ontact: ompany ostal Code: ALS Lab Work Order # (lab use only): Drinking Water (DW) Samples' (client use) YES NO YES KINVS 1200 ISTE Same as Report To BOX 1895 17 copy of Invoice with Report Yellow haife KBL Company address below will appear on the final report SKTIGE KAUS 2566-662-506 Katie olive イモし TF-NO SHIPMENT RELEASE (client use) Contact and company name below will appear on the final report Environmental Environmenta Totos-A Totes-8 Project Information Sample Identification and/or Coordinates (This description will appear on the report) Jul 39, 2022 COMPTON YES TÉS V ROOM NO Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only) 85.20 00.30 AFE/Cost Center ALS Contact Requisitioner Select Invoice Distribution: Email 1 or Fax Kolive/ PRBLenvicon Quality Control (QC) Report with Report Select Report Format: lajor/Minor Code mail 1 or Fax elect Distribution: 200 Compare Results to Criteria on Report - provide details below if box checked SKIMUSOHBLENV.com Oil and Gas Required Fields (client use) 29-06-22 15:51 29-06-22 15:42 INITIAL SHIPMENT RECEPTION (lab use only) Report Format / Distribution (dd-mmm-yy) Date EMAIL Invoice Distribution N POF V 5 EMAIL | | MAIL | FAX Routing Code JULY 4/2022 Sampler. EXCEL | | EDO (DIGITAL Time ON SEA I MAIL Water FAX Later Sample Type 38.6 ce Packs MUMBER OF CONTAINERS rozen or tests that can not be performed according to the service level selected, you will be contacted. cooling Initiated -KBLE100-003 3 day [P3-25%] Date and Time Required for all E&P TATs: 4 day [P4-20%] 2 day [P2-50%] Regular [R] Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply) Received by Ice Cubes Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below SAMPLE CONDITION AS RECEIVED (lab use only) **Environmental Division** Standard TAT if received by 3 pm - business days - no surcharges apply Yellowknife Telephone: +1 867 873 5593 Work Order Reference YL2200797 Custody seal intact FINAL SHIPMENT RECEPTION (lab use only) (Laboratory opening fees may apply) Same Day, Weekend or Statutory holiday [E2 -200% 1 Business day [E - 100%] Analysis Request Yes dd-mmm-yy hh:mm No No SAMPLES ON HOLD SUSPECTED HAZARD (see Special Instructions)

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COP

### ALS Environmental Canadian Locations (Toll Free 1-800-668-9878) EMERGENCY SPILL RESPONSE: +1 855 838 LABS (5227)



Ph: 250-635-3309

Ph: 250-615-7089

#### British Columbia / Yukon

Vancouver, BC 8081 Lougheed Hwy Burnaby, BC V5A 1W9 After Hours / Emergency

Kamloops, BC 1445 McGill Rd. Unit 2B

Kamloops, BC V2C 6K7 After Hours / Emergency Ph: 604-253-4188 Fax: 604-253-6700 Ph: 604-220-4188

Ph: 250-372-3588 Fax: 250-372-3670 Ph: 250-572-1458

Ph: 780-413-5227

Fax: 780-437-2311

Ph: 780-913-2299

Ph: 780-791-1524

Fax: 780-791-1586

Ph: 780-714-8482

Fort St. John, BC 8212 100 Avenue Fort St. John, BC V1J 1W6 After Hours / Emergency

Victoria, BC #104-1027 Pandora Avenue Victoria, BC

V8V 3P6 After Hours / Emergency Ph: 250-261-5517 Fax: 250-261-5587 Ph: 250-261-4947

Ph: 250-413-3243 Ph: 250-415-9556

Ph: 780-539-5196

Fax: 403-291-0298

Ph: 780-651-1471

Ph: 867-873-5593

Fax: 867-920-4238

Ph: 867-446-5593

Terrace, BC 2912 Molitor Street Terrace, BC V8G 3A4 After Hours / Emergency

Whitehorse, YT 12 - 151 Industrial Road Whitehorse, YT Y1A 2V3 After Hours / Emergency

Ph: 867-668-6689 Ph: 867-335-5416

#### Prairies / NWT

Edmonton, AB 9450-17 Ave NW Edmonton, Alberta **T6N 1M9** After Hours / Emergency

Fort McMurray, AB Bay 1, 245 MacDonald Crescent Fort McMurray, AB T9H 4B5 After Hours / Emergency

Winnipeg, MB 1329 Niakwa Road East, Unit 12 Winnipeg, MB R2J 3T4

After Hours / Emergency

Ph: 204-255-9720 Fax: 204-255-9721 Ph: 204-784-6677

Calgary, AB 2559-29th Street NE Calgary, AB T1Y 785 After Hours / Emergency

Grande Prairie, AB 9505-111th Street Grande Prairie, AB T8V 5W1 After Hours / Emergency

Yellowknife, NT 116 - 314 Old Airport Road Yellowknife, NT X1A 3T3 After Hours / Emergency

Saskatoon, SK 819 - 58 Street East Ph: 403-407-1800 Saskatoon, SK Fax: 403-407-1761 S7K 6X5 Ph: 403-651-1471 After Hours / Emergency

Regina, SK 1119 Osler Street Regina, SK S4R 8R4 After Hours / Emergency

Ph: 306-525-0970 Ph: 306-216-2480

Ph: 306-668-8370

Fax: 306-668-8383

Ph: 306-715-1269

#### Ontario

Thunder Bay, ON 1081 Barton Street

Thunder Bay, ON P7B 5N3 After Hours / Emergency

Waterloo, ON 60 Northland Road, Unit 1 Waterloo, ON N2V 2B8 After Hours / Emergency

Richmond Hill, ON 95 West Beaver Creek Road, Unit 1 Richmond Hill, ON L4B 1H2 After Hours / Emergency

Ph: 905-881-9887 Fax: 905-881-8062 Ph: 416-817-2944

Ph: 807-623-6463

Fax: 807-623-7598

Ph: 807-624-4482

Ph: 519-886-6910

Fax: 519-886-9047

Ph: 519-589-0044

Burlington, ON 1435 Norjohn Court, Unit 1 Burlington, ON Ph: 905-331-3111 L7L 0E6 Fax: 905-331-4567

London, ON 309 Exeter Road, Unit #29 London, ON N6L 1C1

Ph: 519-652-6044 Fax: 519-652-0671 After Hours / Emergency Ph: 519-719-4201

Mississauga, ON 5730 Coopers Avenue, Unit 30 Mississauga, ON L4Z 2E9 After Hours / Emergency

Ottawa, ON 190 Colonnade Road, Unit 7 Nepean, ON K2E 7J5 After Hours / Emergency

Fax: 905-507-6927 Ph: 416-817-2944

Ph: 613-225-8279

Fax: 613-225-2801

Ph: 613-513-4731

Ph: 905-507-6910



# **CERTIFICATE OF ANALYSIS**

Work Order : YL2201736

Client : KBL Environmental Ltd.

Contact : Katie Oliver

Address : 17 Cameron Road PO Box 1895

Yellowknife NT Canada X1A 2P4

Telephone : 780 893 3305 Project : 22-107NT

PO · \_\_\_\_

C-O-C number : --Sampler : --Site : ---

Quote number : YL22-KBLE100-001

No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 4

Laboratory : Yellowknife - Environmental

Account Manager : Oliver Gregg

Address : 314 Old Airport Road, Unit 116

Yellowknife NT Canada X1A 3T3

Telephone : 1 867 446 5593

Date Samples Received : 03-Oct-2022 11:30

Date Analysis Commenced : 06-Oct-2022

Issue Date : 11-Oct-2022 09:58

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

#### **Signatories**

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories Position Laboratory Department

Janice Leung Supervisor - Organics Instrumentation Organics, Burnaby, British Columbia

Page : 2 of 4

Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT



#### **General Comments**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	Description
μg/L	micrograms per litre

<: less than.

>: greater than.

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

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

#### **Qualifiers**

Qualifier	Description
DLCI	Detection Limit Raised: Chromatographic interference due to co-elution.

Page : 3 of 4 Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT



# Analytical Results

Sub-Matrix: Water			C	lient sample ID	22-107-01	 		
(Matrix: Water)								
			Client samp	oling date / time	29-Sep-2022 18:00	 		
Analyte	CAS Number	Method	LOR	Unit	YL2201736-001	 		
					Result	 		
Volatile Organic Compounds [Fuels]								
benzene	71-43-2	E611A	0.50	μg/L	<0.50	 		
ethylbenzene	100-41-4	E611A	0.50	μg/L	<0.50	 		
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	μg/L	<0.50	 		
styrene	100-42-5	E611A	0.50	μg/L	<0.50	 		
toluene	108-88-3	E611A	0.50	μg/L	<0.50	 		
xylene, m+p-	179601-23-1	E611A	0.40	μg/L	<0.40	 		
xylene, o-	95-47-6	E611A	0.30	μg/L	<0.30	 		
xylenes, total	1330-20-7	E611A	0.50	μg/L	<0.50	 		
Hydrocarbons								
F1 (C6-C10)		E581.VH+F1	100	μg/L	<100	 		
F2 (C10-C16)		E601	300	μg/L	360	 		
F3 (C16-C34)		E601	300	μg/L	640	 		
F4 (C34-C50)		E601	300	μg/L	<300	 		
VHw (C6-C10)		E581.VH+F1	100	μg/L	<100	 		
F1-BTEX		EC580	100	μg/L	<100	 		
VPHw		EC580A	100	μg/L	<100	 		
Hydrocarbons Surrogates								
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601	1.0	%	97.3	 		
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	81.8	 		
Volatile Organic Compounds Surrogates								
bromofluorobenzene, 4-	460-00-4	E611A	1.0	%	80.3	 		
difluorobenzene, 1,4-	540-36-3	E611A	1.0	%	100	 		
Polycyclic Aromatic Hydrocarbons								
acenaphthene	83-32-9	E641A	0.010	μg/L	<0.013 DLCI	 		
acenaphthylene	208-96-8	E641A	0.010	μg/L	<0.010	 		
acridine	260-94-6	E641A	0.010	μg/L	<0.102 DLCI	 		
anthracene	120-12-7	E641A	0.010	μg/L	<0.014 DLCI	 		
benz(a)anthracene	56-55-3	E641A	0.010	μg/L	<0.010	 		
benzo(a)pyrene	50-32-8	E641A	0.0050	μg/L	<0.0050	 		
benzo(b+j)fluoranthene	n/a	E641A	0.010	μg/L	<0.010	 		
I control of the cont			1	1 1			1	1

Page : 4 of 4
Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT

# ALS

# Analytical Results

Sub-Matrix: Water			CI	ient sample ID	22-107-01	 	 
(Matrix: Water)							
			Client samp	ling date / time	29-Sep-2022 18:00	 	 
Analyte	CAS Number	Method	LOR	Unit	YL2201736-001	 	 
					Result	 	 
Polycyclic Aromatic Hydrocarbons							
benzo(b+j+k)fluoranthene	n/a	E641A	0.015	μg/L	<0.015	 	 
benzo(g,h,i)perylene	191-24-2	E641A	0.010	μg/L	<0.010	 	 
benzo(k)fluoranthene	207-08-9	E641A	0.010	μg/L	<0.010	 	 
chrysene	218-01-9	E641A	0.010	μg/L	<0.010	 	 
dibenz(a,h)anthracene	53-70-3	E641A	0.0050	μg/L	<0.0050	 	 
fluoranthene	206-44-0	E641A	0.010	μg/L	0.018	 	 
fluorene	86-73-7	E641A	0.010	μg/L	0.058	 	 
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.010	μg/L	<0.010	 	 
methylnaphthalene, 1-	90-12-0	E641A	0.010	μg/L	0.046	 	 
methylnaphthalene, 1+2-		E641A	0.015	μg/L	0.070	 	 
methylnaphthalene, 2-	91-57-6	E641A	0.010	μg/L	0.024	 	 
naphthalene	91-20-3	E641A	0.050	μg/L	<0.050	 	 
phenanthrene	85-01-8	E641A	0.020	μg/L	0.036	 	 
pyrene	129-00-0	E641A	0.010	μg/L	0.053	 	 
quinoline	91-22-5	E641A	0.050	μg/L	<0.050	 	 
B(a)P total potency equivalents [B(a)P TPE]		E641A	0.010	μg/L	<0.010	 	 
PAHs, high molecular weight (BC AWQ)	n/a	E641A	0.030	μg/L	0.071	 	 
PAHs, low molecular weight (BC AWQ)	n/a	E641A	0.060	μg/L	0.094	 	 
PAHs, total (CCME Sewer 18)	n/a	E641A	0.070	μg/L	0.235	 	 
PAHs, total (EPA 16)	n/a	E641A	0.065	μg/L	0.165	 	 
Polycyclic Aromatic Hydrocarbons Surrogates							
chrysene-d12	1719-03-5	E641A	0.1	%	107	 	 
naphthalene-d8	1146-65-2	E641A	0.1	%	91.4	 	 
phenanthrene-d10	1517-22-2	E641A	0.1	%	103	 	 

Please refer to the General Comments section for an explanation of any qualifiers detected.



# **QUALITY CONTROL INTERPRETIVE REPORT**

Work Order : YL2201736

Client : KBL Environmental Ltd. Laboratory : Yellowknife - Environmental

Contact : Katie Oliver : Contact : Katie Oliver : Oliver Gregg

Address : 17 Cameron Road PO Box 1895 Address : 314 Old Airport Road, Unit 116

Yellowknife NT Canada X1A 2P4

Yellowknife. Northwest Territories Canada X1A 3T3

Page

: 1 of 5

 Telephone
 : 780 893 3305
 Telephone
 : 1 867 446 5593

 Project
 : 22-107NT
 Date Samples Received
 : 03-Oct-2022 11:30

PO : --- Issue Date : 11-Oct-2022 09:58

C-O-C number : ---Sampler : ---Site : ----

Quote number : YL22-KBLE100-001

No. of samples received : 1
No. of samples analysed : 1

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

#### Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

**DQO: Data Quality Objective.** 

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

#### **Workorder Comments**

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

# **Summary of Outliers**

### **Outliers: Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

#### Outliers: Reference Material (RM) Samples

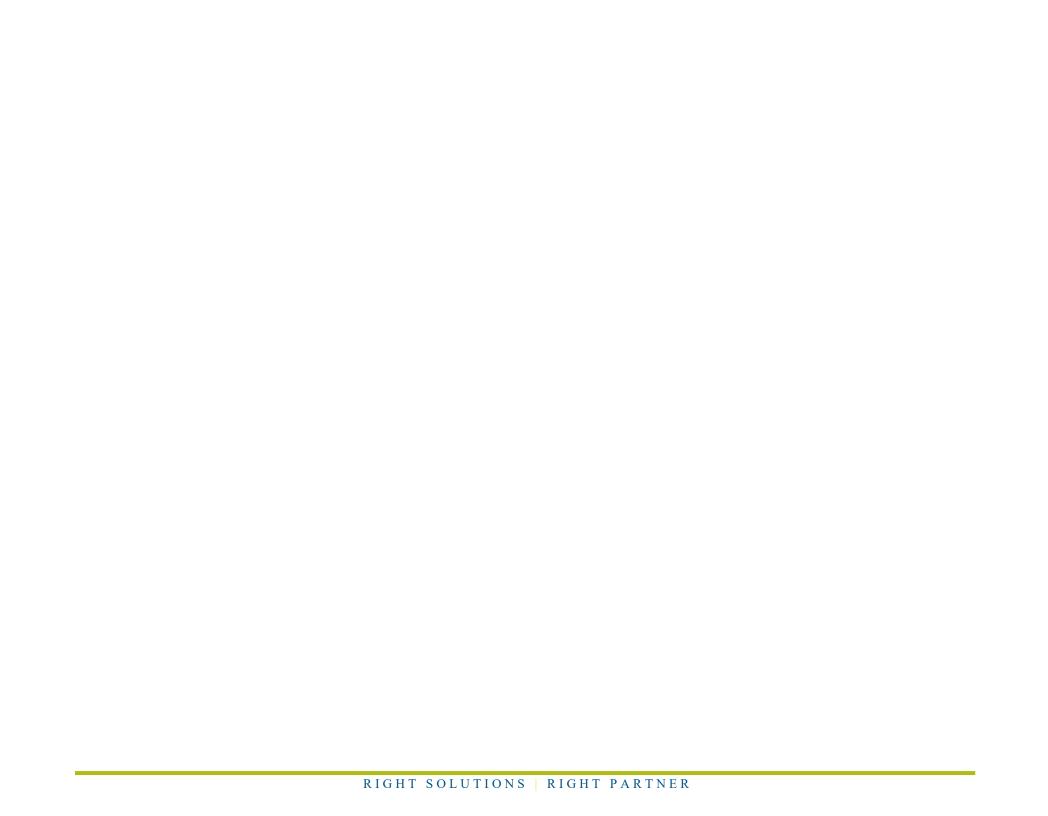
• No Reference Material (RM) Sample outliers occur.

### **Outliers : Analysis Holding Time Compliance (Breaches)**

• No Analysis Holding Time Outliers exist.

# **Outliers: Frequency of Quality Control Samples**

• No Quality Control Sample Frequency Outliers occur.



Page : 3 of 5 Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT



# **Analysis Holding Time Compliance**

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Water Evaluation: ▼ = Holding time exceedance; ✓ = Within Holding Time

iviatrix. vvater					L\	raiuation. * -	Holding time exce	euance,	— vviti iii i	Holding Till
Analyte Group	Method	Sampling Date	Ext	traction / Pr	eparation			Analys	sis	
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
22-107-01	E601	29-Sep-2022	06-Oct-2022	14	7 days	✓	07-Oct-2022	40 days	1 days	$\checkmark$
				days						
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
22-107-01	E581.VH+F1	29-Sep-2022	07-Oct-2022				08-Oct-2022	14 days	8 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
22-107-01	E641A	29-Sep-2022	06-Oct-2022	14	7 days	✓	07-Oct-2022	40 days	0 days	✓
				days						
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
22-107-01	E611A	29-Sep-2022	07-Oct-2022				08-Oct-2022	14 days	8 days	✓

#### **Legend & Qualifier Definitions**

Rec. HT: ALS recommended hold time (see units).

Page : 4 of 5
Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT



# **Quality Control Parameter Frequency Compliance**

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Water		Evaluation	n: 🖊 = QC freque	ency outside spe	ecification; ✓ = 0	QC frequency wit	hin specificatior
Quality Control Sample Type			Co	ount		Frequency (%)	
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	686863	1	17	5.8	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	686864	1	14	7.1	5.0	✓
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	686863	1	17	5.8	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	684445	1	2	50.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	684443	1	9	11.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	686864	1	14	7.1	5.0	✓
Method Blanks (MB)							
BTEX by Headspace GC-MS	E611A	686863	1	17	5.8	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	684445	1	2	50.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	684443	1	9	11.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	686864	1	14	7.1	5.0	✓
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	686863	1	17	5.8	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	686864	1	14	7.1	5.0	✓

Page : 5 of 5
Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT



# **Methodology References and Summaries**

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VH and F1 by Headspace GC-FID	E581.VH+F1  Vancouver - Environmental	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
CCME PHCs - F2-F4 by GC-FID	E601  Vancouver - Environmental	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4).
BTEX by Headspace GC-MS	E611A  Vancouver - Environmental	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PAHs by Hexane LVI GC-MS	E641A Vancouver - Environmental	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
F1-BTEX	EC580  Vancouver - Environmental	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VPH: VH-BTEX-Styrene	EC580A Vancouver - Environmental	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH6-10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs Preparation for Headspace Analysis	EP581 Vancouver - Environmental	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into the GC/MS-FID system.
PHCs and PAHs Hexane Extraction	EP601 Vancouver - Environmental	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.



# **QUALITY CONTROL REPORT**

Work Order :YL2201736

Client : KBL Environmental Ltd.

Contact : Katie Oliver

Address : 17 Cameron Road PO Box 1895

Yellowknife NT Canada X1A 2P4

Telephone : 780 893 3305
Project : 22-107NT

PO :---C-O-C number :---Sampler :----

Site :----

Quote number : YL22-KBLE100-001

No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 7

Laboratory : Yellowknife - Environmental

Account Manager : Oliver Gregg

Address : 314 Old Airport Road, Unit 116

Yellowknife, Northwest Territories Canada X1A 3T3

Telephone :1 867 446 5593
Date Samples Received :03-Oct-2022 11:30

Date Analysis Commenced : 06-Oct-2022

Issue Date : 11-Oct-2022 09:58

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

#### Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories Position Laboratory Department

Janice Leung Supervisor - Organics Instrumentation Vancouver Organics, Burnaby, British Columbia

Page : 2 of 7
Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT



#### **General Comments**

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

#### Key:

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

# = Indicates a QC result that did not meet the ALS DQO.

#### Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

### Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Cor	mpounds (QC Lot: 6868)	63)									
VA22C3483-001	Anonymous	benzene	71-43-2	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		ethylbenzene	100-41-4	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		styrene	100-42-5	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		toluene	108-88-3	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		xylene, m+p-	179601-23-1	E611A	0.40	μg/L	<0.40	<0.40	0	Diff <2x LOR	
		xylene, o-	95-47-6	E611A	0.30	μg/L	<0.30	<0.30	0	Diff <2x LOR	
Hydrocarbons (QC	Lot: 686864)										
VA22C3718-001	Anonymous	F1 (C6-C10)		E581.VH+F1	100	μg/L	<100	<100	0.0%	30%	
		VHw (C6-C10)		E581.VH+F1	100	μg/L	<100	<100	0.0%	30%	

Page : 3 of 7
Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT



# Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot	: 686863)					
benzene	71-43-2	E611A	0.5	μg/L	<0.50	
ethylbenzene	100-41-4	E611A	0.5	μg/L	<0.50	
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	μg/L	<0.50	
styrene	100-42-5	E611A	0.5	μg/L	<0.50	
toluene	108-88-3	E611A	0.5	μg/L	<0.50	
xylene, m+p-	179601-23-1	E611A	0.4	μg/L	<0.40	
xylene, o-	95-47-6	E611A	0.3	μg/L	<0.30	
Hydrocarbons (QCLot: 684445)						
F2 (C10-C16)		E601	100	μg/L	<100	
F3 (C16-C34)		E601	250	μg/L	<250	
F4 (C34-C50)		E601	250	μg/L	<250	
Hydrocarbons (QCLot: 686864)						
F1 (C6-C10)		E581.VH+F1	100	μg/L	<100	
VHw (C6-C10)		E581.VH+F1	100	μg/L	<100	
Polycyclic Aromatic Hydrocarbons (6	QCLot: 684443)					
acenaphthene	83-32-9	E641A	0.01	μg/L	<0.010	
acenaphthylene	208-96-8	E641A	0.01	μg/L	<0.010	
acridine	260-94-6	E641A	0.01	μg/L	<0.010	
anthracene	120-12-7	E641A	0.01	μg/L	<0.010	
benz(a)anthracene	56-55-3	E641A	0.01	μg/L	<0.010	
benzo(a)pyrene	50-32-8	E641A	0.005	μg/L	<0.0050	
benzo(b+j)fluoranthene	n/a	E641A	0.01	μg/L	<0.010	
benzo(g,h,i)perylene	191-24-2	E641A	0.01	μg/L	<0.010	
benzo(k)fluoranthene	207-08-9	E641A	0.01	μg/L	<0.010	
chrysene	218-01-9	E641A	0.01	μg/L	<0.010	
dibenz(a,h)anthracene	53-70-3	E641A	0.005	μg/L	<0.0050	
fluoranthene	206-44-0	E641A	0.01	μg/L	<0.010	
fluorene	86-73-7	E641A	0.01	μg/L	<0.010	
indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	μg/L	<0.010	
methylnaphthalene, 1-	90-12-0	E641A	0.01	μg/L	<0.010	
methylnaphthalene, 2-	91-57-6	E641A	0.01	μg/L	<0.010	
naphthalene	91-20-3	E641A	0.05	μg/L	<0.050	
phenanthrene	85-01-8	E641A	0.02	μg/L	<0.020	

Page : 4 of 7
Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT

#### Sub-Matrix: Water

Analyte	CAS Number Method	LOR	Unit	Result	Qualifier		
Polycyclic Aromatic Hydrocarbons (QCLot: 684443) - continued							
pyrene	129-00-0 E641A	0.01	μg/L	<0.010			
quinoline	91-22-5 E641A	0.05	μg/L	<0.050			



Page : 5 of 7
Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT



# Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water					Laboratory Control Sample (LCS) Report					
				Spike	Recovery (%)	Recovery	Limits (%)			
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier	
Volatile Organic Compounds (QCLot	: 686863)									
benzene		E611A	0.5	μg/L	100 μg/L	98.3	70.0	130		
ethylbenzene	100-41-4	E611A	0.5	μg/L	100 μg/L	99.4	70.0	130		
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	μg/L	100 μg/L	100	70.0	130		
styrene	100-42-5	E611A	0.5	μg/L	100 μg/L	95.8	70.0	130		
toluene	108-88-3	E611A	0.5	μg/L	100 μg/L	104	70.0	130		
xylene, m+p-	179601-23-1	E611A	0.4	μg/L	200 μg/L	105	70.0	130		
xylene, o-	95-47-6	E611A	0.3	μg/L	100 μg/L	99.2	70.0	130		
Hydrocarbons (QCLot: 684445) F2 (C10-C16)		E601	100	ug/l	2520//	120	70.0	130		
· ' '				μg/L	3538 μg/L	120	70.0	130		
F3 (C16-C34)			250	μg/L	7053 μg/L	109				
F4 (C34-C50)		E601	250	μg/L	5051 μg/L	109	70.0	130		
Hydrocarbons (QCLot: 686864)										
F1 (C6-C10)		E581.VH+F1	100	μg/L	6310 µg/L	78.4	70.0	130		
VHw (C6-C10)	<del></del>	E581.VH+F1	100	μg/L	6310 μg/L	70.6	70.0	130		
Polycyclic Aromatic Hydrocarbons (C	OCL of: 684443)									
acenaphthene		E641A	0.01	μg/L	0.5 μg/L	90.9	60.0	130		
acenaphthylene	208-96-8	E641A	0.01	μg/L	0.5 μg/L	95.0	60.0	130		
acridine	260-94-6	E641A	0.01	μg/L	0.5 μg/L	105	60.0	130		
anthracene	120-12-7	E641A	0.01	μg/L	0.5 μg/L	104	60.0	130		
benz(a)anthracene	56-55-3	E641A	0.01	μg/L	0.5 μg/L	96.9	60.0	130		
benzo(a)pyrene	50-32-8	E641A	0.005	μg/L	0.5 μg/L	92.4	60.0	130		
benzo(b+j)fluoranthene		E641A	0.01	μg/L	0.5 μg/L	72.8	60.0	130		
benzo(g,h,i)perylene	191-24-2		0.01	μg/L	0.5 μg/L	101	60.0	130		
benzo(k)fluoranthene	207-08-9		0.01	μg/L	0.5 μg/L	80.9	60.0	130		
chrysene	218-01-9		0.01	μg/L	0.5 μg/L	102	60.0	130		
dibenz(a,h)anthracene		E641A	0.005	μg/L	0.5 μg/L	103	60.0	130		
fluoranthene	206-44-0		0.01	μg/L	0.5 μg/L	103	60.0	130		
fluorene	86-73-7		0.01	μg/L	0.5 μg/L	98.6	60.0	130		
indeno(1,2,3-c,d)pyrene	193-39-5		0.01	μg/L	0.5 μg/L	117	60.0	130		
methylnaphthalene, 1-		E641A	0.01	μg/L			60.0	130		
	90-12-0		0.01		0.5 μg/L	88.3	60.0	130		
methylnaphthalene, 2-				μg/L	0.5 μg/L	87.9				
naphthalene	91-20-3	E641A	0.05	μg/L	0.5 μg/L	84.2	50.0	130		

Page : 6 of 7
Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report					
					Spike	Recovery (%)	Recovery	Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier	
Polycyclic Aromatic Hydrocarbons	Polycyclic Aromatic Hydrocarbons (QCLot: 684443) - continued									
phenanthrene	85-01-8	E641A	0.02	μg/L	0.5 μg/L	105	60.0	130		
pyrene	129-00-0	E641A	0.01	μg/L	0.5 μg/L	104	60.0	130		
quinoline	91-22-5	E641A	0.05	μg/L	0.5 μg/L	113	60.0	130		

# Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Water			Matrix Spike (MS) Report							
			Spi	Spike		Recovery Limits (%)				
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic	Compounds (QCLot	t: 686863)								
VA22C3483-001	Anonymous	benzene	71-43-2	E611A	99.4 μg/L	100 μg/L	99.4	60.0	140	
		ethylbenzene	100-41-4	E611A	97.8 μg/L	100 μg/L	97.8	60.0	140	
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	103 μg/L	100 μg/L	103	60.0	140	
		styrene	100-42-5	E611A	99.8 μg/L	100 μg/L	99.8	60.0	140	
		toluene	108-88-3	E611A	100 μg/L	100 μg/L	100	60.0	140	
		xylene, m+p-	179601-23-1	E611A	201 μg/L	200 μg/L	101	60.0	140	
		xylene, o-	95-47-6	E611A	99.8 µg/L	100 μg/L	99.8	60.0	140	
Hydrocarbons (0	QCLot: 686864)									
VA22C3718-002	Anonymous	F1 (C6-C10)		E581.VH+F1	4310 μg/L	6310 μg/L	68.3	60.0	140	
		VHw (C6-C10)		E581.VH+F1	3890 µg/L	6310 µg/L	61.6	60.0	140	

Page : 7 of 7 Work Order : YL2201736

Client : KBL Environmental Ltd.

Project : 22-107NT

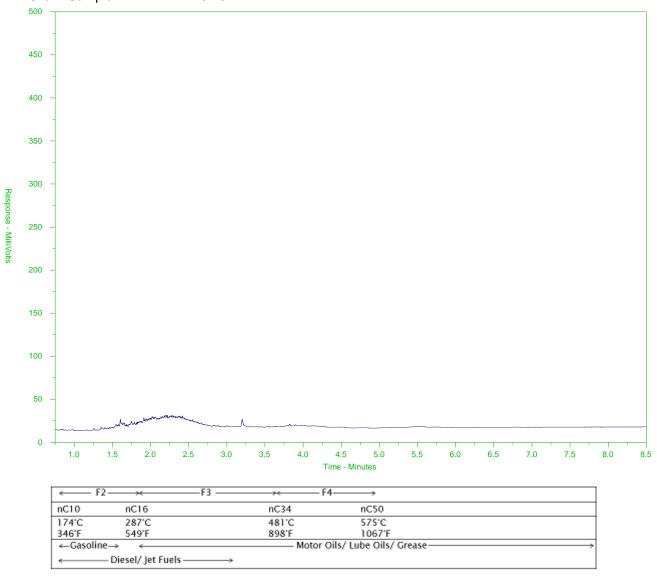


# CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: YL2201736-001-E601

Client Sample ID: 22-107-01



The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.



#### Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

coc Number: 17 - 824003

www.alsglobal.com Contact and company name below will appear on the final report Report To Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply) Report Format / Distribution KBL Environmental Company PDF X EXCEL X EDD (DIGITAL) Regular [R] Standard TAT if received by 3 pm - business days - no surcharges apply Munila Manques Contact: Quality Control (QC) Report with Report 4 day [P4-20%] 1 Business day [E - 100%] Phone: 867 446 2173 Compare Results to Criteria on Report - provide details below if box checked 3 day [P3-25%] Same Day, Weekend or Statutory holiday [E2 -200% Company address below will appear on the final report K EMAIL | MAIL | FAX (Laboratory opening fees may apply) ] Select Distribution: 2 day [P2-50%] 68 AVENUE Street: MMARQUESOKBLENV. CON Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm Email 1 or Fax City/Province: KOLIVER CKBLEW. COM or tests that can not be performed according to the service level selected, you will be contacted. Postal Code KRI OFFIDAT. NET Analysis Request Invoice To Same as Report To X YES NO Invoice Distribution Indicate Filtered (F). Preserved (P) or Filtered and Preserved (F/P) below ON HOLD CONTAINERS Copy of Invoice with Report X YES NO Select Invoice Distribution: MAIL FAX ACCOUNTING & KBLENV. LAM Company: Email 1 or Fax KOLIVERO KBLENV.LOM Contact: Project Information Oil and Gas Required Fields (client use) ALS Account # / Quote # AFE/Cost Center Job # 22-107NT Major/Minor Code Routing Code: AMPLES OF PO / AFE: Requisitioner SUSPECTED HAZARD TV JAH SD: Location NUMBER ALS Contact: Oliver Grag BTEX ALS Lab Work Order # (lab use only): 1220 1736 **Environmental Division** ALS Sample # Sample Identification and/or Coordinates Sample Type S Yellowknife (lab use only) (This description will appear on the report) (dd-mmm-vv) Work Order Reference 22-107-01 18:00 Water YI 2201736 Telephone: +1 867 873 5593 SAMPLE CONDITION AS RECEIVED (lab use only) Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below Drinking Water (DW) Samples' (client use) (electronic COC only) SIF Observations No rozen Are samples taken from a Regulated DW System? П ce Packs lce Cubes Custody seal intact YES NO Cooling Initiated Are samples for human consumption/ use? INITIAL COOLER TEMPERATURES °C FINAL COOLER TEMPERATURES °C 9.8 YES | NO SHIPMENT RELEASE (client use) NUMAL SHIPMENT RECEPTION (lab use only) FINAL SHIPMENT RECEPTION (lab use only) Released by: Time: Date: Received by: Time: MM KBI 03/10/22 REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION YELLOW - CLIENT COPY

# **APPENDIX C**

**Appendix C: SDS for Amendments** 





# SAFETY DATA SHEET

SDS # 190708-04

Ivey-sol<sup>®</sup> Surfactant Remediation Technology Ivey-sol<sup>®</sup> Formulations: 103, 106, 106 and 108

#### 1. Identification

Product identifier: Ivey-sol® 103, 106, 108

Other means of identification: Not applicable

Recommended use: Remediation surfactant

Restriction on use: Not applicable

Manufacturer/Supplier Address: Ivey International Inc.

Unit 7, 19122-27 Avenue, Surrey, BC

Canada V3Z5T1

Global Suppliers Locations: USA, Europe, S.E. Asia, South America

Emergency telephone number: Tel: +1 (604) 538-1168 (Not available 24 hours)

Toll Free: +1 800 246-2744

Emergency/Support Email: info@iveyinternational.com

# 2. Hazard Identification

WHMIS 2015/OSHA Hazcom 2012/GHS Classification:

• Skin Corrosion/Irritation Category 3

Label elements:

Signal word: Warning

Pictograms: Hazard statements:



H316 – May causes mild skin irritation.

H319 – may causes eye irritation.

**Precautionary Statements:** 

P264 - Wash contacted areas thoroughly after handling.

P280 - Wear eye protection.

P305/P351/P338 - If In Eyes: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do so.

Continue rinsing.

P332/P313 - If skin irritation occurs: Get medical advice/attention. P337/P313 - If eye irritation persists: Get medical advice/attention



# 3. Composition / Information on Ingredients

Chemical Name	CAS No.	Concentration (v/v)	Other Identifiers
Biodegradable Non-ionic Surfactant 1	Proprietary	1-10%	Not applicable
Biodegradable Non-ionic Surfactant 2	Proprietary	1-10%	Not applicable
Biodegradable Non-ionic Surfactant 3	Proprietary	1-10%	Not applicable
Biodegradable Non-ionic Surfactant 4	Proprietary	1-10%	Not applicable
Biodegradable Non-ionic Surfactant 5	Proprietary	1-10%	Not applicable
Biodegradable Non-ionic Surfactant 6	Proprietary	1-10%	Not applicable
Preservative	4080-31-3	<5%	Food Grade (Optional)
Scent	8016	<1%	Optional
Water	7732-18-5	<90%	Not applicable

Regulatory Note:

Chemical names, CAS numbers and actual concentrations have been withheld as part of a confidential business information claim with HMIRA Registry #11724 filed on 2017-07-17.

# 4. First-aid Measures

Inhalation: No adverse effects anticipated by this route when handled according to section 7 of document. However, if necessary, move person to fresh air.

Skin contact: Generally will not irritate skin. Wash contact areas with soap and water. If irritation persist, seek medical attention.

Eye contact: May cause eye irritation. Flush eyes with plenty of water for at least 15 minutes, remove contact lenses if present and easy to do so. If irritation persists, seek medical attention.



Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious

person. Rinse mouth with water. If necessary, seek medical attention.

Most Important Symptoms and Effects, Acute and Delayed

Acute Symptoms:

Eye Contact: May be irritating to the eyes. Occasional contact through splashing is not

expected to affect the eyes. If irritation occurs, effect will be transient.

Chronic Symptoms: Not Applicable

Immediate Medical Attention and Special Treatment: Not Applicable

# 5. Fire-Fighting Measures

Suitable extinguishing media: Not flammable.

Use extinguishing media for surrounding fire.

Unsuitable extinguishing media: Not applicable

Specific hazards arising from the

hazardous product: Not available

Special protective equipment

for fire-fighters: Not available

### 6. Accidental release measures

Personal Precautions, Protective Equipment:

Observe good industrial hygiene practices. Use personal protective equipment as recommended in Section 8. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

### **Emergency Procedures:**

Eliminate and/or contain source with inert material (sand, earth, absorbent pads, etc.). Wear basic eye and skin protection. Floor may be slightly slippery; so use care to avoid falling. Avoid discharge to natural waters, and/or dilute with water. Transfer liquids to suitable containers for recovery, re-use or disposal. Contact Ivey for technical assistance if required.



# 7. Handling and Storage

Precautions for Safe Handling:

Practice good housekeeping. Avoid breathing excessive vapors. Ensure adequate ventilation. Avoid contact with skin and eyes. Wear protective gloves. Wash thoroughly after handling.

Conditions for Safe Storage:

Keep closed or sealed when not in use. Do not allow to freeze, keep >0°C.

# 8. Exposure Controls / Personal Protection

Control parameters: Not available

Appropriate

Engineering Controls: General mechanical room ventilation is expected to be

satisfactory.

Individual

Protections Measures: Eye/face protection: Mono goggles or similar.

Skin protection: Latex gloves, or similar, would be sufficient.

Normal work clothes.

Respiratory Protection: None expected to be needed. However, if an engineered /

industrial application where vapors and/or misting may occur, wear MSHA/NIOSH approved half mask air purifying

respirator

# 9. Physical and Chemical Properties

Appearance: Liquid, cloudy

Odor: Mild

Odor threshold: Not available

pH: 7 (+/- 0.5) (1% solution)

Melting Point: ~0°C Freezing point: ~0°C

Boiling Point: Not available Flash Point: Not applicable

Evaporation Rate: <0.01

Flammability: Not applicable

Lower flammable/

Explosive limit: Not applicable



Upper flammable/

Explosive Limit: Not applicable Vapour Pressure: <0.01 mm Hg

Vapour Density: >1

Relative Density: 0.99-1.04

Solubility: 100% (Completely miscible in water) Partition Coefficient: Not available (n-octanol / water)

**Auto-Ignition** 

Temperature: Not applicable

Decomposition

Temperature: Not available Viscosity: Not available

# 10. Stability and Reactivity

Reactivity: Not reactive.

Chemical Stability: Stable.

Possibility of

Hazardous Reactions: Not applicable

Conditions to Avoid: Prolonged excessive heat may cause product decomposition.

Freezing should also be avoided as it may cause product decomposition. In some cases freezing may cause

irreversible changes.

Incompatible Materials: Normally un-reactive; however avoid strong bases at high

temperatures, strong acids, strong oxidizing agents, and materials with reactive hydroxyl compounds. These compounds would damage the mixture and reduce its

effectiveness during application.

Hazardous Decomposition

Products: Not applicable

# 11. Toxicological Information

Likely Routes of Exposure Inhalation: No Skin contact: No Eye contact: Yes Ingestion: No

Acute Toxicity:

LD50 - Oral (Rat): = >43.000mg/kg (rat) mg/kg LD50 - Dermal (Rabbit): >58.000mg/kg (rabbit) mg/kg

Inhalation: Not available



Skin corrosion/irritation: Mild irritation
Serious eye damage/irritation: Eye irritation

Respiratory or skin sensitization: No Germ cell mutagenicity: No

Carcinogenicity: None known or expected

Reproductive toxicity: No

# 12. Ecological Information

Toxicity: Low potential to affect aquatic organisms when used in accordance

with Ivey International Inc. In-situ and Ex-situ Remediation

Application Guidelines.

Acute toxicity	Time	Species		Evaluation	Remarks
_			Method		
LC/50 = 0.07695%	96h	Rainbow	OECD	Not	Not
		trout	203	applicable	applicable
LC/50 = 0.11%	48h	Daphnia	OECD	Not	Not
		magna	202	applicable	applicable
EC/50 = Not	72h	Algae	OECD	Not	Not
applicable			201	applicable	applicable

Persistence and degradability: >90% biodegradable in < 28 days.\*

Bio-accumulative potential: Not available

Mobility in soil: Completely miscible with water.

Other adverse effects: Not available

Based on actual testing or on data for similar material(s). Degradation Biodegradation reached in Modified OECD Screening Test (OECD Test No.301 E) after 28 days: 90 %. Biodegradation reached in CO2 Evolution Test (Modified Sturm Test, (OECD Test No. 301 B) after 28 days: 70 %.

# 13. Disposal Considerations

# Product/Packaging:

For aqueous mixture solutions; aerobic biological wastewater treatment systems are effective in treating said mixtures. Ivey-sol does not have any known negative affect on coagulant or flocculent water treatment processes.



### 14. Transport Information

UN Number: Not applicable Proper Shipping Name: Not applicable Technical Name: Not applicable

Transport Hazard Class: Not applicable Packing Group: Not applicable Environmental Hazards: Not applicable

### 15. Regulatory Information

UN GHS Classification: Classified in accordance with GHS 5th revised edition.

WHMIS Classification: Classified in accordance with HPR August 29, 2016 revised

edition.

CPR Compliance: This product has been classified in accordance with the

hazard criteria of the CPR, and the SDS contains all the

information required by the CPR.

CEPA Compliance: All ingredients of this product are listed on the DSL.

### 16. Other Information

Creation Date: July 5, 2017

Revision Date: Updated October 2, 2017, October 18, 2018, July 7, 2019

Disclaimer: This Safety Data Sheet (SDS) was prepared by iHazmat Regulatory

Ltd., (www.iHazmat.com) using information provided by Ivey International Inc. The information in this SDS is offered for your consideration and guidance when working with this product. As per usual practice, accuracy of the information included is based on what was provided by the manufacturer and sole liability for the accuracy

of these documents falls to Ivey International Inc.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of Ivey International Inc.

SDS Created By: iHazmat Regulatory Ltd.

www.iHazmat.com

Version: 1.2 ate: May-13-2018

Effective Date: May-13-2018 Previous Date: Dec-17-2017



# SAFETY DATA SHEET KLARAID\* CDP1311

#### 1. Identification

Product identifier KLARAID CDP1311

Other means of identification None. Version # 1.2

Prepared by This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

Revision date May-13-2018
Supersedes date Dec-17-2017
Recommended use Coagulant
Coagulant

Recommended restrictions None known.

#### Company/undertaking identification

SUEZ Water Technologies & Solutions Canada 3239 Dundas Street West Oakville, Ontario, L6M 4B2 T 905-465-3030

#### **Emergency telephone**

(800) 877-1940

### 2. Hazard(s) identification

Physical hazardsCorrosive to metalsCategory 1Health hazardsSerious eye damage/eye irritationCategory 2

Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

#### Label elements



Signal word Warning

**Hazard statement** May be corrosive to metals. Causes serious eye irritation. May cause respiratory irritation.

Precautionary statement

Storage

**Prevention** Keep only in original packaging. Avoid breathing mist or vapor. Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area. Wear eye protection/face protection.

**Response**IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Call a POISON CENTER/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. Absorb spillage to prevent material-damage.

medical advice/attention. Absorb spillage to prevent material-damage.

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.

resistant container with a resistant inner inter.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards None known.

Supplemental information None.

### 3. Composition/information on ingredients

#### **Mixtures**

Components	CAS#	Percent (wt/wt)
Aluminium chlorhydroxide	12042-91-0	30 - 60
Epichlorohydrin-dimethylamine copolymer	25988-97-0	3 - 7

#### **Composition comments**

Information for specific product ingredients as required by the WHMIS Regulations is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

#### 4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON

CENTER or doctor/physician if you feel unwell.

Skin contact

Wash off with soap and water.

Eve contact

Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

Rinse mouth.

Most important

symptoms/effects, acute and

delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

**General information** 

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

Suitable extinguishing media Unsuitable extinguishing

media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Special protective equipment and precautions for firefighters

Fire fighting

equipment/instructions

Specific methods

During fire, gases hazardous to health may be formed.

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.

Use standard firefighting procedures and consider the hazards of other involved materials.

#### 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

### **Environmental precautions**

7. Handling and storage Precautions for safe handling

Avoid breathing mist or vapor. Avoid contact with eyes. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Material name: KLARAID\* CDP1311

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

### 8. Exposure controls/personal protection

#### Occupational exposure limits

211	ACGIH	<b>Threshold</b>	Limit	Values
UO.	ACGIR	TilleSiloid	LIIIIII	values

Components	Туре	Value	Form
Aluminium chlorhydroxide	TWA	1 mg/m3	Respirable fraction.
(CAS 12042-91-0)			

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) Value Components Type Aluminium chlorhydroxide TWA 2 mg/m3

(CAS 12042-91-0) Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and

Safety Regulation 296/97, as amended)

Components **Form Type** Value Aluminium chlorhydroxide TWA 1 mg/m3 Respirable. (CAS 12042-91-0)

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

**Form** Components Type Value TWA Aluminium chlorhydroxide 1 mg/m3 Respirable fraction. (CAS 12042-91-0)

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components Type Value Aluminium chlorhydroxide TWA 1 mg/m3 Respirable fraction. (CAS 12042-91-0)

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) Components Type Value

Aluminium chlorhydroxide TWA 2 mg/m3 (CAS 12042-91-0)

**Biological limit values** 

No biological exposure limits noted for the ingredient(s).

Appropriate engineering

controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation. or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

### Individual protection measures, such as personal protective equipment

Splash proof chemical goggles. Eye/face protection

Skin protection

Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only **Hand protection** 

depend on its material but also on other quality features and is different from one producer to the other. Suitable gloves can be recommended by the glove supplier. Glove selection must take into

account any solvents and other hazards present.

Other Wear suitable protective clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure

limits (where applicable) or to an acceptable level (in countries where exposure limits have not

been established), an approved respirator must be worn.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective

equipment to remove contaminants.

### 9. Physical and chemical properties

**Appearance** Liquid

> Color Colorless to yellow

Mild Odor

Odor threshold Not available.

pH (concentrated product) 3.7

Material name: KLARAID\* CDP1311

pH in aqueous solution 4.5 (5% SOL.) Melting point/freezing point 23 °F (-5 °C)

Initial boiling point and boiling

range

> 212 °F (> 100 °C)

> 200 °F (> 93 °C) P-M(CC) Flash point

**Evaporation rate** < 1(Ether = 1) Flammability (solid, gas) Not applicable. Upper/lower flammability or explosive limits

Flammability limit - lower

Not available.

(%)

Flammability limit - upper

Not available.

(%)

Not available. Explosive limit - lower (%) Not available. Explosive limit - upper (%) Vapor pressure 18 mm Hg 70 °F (21 °C) Vapor pressure temp. Vapor density < 1 (Air = 1)

Relative density 1.31

Relative density temperature

Solubility(ies)

100 % Solubility (water)

Partition coefficient

Not available.

70 °F (21 °C)

(n-octanol/water)

Not available. **Auto-ignition temperature** Not available. **Decomposition temperature** 42 cps Viscosity

Viscosity temperature 70 °F (21 °C)

Other information

**Explosive properties** Not explosive. **Oxidizing properties** Not oxidizing. Pour point 28 °F (-2 °C)

Specific gravity 1.312

VOC 0 % (Calculated)

### 10. Stability and reactivity

May be corrosive to metals. Reactivity

**Chemical stability** Material is stable under normal conditions. Possibility of hazardous Hazardous polymerization does not occur.

reactions

Conditions to avoid Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials Strong oxidizing agents. Metals.

Hazardous decomposition

products

Hydrogen chloride. Oxides of carbon and nitrogen.

### 11. Toxicological information

### Information on likely routes of exposure

May cause irritation to the respiratory system. Prolonged inhalation may be harmful. Inhalation

Skin contact No adverse effects due to skin contact are expected.

Eye contact Causes serious eye irritation.

Expected to be a low ingestion hazard. Ingestion

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred

vision. May cause respiratory irritation.

Material name: KLARAID\* CDP1311 Page: 4 / 8

Information on toxicological effects

Acute toxicity May cause respiratory irritation.

Product Species Test Results

KLARAID CDP1311 (CAS Mixture)

**Acute** Dermal

LD50 Rabbit > 5000 mg/kg, (Calculated according to

GHS additivity formula)

Oral

LD50 Rat > 5000 mg/kg, (Calculated according to

GHS additivity formula)

Components Species Test Results

Aluminium chlorhydroxide (CAS 12042-91-0)

Acute

Dermal

LD50 Rabbit > 2000 mg/kg

Oral

LD50 Rat > 2000 mg/kg

Epichlorohydrin-dimethylamine copolymer (CAS 25988-97-0)

**Acute** 

Dermal

LD50 Rabbit > 2000 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye

irritation

Causes serious eve irritation.

### Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Aluminium chlorhydroxide (CAS 12042-91-0) Irritant

**Respiratory sensitization**This product is not expected to cause respiratory sensitization. **Skin sensitization**This product is not expected to cause skin sensitization.

**Germ cell mutagenicity**No data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

Carcinogenicity Not classified.

**ACGIH Carcinogens** 

Aluminium chlorhydroxide (CAS 12042-91-0)

A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Aluminium chlorhydroxide (CAS 12042-91-0) Not classifiable as a human carcinogen.

**Reproductive toxicity**This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

single exposure

May cause respiratory irritation.

Specific target organ toxicity -

repeated exposure

Not classified.

**Aspiration hazard** Based on available data, the classification criteria are not met.

**Chronic effects** Prolonged inhalation may be harmful.

### 12. Ecological information

**Ecotoxicity** 

Product	Species	Test Results
KLARAID CDP1311 (CAS Mixture)		
LC50	Fathead Minnow	8.3 mg/L, Static Renewal Bioassay, 96 hour

Material name: KLARAID\* CDP1311 Page: 5 / 8

Product		Species	Test Results
	NOEL	Fathead Minnow	3.1 mg/L, Static Renewal Bioassay, 96 hour
Aquatic			
Crustacea	LC50	Daphnia magna	6.3 mg/L, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	3.1 mg/L, Static Renewal Bioassay, 48 hour
Fish	LC50	Rainbow Trout	3.2 mg/L, Static Renewal Bioassay, 96 hour
	NOEL	Rainbow Trout	1.6 mg/L, Static Renewal Bioassay, 96 hour
Components		Species	Test Results
Epichlorohydrin-dimethyla	mine copolyme	r (CAS 25988-97-0)	
	EC50	Daphnia Magna	> 10 mg/l, 48 hour
	LC50	Zebra fish (Brachydanio rerio)	> 10 mg/l, 96 hour
accumulative potential	No data a	ıvailable.	

Bioaccumulative potential

Mobility in soil

No data available.

Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Persistence and degradability

No data is available on the degradability of this product.

- COD (mgO2/g) 35 (calculated data) - BOD 5 (mgO2/g) 1 (calculated data) 1 (calculated data) - BOD 28 (mgO2/g) - Closed Bottle Test (% 6 (calculated data) Degradation in 28 days) 1 (calculated data) - Zahn-Wellens Test (%

Degradation in 28 days)

15 (calculated data) - TOC (mg C/g)

### 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of

contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations

Waste from residues / unused

products

Dispose in accordance with all applicable regulations.

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Since emptied containers may retain product residue, follow label warnings even after container is Contaminated packaging

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

### 14. Transport information

**TDG** 

UN3264 **UN number** 

UN proper shipping name Transport hazard class(es) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ALUMINUM CHLORHYDROXIDE)

8 Class Subsidiary risk Packing group Ш

**Environmental hazards** Not available.

The goods described above have been classified using a combination of testing, technical data, calculations and manufacturer knowledge in accordance with Part 2, Classification. TDG Classification is valid for road or rail transport only. For shipment by air or water, refer to IATA or IMDG regulations.

Material name: KLARAID\* CDP1311

#### DOT

Not regulated as a dangerous good.

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

#### **IMDG**

UN number UN3264

UN proper shipping name CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ALUMINUM CHLORHYDROXIDE)

Transport hazard class(es)

Class 8
Subsidiary risk Packing group III
Environmental hazards

Marine pollutant No. mS F-A, S-B

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

#### **IATA**

UN number UN3264

Transport hazard class(es)

Class 8
Subsidiary risk Packing group III
Environmental hazards No.
ERG Code 154

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

#### IATA; IMDG; TDG



### 15. Regulatory information

#### Canadian regulations

**Controlled Drugs and Substances Act** 

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

**Greenhouse Gases** 

Not listed.

**Precursor Control Regulations** 

Not regulated.

### **Inventory status**

Country(s) or regionInventory nameOn inventory (yes/no)\*CanadaDomestic Substances List (DSL)YesCanadaNon-Domestic Substances List (NDSL)NoUnited States & Puerto RicoToxic Substances Control Act (TSCA) InventoryYes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

#### 16. Other information

Issue date Dec-12-2016

Material name: KLARAID\* CDP1311 Page: 7 / 8

Revision date May-13-2018

Version # 1.2

List of abbreviations CAS: Chemical Abstract Service Registration Number

TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

ACGIH: American Conference of Governmental Industrial Hygienists

NOEL: No Observed Effect Level STEL: Short Term Exposure Limit LC50: Lethal Concentration, 50% LD50: Lethal Dose, 50%

LD50: Lethal Dose, 50% TWA: Time Weighted Average BOD: Biochemical Oxygen Demand COD: Chemical Oxygen Demand TOC: Total Organic Carbon

IATA: International Air Transport Association

IMDG: International Maritime Dangerous Goods Code

TLV: Threshold Limit Value

References: No data available

**Disclaimer** The information provided in this Safety Data Sheet is correct to the best of our knowledge,

information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

materials or in any process, unless specified in the text.

Material name: KLARAID\* CDP1311 Page: 8 / 8

<sup>\*</sup> Trademark of SUEZ. May be registered in one or more countries.

# **APPENDIX D**

**Appendix D: Facility inspections and summary of Corrective Actions** 

**Appendix E: Engagement Activites** 



From: <u>AlecSandra Macdonald</u>

To: <u>Katie Oliver</u>

Subject: Re: Water Licence Inspection Report\_KBL Environmental Ltd\_ G17L1 -002, July 28, 2022

**Date:** August 30, 2022 11:43:25 AM

Thank You Katie, We'll add this to the record.

AlecSandra

### Get Outlook for Android

From: Katie Oliver <koliver@kblenv.com> Sent: Tuesday, August 30, 2022, 10:20 a.m.

To: AlecSandra Macdonald <AMacdonald@glwb.com>; Leonard DeBastien

 $<\!\!L.Debastien@glwb.com\!\!>; Lloyd Gruben<\!\!Lloyd\_Gruben@gov.nt.ca\!\!>$ 

Cc: Norman Snowshoe <Norman\_Snowshoe@gov.nt.ca>; Wendy Bidwell

<Wendy\_Bidwell@gov.nt.ca>; Jeff Dirks <jdirks@kblenv.com>; Richard Reimer

<rreimer@kblenv.com>; Lance Hayman < lhayman@kblenv.com>

Subject: RE: Water Licence Inspection Report\_KBL Environmental Ltd\_ G17L1 -002, July 28,

2022

Good Morning;

Please find attached a photo confirmation that the debris removal has occurred as scheduled.

Thank you;

Thank you | Merci | Mársı | Kinanāskomitin | Hąį' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsì



### Katie Oliver, MBA, CET, PMP

#### **General Manager, Environmental Consulting**

**m:** 780.893.3305

**d:** 587.601.5736

**p:** 780.452.7779

**f**: 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

This email and any accompanying attachments may contain confidential information and are intended only for the named recipients. Content may not be used or relied upon by any party other than KBL's client unless otherwise authorized in writing by KBL. Any unauthorized use of information contained in

this email is at the sole risk of the user. If you have received this email in error, please notify the sender and destroy the email.

From: Katie Oliver

**Sent:** August 23, 2022 3:34 PM

**To:** AlecSandra Macdonald (AMacdonald@glwb.com) <AMacdonald@glwb.com>; Leonard DeBastien (L.Debastien@glwb.com) <L.Debastien@glwb.com>; Lloyd Gruben <Lloyd Gruben@gov.nt.ca>

**Cc:** Norman Snowshoe <Norman\_Snowshoe@gov.nt.ca>; Wendy Bidwell <Wendy\_Bidwell@gov.nt.ca>; Jeff Dirks <jdirks@kblenv.com>; Richard Reimer <rreimer@kblenv.com>; Lance Hayman <lhayman@kblenv.com>

Subject: RE: Water Licence Inspection Report\_KBL Environmental Ltd\_ G17L1 -002, July 28, 2022

Good Afternoon Lloyd;

Thank you for the inspection report. Please see below for updates to the action items / comments in the report.

- A. During the inspection it was noted that the SNP station 0037-3 (Drainage Ditch) was not signed. Please post a sign at this SNP station location.
  - a. A sign was present at SNP station 0037-3 (Drainage Ditch) during the inspection. Please see attached a photo of the SNP location in question dated July 28<sup>th</sup>, 2022.
- B. Check if fencing has been erected to prevent wildlife from entering the facility.
  - a. KBL can confirm that fencing has been installed. Please see attached a picture of the fencing.
- C. Check if maintenance work has been done to correct cracking along facility berms to prevent structural collapse, or release of contaminants.
  - a. Inspection of the reported cracks indicate that they caused by rain and/or settling at the site. Repairs were completed during fencing installation and a picture is attached.
- D. Check if all debris in and around the facility has been picked up and properly disposed of.
  - a. Two types of debris were observed in the inspection. Figure 1 illustrates debris to the south of the STF. The STF was construction on a former landfill site and erosion is causing debris to protrude from the hillside. In addition, debris from the adjoining landfill has blow to the areas surrounding the KBL lease area. Would ENR please clarify if it is the intent that KBL remove landfill debris from outside the fenced KBL STF lease area?
  - b. The debris on the KBL lease area includes excess liner from the installation of the STF as shown in Figure 8. KBL has schedule debris removal for tomorrow morning, August 24<sup>th</sup>, 2022. A confirmation photo will be sent once completed.
- E. Inquire with GLWB whether KBL Environmental Ltd. has submitted an application for water license renewal. KBL Environmental Ltd. cannot operate at this facility, or accept any new material until an active water license is in place.

- a. An application has been submitted and KBL acknowledges that additional material cannot be received at this time. KBL continues to complete maintenance activities at the facility to manage the soil and water present.
- 1. KBL Environmental Ltd is operating with an expired water license. The license expired June 24, 2022. KBL Environmental Ltd. must submit an application for license renewal as soon as possible and must not operate until an active license is in place.
  - a. An application has been submitted and KBL acknowledges that additional material cannot be received at this time. KBL continues to complete maintenance activities at the facility to manage the soil and water present.
- 2. Analytical results for sampling of soil, water and snow must be to be sent to the inspector prior to acceptance at the facility to confirm water license criteria is met as per license condition Part E, Item 15. The inspector has not received any analytical results for materials currently in the facility to date.
  - a. Acknowledged. Please note that soil and water currently at the facility was submitted to the inspector prior to acceptance. Soil and water at the Facility originated from two sources:
    - i. NTPC Aklavik Remediation. Mr. Lloyd Gruben is the inspector assigned to this spill. A Remediation Action Plan was prepared and submitted to Mr. Gruben on May 28, 2021 outlining the sampling results and intent to bring soil and water to the KBL Soil Treatment Facility. Mr. Gruben oversaw the remediation activities and was kept up to date on the remediation at the site, including transportation of materials to the KBL facility, in March and April 2022.
    - ii. NTPC Inuvik 2022 Spill. Mr. Bradley Voudrach is the inspector assigned to this spill. KBL met with the inspector on several occasions at the spill site and provided Mr. Voudrach with Remediation Action Plans on May 11, 2022 outlining the sampling results and intent to bring soil and water to the KBL Soil Treatment Facility. In addition, analytical was sent to inspector, Mr. Lloyd Gruben on May 12, 2022. In preparation for the Facility inspection copies were requested by Mr. Gruben and resent on 7-20-2022.
- 3. Debris was noted laying all over the facility rather than collecting and disposing of it at the Solid Waste Disposal Facility. As per license condition Part E, Item 11 this debris needs to be cleaned up and properly disposed of.
  - a. The debris on the KBL lease area includes excess liner from the installation of the STF as shown in Figure 8. KBL has schedule debris removal for tomorrow morning, August 24<sup>th</sup>, 2022. A confirmation photo will be sent once completed.
- 4. During the inspection it was noted that windrows exceed maximum height. Guidance on proper operation of Petroleum Hydrocarbon Contaminated Soil Treatment Facilities can be found in the Guideline for Petroleum Hydrocarbon Contaminated Soil Treatment Facilities in the Northwest Territories.
  - a. KBL measured the windrow on May 4, 2022 during maintenance activities at the site and confirmed that the permitted 4m was not exceeded. Since the completion of the inspection, the windrow was separated into two separate windrows on August 12, 2022 and it has been confirmed that the new windrows do not exceed the 4m height

requirement.

### Thank you;

Thank you | Merci | Mársı | Kinanāskomitin | Hại' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsì



### Katie Oliver, MBA, CET, PMP

### **General Manager, Environmental Consulting**

m: 780.893.3305

**d:** 587.601.5736

**p**: 780.452.7779

**f**: 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

This email and any accompanying attachments may contain confidential information and are intended only for the named recipients. Content may not be used or relied upon by any party other than KBL's client unless otherwise authorized in writing by KBL. Any unauthorized use of information contained in this email is at the sole risk of the user. If you have received this email in error, please notify the sender and destroy the email.

From: Lloyd Gruben <Lloyd\_Gruben@gov.nt.ca>

**Sent:** August 19, 2022 3:38 PM

To: AlecSandra Macdonald (AMacdonald@glwb.com) <AMacdonald@glwb.com>; Leonard

DeBastien (L.Debastien@glwb.com) <L.Debastien@glwb.com>

**Cc:** Wendy Bidwell < Wendy\_Bidwell@gov.nt.ca>; Norman Snowshoe

<Norman\_Snowshoe@gov.nt.ca>; Katie Oliver <koliver@kblenv.com>; Renee White

<rwhite@kblenv.com>

Subject: Water Licence Inspection Report\_KBL Environmental Ltd\_ G17L1 -002, July 28, 2022

WARNING: E-mail failed SPF checks (Visit sirkit.ca for an explanation)

Good Afternoon.

Please find attached a copy of the July 28, 2022 Inspection Report for KBL Environmental Ltd's Soil Treatment Facility water licence. The original hardcopy will be mailed out to you. If you have any questions or concerns with regard to the attached report, please don't hesitate to contact me.

Lloyd Gruben

Water Resource Officer

Inuvik Region
Department of Environment and Natural Resources
Government of Northwest Territories

Phone: 867-678-6652 Cell: 867-678-0623 Fax: 867-678-6699 www.gov.nt.ca

### Weekly Inspection Checklist

Inspector:

Current activities on site:

Water in Cell?

Soil on Pad?

Treated water tank in use?

Review Maintenance Log (Y/N)

Inspector:

April 18, 2022

Time:

12,00

Weather:

Freeboard in ditch

Freeboard in ditch

If yes, fill out page 2 (x)

Treated water tank in use?

Review Maintenance Log (Y/N)

Outstanding work order (Y/N)

Review Maintenance Log (Y/N)			Outstanding work order (Y/N)		
	Site Conditions	OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2
Access	Gate in working order	MA			
Access	Signage visible/in good condition	MA			
	On site	X			
Spill Kit	Lid secured	X			· ·
	Contents checked	X			
	Locked	1			
	PPE available	X			
Storage	Trash pump in containment	NIA			
Shed	Pump fuel in containment	X			
Jileu	Soil amendments in containment	NIA			
	SDS' available	X			
	Sample kit contents checked	X			
	Observed on site (identify type)	X			
Wildlife	Damage to facility	X			
white	Birds on or near pond	X			
	Bears in or near facility	X			
	Evidence of spills/leaks/staining	K			
Facility	Rutting	NA			
Grounds	Ice	NXA			
	Evidence of soil tracking	MA			
	Berm stability	X			
	Liner visible	X			Bern line visible on sizes
	Road stability	X			13010 - 1701
Soil Pad	Drainage system working	X			
	Dust control	X.			
	Soil piles in good condition	V			
	Water tanks in good condition	X			
	Erosion	MCA			
Water	Liner visible	X			
Retention	Filter cloth on pump intake	MA			
Pond	Tarp intact & secure	MA			
	Pond level	NA			
	Flow meter working	WA			
WTP	System function	VWV			
	-,	11////		The second secon	

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

gmalle

### Weekly Inspection Checklist

		nuvic son i	rreatment F	actifity		
Date (MM/DD/YY):	April 29	2022		Time:	(2:00	
Inspector:	Phoiso		Enterprise	Weather:	LA MOSHLY Formy	
Current activities on site:	DIACINO SO	PRODUCTION OF THE PERSON NAMED IN	F	кер		
			Freeboard in	ditch	NSA	
Water in Cell? : :	NA		Freeboard in	Pond	NA	
Soil on Pad?	745/697907	and poiced	If yes, fill out	page 2 (x)		
Treated water tank in use?	NIÁ		# of TW tank	S	2 Empty	
Review Maintenance Log (Y/N)			Outstanding	work order (Y/N)		
			Needs	Entered into		

				Outstailing work order (1714)			
	Site Conditions		OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2	
	Access	Gate in working order	NA		Ī		
	Access	Signage visible/in good condition	MA				
		On site	X				
	Spill Kit	Lid secured	X				
		Contents checked	X				
		Locked	X				
		PPE available	X				
	Storage	Trash pump in containment	NIA				
	Storage Shed	Pump fuel in containment	X				
	Sileu	Soil amendments in containment	MA				
1		SDS' available	V				
L		Sample kit contents checked	X				
Г		Observed on site (identify type)	X				
ı	Wildlife	Damage to facility	X				
ı		Birds on or near pond	K				
L		Bears in or near facility	X				
Т		Evidence of spills/leaks/staining	X				
ı	Facility	Rutting	MA				
ı	Grounds	Ice	MA				
		Evidence of soil tracking	MA				
Γ		Berm stability	V				
ı		Liner visible	V			bern liver visible en sides	
ı		Road stability	Y			MINE (131/31/2 (2) 3/2/2)	
L	Soil Pad	Drainage system working	Ŷ				
L		Dust control	Ç				
ı		Soil piles in good condition	X				
		Water tanks in good condition	Ŕ				
Γ		Erosion	MA			-	
	Water	Liner visible	X				
R	etention	Filter cloth on pump intake	MA			,	
	Pond	Tarp intact & secure	VA				
		Pond level	NA				
		Flow meter working					
		System function	MIA				
		-yaccin ranction	MA				

<sup>\*</sup>placing on X in a shaded box requires entry into Maintenance Log and follow-up.

Junalle

### Weekly Inspection Checklist

Inuvile Soil Treatment Facility

Date (MM	/DD/YY):	May 2.	2022 Enterris		Time:	12:90
Inspector:		blaster	Fa toro ris	Rep	Weather:	Amosty Stry
	ctivities on site:	1401746	iza je ji i j			
Current	ctivities on site.			Freeboard in	ditch	NA
Water in 0	Cell? ::	MA		Freeboard in	Pond	NA
Soil on Pa		70/14	if and by the	If yes fill out	page 2 (x)	
	vater tank in use?	117/64/gc	14 costs 61 m	# of TW tank	'S	2 Empty
	laintenance Log (Y/N)	7777			work order (Y/N	The state of the s
Keview iv	ianitenance Log (1/14)		<del></del>	Catotanang	Entered into	
			ОК	Needs	Maintenance	Comment
	Site Conditions		(x or N/A)	Attention	Log	*additional comments on Page 2
			(10) 14/1.)	(x)	(Y/N, Initial)	
	Gate in working order	r	N/A	And produces are the Private Consideration (Francisco A. 1.0) and a second consideration (Francisco Consideration (Franci	i	
Access	Signage visible/in goo		NA			
	On site		1///			
Spill Kit			X			·
op in	Contents checked		X			
	Locked		1			
	PPE available		X			
	Trash pump in contain	nment	NA			
Storage	Pump fuel in containn		10			
Shed	Soil amendments in co		\$			
	SDS' available		NA			
	Sample kit contents cl	hecked	X			
	Observed on site (ider	ntify type)	X			
VACILIES.	Damage to facility		X			
Wildlife	Birds on or near pond		X.			
	Bears in or near facilit	У	Y.			
	Evidence of spills/leak	s/staining	と			
Facility	Rutting		NA			
Grounds	Ice		X			
	Evidence of soil tracking	ng	MA			
	Berm stability		Y			_ /
	Liner visible		X			Liner VisiGO on berm
	Road stability		X			
Soil Pad	Drainage system worki	ng	X			
	Dust control		1.			
	Soil piles in good condi	tion	1			In fugsand being haved
	Water tanks in good co	ndition	X			
	Erosion 1		NIA			
Water	Liner visible		X			
Retention	Filter cloth on pump int	ake	MA			
Pond	Tarp intact & secure		MA			
	Pond level		X			
	Flow meter working		MA			
WIP	System function		MA			

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

and all

### Weekly Inspection Checklist

Inuvik Soil Treatment Facility Date (MM/DD/YY): May 9,2022 Hailer Enterise Rep Time: Inspector: Weather: Current activities on site: Freeboard in ditch Water in Cell? Freeboard in Pond Soil on Pad? (es/ fugged and piwo If yes, fill out page 2 (x) Treated water tank in use? # of TW tanks 2 Empty Review Maintenance Log (Y/N) Outstanding work order (Y/N) **Entered** into Needs OK **Site Conditions** Maintenance Attention Comment (x or N/A) Log \*additional comments on Page 2 (x) (Y/N, Initial) Gate in working order NA Access Signage visible/in good condition NIA On site Spill Kit Lid secured X Contents checked X Locked PPE available X Trash pump in containment Storage MA Pump fuel in containment Shed Soil amendments in containment SDS' available Sample kit contents checked Observed on site (identify type) V Damage to facility Wildlife Birds on or near pond Bears in or near facility Evidence of spills/leaks/staining Facility Rutting MA Grounds Ice Evidence of soil tracking MA Berm stability Liner visible Lher visible a 60m Road stability Soil Pad Drainage system working X **Dust control** Soil piles in good condition VB In trues and being haved Water tanks in good condition Erosion Water Liner visible Retention Filter cloth on pump intake NA Pond Tarp intact & secure MA Pond level

\*plocing an X in a shaded box requires entry into Maintenance Log and follow-up.

Flow meter working

System function

WTP

Office Back-up: Date (DD/MM/YY) Initial

MA

ane Olle

#### Weekly Inspection Checklist inuvik Soil Treatment Facility Date (MM/DD/YY): Time: Inspector: Weather: Current activities on site: Freeboard in ditch Water in Cell? Freeboard in Pond Soil on Pad? If yes, fill out page 2 (x) Treated water tank in use? # of TW tanks 2 Empty Review Maintenance Log (Y/N) Outstanding work or

Review Maintenance Log (1/N)		Outstanding work order (Y/N)				
	Site Conditions		OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2
	Access	Gate in working order	MIA			
	Access	Signage visible/in good condition	MA			
		On site	X			
	Spill Kit	Lid secured	V.			
		Contents checked	X'			
		Locked	X			
		PPE available	1			
-	Storage	Trash pump in containment	WA			
	Shed	Pump fuel in containment	X			
	Jileu	Soil amendments in containment	X			
		SDS' available	MA			
		Sample kit contents checked	X			
		Observed on site (identify type)	X			
	Wildlife	Damage to facility	K			The second secon
		Birds on or near pond	X.			
		Bears in or near facility	X.			
		Evidence of spills/leaks/staining	X ,			
	Facility	Rutting	MA			
	Grounds	Ice	X			
		Evidence of soil tracking	NA			
		Berm stability	X.			-1
		Liner visible	X			Lier visible en firm
		Road stability	χ			
	Soil Pad	Drainage system working	X			
		Dust control	X,			
		Soil piles in good condition	K.			In Engs and being harded
		Water tanks in good condition	X			
		Erosion "	NA			
	Water	Liner visible	X,			
	Retention	Filter cloth on pump intake	NIA			
	Pond	Tarp intact & secure	MA			
=		Pond level	X			
	WIP	Flow meter working	N/A			
L		System function	NIA			

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

gwe Olle

#### Weekly Inspection Checklist inuvik Soil Treatment Facility Date (MM/DD/YY): Time: Inspector: Weather: Current activities on site: Freeboard in ditch Water in Cell? NIA Freeboard in Pond Soil on Pad? 185, 649 ant and Pilat If yes, fill out page 2 (x) Treated water tank in use? # of TW tanks 2 Emply Review Maintenance Log (Y/N) Outstanding work order (Y/N) **Entered** into Needs OK Site Conditions Maintenance Comment Attention (x or N/A) Log \*additional comments on Page 2 (x) (Y/N, Initial) Gate in working order Access 1/14 Signage visible/in good condition On site Spill Kit Lid secured Contents checked Locked PPE available Trash pump in containment Storage Pump fuel in containment Shed Soil amendments in containment SDS' available Sample kit contents checked Observed on site (identify type) Damage to facility Wildlife Birds on or near pond Bears in or near facility X Evidence of spills/leaks/staining Facility Rutting Grounds lice Evidence of soil tracking Berm stability Liner visible Liner visible on Road stability Soil Pad Drainage system working **Dust control** Soil piles in good condition Water tanks in good condition Erosion Water Liner visible Filter cloth on pump intake Retention Pond Tarp intact & secure Pond level Flow meter working WTP

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

System function

que alle

### Weekly Inspection Checklist Inwik Soil Treatment Facility

Date (MM/D	D/YY):	May 29,	20282		Time:	17199
Inspector:		Harder	20282 Enter160	e Rep	Weather:	4 mostly dondy
Current activ	vities on site:		A Company of the Comp			
				Freeboard in	ditch	NA
Water in Ce	II? ::	MIA		Freeboard in	Pond	MA
Soil on Pad?		The former	The second leaves the second l	If yes, fill out		
Treated wat	ter tank in use?	ATTA	The second name of the second	# of TW tank		2 Enoty
Review Mai	ntenance Log (Y/N)			Outstanding	work order (Y/N)	
					Entered into	
	Cite Conditions		ОК	Needs	Maintenance	Comment
	Site Conditions		(x or N/A)	Attention	Log	*additional comments on Page 2
				(x)	(Y/N, Initial)	
Access	Gate in working order		NIA			
Access	Signage visible/in goo	d condition	MA			
	On site		X			
Spill Kit	Lid secured		人			·
	Contents checked		k			
	Locked		X			
	PPE available		×			
Storage	Trash pump in contain		NA			
Shed	Pump fuel in containn		X			
	Soil amendments in co	ontainment	X			
	SDS' available		MA			
	Sample kit contents cl		X			
	Observed on site (ider	ntify type)	X			
Wildlife	Damage to facility		k			
	Birds on or near pond		K			
	Bears in or near facilit		X			
To attion.	Evidence of spills/leak	cs/staining	1 1			
Facility	Rutting		MA			
Grounds	Ice		ALLAX			
	Evidence of soil tracki	ng	MA			
	Berm stability		X			_ /
	Liner visible		X			Liner visible on berm
0.110	Road stability		X			
Soil Pad	Drainage system work	ring	X			
	Dust control		X,			
	Soil piles in good cond		X			In Eggs and Geing LAVIL
	Water tanks in good c	ondition	X			
Make	Erosion 1		WIF			
Water	Liner visible		X			
Retention	Filter cloth on pump in	ntake	MA			
Pond	Tarp intact & secure		NA			
	Pond level		X			
WTP	Flow meter working		MA			
The Part of the Pa	System function		Alla			

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

Quelle

## Weekly Inspection Checklist

		1	nuvik Soil Tr	estment Fa	cilien	
Date (MM/	'DD/YY):	Tune 6,2 Harjer 1 Placing soi	022		Time:	12:00
Inspector:		Henriel	= Jemaise	000	· ·	12100
Current ac	tivities on site:	Plucing soi	110 (+5	rep	weather:	12100 Q. Mosky undy
		-F/MC-39 301				
Water in C		MA		Freeboard in		N/A N/A
Soil on Par			and ailed	Freeboard in	Pond	
Treated w	rater tank in use?	0/1/4	and piled	if yes, fill out	page 2 (x)	
Review M	aintenance Log (Y/N)	10371		or too confid		2 Empty
			1	Outstanding	work order (Y/N	
	Site Conditions		OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log	Comment *additional comments on Page 2
Access	Gate in working orde	r	MA		(Y/N, Initial)	
	Signage visible/in goo	od condition	MA			
	On site		X			
Spill Kit			K			
	Contents checked		X			
	Locked		X			
	PPE available		X			
Storage	Trash pump in contai	inment	MA			
Shed	Pump fuel in contain		X			
	Soil amendments in o	containment	MA			
	SDS' available		Y			
-	Sample kit contents of	checked	X			
	Observed on site (ide	entify type)	X			
Wildlife	Damage to facility Birds on or near pond		X			
	Bears in or near facili	d	X			
	Evidence of spills/lea	lty	X			
Facility	Rutting	ks/staining	X			
Ground			NIA			
	Evidence of soil track	ing	MA			
	Berm stability	ing	K			
	Liner visible		1			1
	Road stability		X.			Born Kner visible
Soil Pad		king	X.			
	Dust control	Killg	X.			
	Soil piles in good cond	dition:	101			
	Water tanks in good	condition	1 CHAY			In large soil pile logge
	Erosion *	- Charlion	RMAX			
Water	Liner visible		MAX			
Retentio		ntake	NIA			
Pond	Tarp intact & secure		V()			
	Pond level		V			765-6-4
WTP	Flow meter working		NIA			314 (4)
VVIP	C		I VI I			

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up

aucaller

## Weekly Inspection Checklist

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Inuvile Soil Treatment Facility					
Date (MM/DD/YY): JUNE 13		2.20		Time:	17.99		
	יניטען און:	JUNE/3	Enterni	( P P P P		5, mostly clary	
Inspector:		HOVE!	on je gri	TE TED	- Weduler.	47 10/11/01/07	
Current act	tivities on site:	Placing so	il in STP	For all a soul!	to altack	1//A	
				_Freeboard i		10//1	
Water in C	ell?	MA		_Freeboard i		IVIA	
Soil on Pad	1?	105/64900	day bild	_If yes, fill ou		- N al:	
Treated wa	ater tank in use?	NIA		_# of TW tan		2 Empty	
Review Ma	intenance Log (Y/N)			Outstanding	g work order (	(/N)	
				Needs	Entered in	0	
	Site Conditions		OK	Attention	Maintenand		
	Site Conditions		(x or N/A)	(x)	Log	*additional comments on Page	2
				(X)	(Y/N, Initial	)	
	Gate in working order		MA				
Access	Signage visible/in good	condition	MA				
	On site		X				
Spill Kit	Lid secured		X				
	Contents checked		X				
	Locked		X				
	PPE available		X				
Storage	Trash pump in containn	nent	MA				-
Shed	Pump fuel in containme	ent	X.				-
Sileu	Soil amendments in con	tainment	N/A				-
	SDS' available		Χ.				-
	Sample kit contents che		X				_
	Observed on site (identi	fy type)	X				$\dashv$
Wildlife	Damage to facility		X				$\dashv$
	Birds on or near pond		X				-
	Bears in or near facility	atainina	1				-
Facilities.	Evidence of spills/leaks/	Staining	N/A				$\dashv$
Facility	Rutting		NA				-
Grounds	Evidence of soil tracking		IVIA				$\dashv$
	Berm stability		1 × 1			,	
	Liner visible		1 ×			Bern line visible	-
	Road stability		X			DO TRING VIDIOTE	$\dashv$
Soil Pad	Drainage system working		k				
	Dust control		X.				
	Soil piles in good condition	on:	X		-	Fa 6498, Soil Pile 1000	
Maria	Water tanks in good cond		Y				
	Erosion *		NIA				
Water	Liner visible		X				
1	Filter cloth on pump intak	e	MA				-
Pond	Tarp intact & secure		NA			16.0	-
	Pond level Flow meter working		N/A		- 4	14 +41	-
14000	HIOW HIELEI WOLKING		17/7	and the second second second			

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

System function

Office Back-up: Date (DD/MM/YY) Initial

Quealle

### Weekly Inspection Checklist Inuvik Soil Treatment Facility

Date (MM)	/DD/YY): ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Inuvik Soil 7	reatment F	acility	
Inspector:	June	20,2022 or Enterp, spirin ST		Time:	12:00
	tivities on site:	er Enterp	(Le 000)	Weather:	12:00
	Placing	Spisin (+	= 10	_ weather:	7. Mostiggody
Water in C	Cilla		Freeboard in	- Pro-1	
Soil on Pag	ALIA.		Freeboard in	altch	N/A
	ater tank in use?	gold and pital	If you fill and	Pond	_N/A
Review Ma	eintenance   M	1	If yes, fill out # of TW tank	t page 2 (x)	
	aintenance Log (Y/N)		Outstanding	(5	2 Emply
			Outstanding	work order (Y/N	
	Site Conditions	ОК	Needs	Entered into	
		(x or N/A)	Attention	Maintenance	Comment
	Gatain	1.00	(x)	Log	*additional comments on Page 2
Access	Gate in working order			(Y/N, Initial)	
	Signage visible/in good condition On site				
Spill Kit	Lid secured				
Spin Kit					
	Contents checked Locked				·
	PPE available				
	Track available				
Storage	Trash pump in containment				
Shed	Pump fuel in containment				
	Soil amendments in containment SDS' available				
	Sample kit				
	Sample kit contents checked				
	Observed on site (identify type) Damage to facility				
Wildlife	Birds on or near pond				
	Bears in or near facility				
	Evidence of spills/leaks/staining				
Facility	Rutting				
Grounds	Ice				
	Evidence of soil tracking				
	Berm stability				
	Liner visible				
	Road stability				Bern line visible
Soil Pad	Drainage system working				perm and visible
	Dust control				
	Soil piles in good condition	1			
	Water tanks in good condition	-			In Kind Sil Sin
	Erosion 2				In bush soil give 10050
Water	Liner visible				
Retention	Filter cloth on pump intake				
Pond	Tarp intact & secure				
	Pond level				
WTP	Flow meter working				3/14 full
VVIP	System function				

\*plocing on X in a shaded box requires entry into Maintenance Log and follow-up.

gur alle

		We	ekly Insp	rection C	necklist	
	111		inuvik Soil T	Treatment F	acility	12,00
	Date (MM/DD/YY):	Janay	3, 2022 Aterprise	THE RESIDENCE OF THE PARTY OF T	Time: Weather:	-35, Partly Cloudy
	nspector:		ATEIPITE	Tileb	- Wedirer	
(	Current activities on site:	Placing S	011 14 57	Freeboard in	ditch	NIA
١	Vater in Cell?	NIA		Freeboard in	Pond	NIA
	oil on Pad?	18,609	The state of the s	If yes, fill out # of TW tank		2 Empty
	reated water tank in use? Leview Maintenance Log (Y/N)				work order (Y/N)	Management of the Control of the Con
F	eview iviaintenance Log (1714)				Entered into	
	Site Conditions		OK (x or N/A)	Needs Attention	Maintenance Log	Comment *additional comments on Page 2

Keview	Manifectionee Eog (1711)	The second second		I m t a diate	
	Site Conditions	OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2
	Gate in working order	NIA			
Acces	Signage visible/in good condition	NA			
-	On site	V.			
Spill K		V.			· ·
Spili k	Contents checked	V.			
-	Locked	V.			
	PPE available	V· ·			
	Trash pump in containment	NA			
Storage	Pump fuel in containment	V			
Shed	Soil amendments in containment	NA.			
	SDS' available	X			
	Sample kit contents checked	X.			
-	Observed on site (identify type)	X			
	Damage to facility	12			
Wildlife	Birds on or near pond	X			
	Bears in or near facility	12		CONTRACTOR OF THE PARTY OF THE	
	Evidence of spills/leaks/staining	12:1			
		NIA			
Facility		NA			
Grounds		MA			
	Evidence of soil tracking	10//			. /
	Berm stability	10		1	Born Liner VISIER
	Liner visible	17	<u> </u>	<u>'</u>	Jern City Olin
	Road stability	12:			
Soil Pad	Drainage system working	1 3.			
	Dust control	1			T. /. 0.
	Soil piles in good condition	X			In falls
	Water tanks in good condition	X			
	Erosion	NIA			
Water	Liner visible	X			
etention	Filter cloth on pump intake	MA			
Pond	Tarp intact & secure	MA		NO 45-3503 IN CITATION SHOPS INCIDEN	
	Pond level	NA			
	Flow meter working	MA			
M/TD -	System function	NA			

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

gulall

# Weekly Inspection Checklist Inuvik Soil Treatment Facility

Date (MM/DD/YY): Inspector:	Tanay 10, 2022 Time: Harly Extremely Nep Weather:	1200 -3100/overast
Current activities on site:	Placing soil in STE	
	Freeboard in ditch	N/A
Water in Cell?	Freeboard in Pond If yes, fill out page 2 (x)	N/A
Soil on Pad?	# of TW tanks	2 Empty
Treated water tank in use?  Review Maintenance Log (Y/N)	Outstanding work order (Y/N)	

	Site Conditions		Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2
	Gate in working order	NIA			
Access	Signage visible/in good condition	NA			
	On site	V			
Spill Kit	Lid secured	V			
	Contents checked	V.			
	Locked	V			
	PPE available	V.			
	Trash pump in containment	NIA			
Storage	Pump fuel in containment	V			
Shed	Soil amendments in containment	NIA			
	SDS' available	V .			
	Sample kit contents checked	V.			
-	Observed on site (identify type)	٧ .			
	Damage to facility	V .			
Wildlife	Birds on or near pond	V ,			
	Bears in or near facility	V .			
	Evidence of spills/leaks/staining	V .			
Facility	Rutting	NIA			
Grounds	Ice	MA			
	Evidence of soil tracking	N/A			
	Berm stability	V .			0
	Liner visible	V .			Bern liner visible
150	Road stability	V .			
Soil Pad	Drainage system working	√ .			
	Dust control	V.			
7 7 7	Soil piles in good condition	4.			Fn 6999
	Water tanks in good condition	V .			
	Erosion 1	MA			
Water	Liner visible	V		*	
Retention	Filter cloth on pump intake	NIA			
Pond	Tarp intact & secure	MIA			
	Pond level	NIA			
MATO	Flow meter working	NIA			
WTP	System function	MA			

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

gueall

# Weekly Inspection Checklist Inuvik Soil Treatment Facility

	attended on the	re a composition to a difficulty	
Date (MM/DD/YY):	January 17, 20	22 Time:	1200
Inspector:	Horder Enterise	( Q ) Weather:	-30, MOSTLY SURRY
Current activities on site:	Placing soil in	STE	The state of the s
	L.	Freeboard in ditch	N/A
Water in Cell? ::	N/A	Freeboard in Pond	MA
Soil on Pad?	Yes, 60990 d	If yes, fill out page 2 (x)	
Treated water tank in use?		# of TW tanks	1 Empty
Review Maintenance Log (Y/N)		Outstanding work order (Y/N	to consider and an arrange of the formation of the state

Neview Maintenance Log (1/14)			Outstanding work order (Y/N)				
	Site Conditions		OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2	
	Access	Gate in working order	NA				
	Access	Signage visible/in good condition	NA				
		On site	X'				
	Spill Kit		χ',			-	
ı		Contents checked	ζ.				
H		Locked	K.				
		PPE available	X.				
	Storage	Trash pump in containment	NIA				
ı	Shed	Pump fuel in containment	V				
ı	Jileu	Soil amendments in containment	MA				
ı		SDS' available	X.				
L		Sample kit contents checked	X				
	Wildlife	Observed on site (identify type)	X				
		Damage to facility	χ.			and the second s	
		Birds on or near pond	χ.				
L		Bears in or near facility	k.				
		Evidence of spills/leaks/staining	7.				
	Facility	Rutting	NIA				
1	Grounds	Ice	MA				
	Section 18	Evidence of soil tracking	NA				
		Berm stability	X .			/	
		Liner visible	X .			Bern liner VISiGIA	
		Road stability	X .			7.76(	
9	Soil Pad	Drainage system working	x .				
		Dust control	K,				
		Soil piles in good condition	× .			In Bags	
		Water tanks in good condition	X ·				
		Erosion ,1	NA				
		Liner visible	X				
Re		Filter cloth on pump intake	NIA				
		Tarp intact & secure	MA				
	F	Pond level	NIA				
,	NTP F	low meter working	MA				
	S	ystem function	MA				

<sup>\*</sup>placing an X in a shaded box requires entry into Maintenance Log and follow-up.

113

que alle

### Weekly Inspection Checklist

			1:	with Soft Tr	eatment Fa	CHEY		
Date (MM/DD/YY):		/YY):	January ?	4. 2022	1	Time:	1200	
	spector:		January ? Harter E	Aeprise	Rep	Weather:	- 6, Mosty clordy	_
	urrent activit	ties on site:	Place	5011 12 5	TF		0/1100/	
Ĭ			- (Tuling)		reeboard in	ditch	NIA	_
V	Vater in Cell	::	NIA	And the second second second second	reeboard in		MA	_
	ioil on Pad?		Yes, 64990	-	f yes, fill out		7577	_
		r tank in use?	10/1/99	The Real Property lies and the Persons lies and the	# of TW tank		2 Empty	_
		tenance Log (Y/N)				work order (Y/N)		_
ſ						Entered into		٦
١				ОК	Needs	Maintenance	Comment	
		Site Conditions		(x or N/A)	Attention	Log	*additional comments on Page 2	
					(x)	(Y/N, Initial)		
		Gate in working order	1	MA		Ì		
	Access	Signage visible/in goo	d condition	NIA				
		On site		χ -				
	Spill Kit	Lid secured		χ -				
		Contents checked		X .				
		Locked		χ.				
	Storage Shed	PPE available		7				
		Trash pump in contai		MONIA NOVAX				
			Pump fuel in containment					
		Soil amendments in o	containment	AMA				
		SDS' available		* ASSA				
	Sample kit contents checked Observed on site (identify type)		X .					
	_		entify type)	χ.				
	Wildlife	Damage to facility Birds on or near pond	J	X .				
		Bears in or near facili		χ.				_
		Evidence of spills/lea		λ.				
	Facility	Rutting	iks/stairing	NFA				-
	Grounds	Ice		NA				
	Grounds	Evidence of soil track	ring	MA				-
		Berm stability	1	1///			,	_
		Liner visible		X			- '	-
		Road stability		X				_
	Soil Pad	Drainage system wor	rking	λ.				-
		Dust control		X				-
		Soil piles in good con	dition:	*.				-
		Water tanks in good		X,				
		Erosion <sup>4</sup>		MIR				
	Water	Liner visible		X				
	Retention	Filter cloth on pump	intake	N/A			1	
	Pond	Tarp intact & secure		NA				
=		Pond level		NIA				
	WTP	Flow meter working	B	NIA				-
	VVIP	System function		NIA				

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

gwalle.

### Weekly Inspection Checklist

Date (MM/DD/YY):		D/YY): Tonum	4 31,202	22	Time:	1200
Inspector: Harder		Enterprise	Rep	Weather:	-19, Snowing	
	Current activi		5011 12	SCF		
Ì	differre delivi	The state of the s	) 011	Freeboard in	ditch	NA
١	Nater in Cell	? :: N/A		Freeboard in		NIA
	Soil on Pad?	Tes, Ba		If yes, fill out		
		er tank in use?	THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER,	# of TW tank		2 Empty
		tenance Log (Y/N)			work order (Y/N)	
r	Neview wan	terrance Log (1714)	1		Entered into	
١			ОК	Needs	Maintenance	Comment
		Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
۱				(x)	(Y/N, Initial)	
		Gate in working order	NIA			
		Signage visible/in good condition	NA	- August at the state of the st		4
ı		On site	V			
	Spill Kit	Lid secured	Ž.			
		Contents checked	χ			
		Locked	X			
		PPE available	X			
	Charage	Trash pump in containment	NA			
	Storage Shed	Pump fuel in containment	X			
	Sileu	Soil amendments in containment	NIA	Autoria Companya (California)		
		SDS' available	K			
ı		Sample kit contents checked	χ			
		Observed on site (identify type)	X			
	Wildlife	Damage to facility	X			
	Wilding	Birds on or near pond	X			
		Bears in or near facility	X			
		Evidence of spills/leaks/staining			-	
	Facility	Rutting	MA			
	Grounds	Ice	MA			
		Evidence of soil tracking	NIA			
		Berm stability	X			- 1
		Liner visible	X		-	
		Road stability	X   大			
	Soil Pad	Drainage system working	X			
		Dust control				
		Soil piles in good condition	X		+	
		Water tanks in good condition	1000			
	Makes	Erosion "	MA			
	Water	Liner visible	X			
	Retention	Filter cloth on pump intake	NIA			
	Pond	Tarp intact & secure	NIA			
		IF CHICLIEVEL	1/1//6			

Flow meter working

System function

WTP

111

quelle

<sup>\*</sup>placing an X in a shaded box requires entry into Maintenance Log and follow-up.

### Weekly Inspection Checklist

			Inuvile Soil .	Treatment F	aciliev		
Date (MM	/DD/YY):	Februar			Time:	17:00	
Inspector: Hard		Harder F	7 7 7 7 7			-3415now	
		Placing		5-11-	Weather:	-34/31000	
	otivities on site.	Flacing	5011 11	Freeboard ir	ditch	Λ//Δ	
Water in C	Cell? ::	NIA		Freeboard in		N/A N/A	
Soil on Pag		785,6499	20.1	If yes, fill out		10/17	
	rater tank in use?		740	# of TW tank		0 5.00	
	aintenance Log (Y/N)	MA		-		2 Empty	
THE VICTOR IVI	directionice Log (1/14)		T	Toutstanding	work order (Y/N		
			ОК	Needs			
	Site Conditions		(x or N/A)	Attention	Maintenance	Comment	
			(X OI N/A)	(x)	Log	*additional comments on Pa	ge Z
	Gate in working order		NIA		(Y/N, Initial)		
Access	Signage visible/in good	Condition	WIA				
	On site	Condition	X •				
Spill Kit	Lid secured		Ŷ			· · · · · · · · · · · · · · · · · · ·	
Spin Ric	Contents checked	***************************************	1 7				
	Locked		<del>                                     </del>				
	PPE available		X.				
	Trash pump in containment		MA				
Storage	Pump fuel in containme		Y				
Shed		Soil amendments in containment					
	SDS' available		MA				
	Sample kit contents checked		T X				
	Observed on site (identi		X				
VACILITIES.	Damage to facility		Ŷ.				
Wildlife	Birds on or near pond		X.				
	Bears in or near facility		ν,				
	Evidence of spills/leaks/	staining	X				
Facility	Rutting		NIA				
Grounds	Ice		NIA				
	Evidence of soil tracking		NIA				
	Berm stability		X.				
	Liner visible		χ.			Bern kner visible	
	Road stability		X,			PONT 1170 V131610	
Soil Pad	Drainage system working	3	X				
	Dust control		χ.				
	Soil piles in good condition	on:	*			In 6495	
	Water tanks in good cond	dition	X			- LN 0-195	
1	Erosion <sup>*</sup>		NIA				
_	Liner visible		X				
Retention [	Filter cloth on pump intal	ke	N//A			,	
Pond T	Tarp intact & secure		WA				
P	ond level		MA				
WITE F	low meter working		MA				

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

System function

Deve all

# Weekly Inspection Checklist Inuvik Soil Treatment Facility

Date (MM/DD/YY):		Februs	14.70	2.2	Time:	12100
Inspector:		Harder	Enterprise	Rea	Weather:	
Current activities on site:		Placing 50	is in s	TE	- weather:	- 29/ 5/207
		Trolling 50		Freeboard in	a ditab	
Water in C	ell? ::	NIA		Freeboard in		1///
Soil on Pag	1?	785/649		If yes, fill out		N/A
Treated wa	ater tank in use?	701109	20	# of TW tank		
	aintenance Log (Y/N)	IVIA			s work order (Y/N	2 Empty
	3,717		1	Toutstanding	Entered into	
	1111		ОК	Needs		
	Site Conditions		(x or N/A)	Attention	Maintenance	Comment
			(X OI N/A)	(x)	Log	*additional comments on Page 2
	Gate in working order		NIAN		(Y/N, Initial)	
Access	Signage visible/in good		10/60			
	On site	a condition	10/17			
Spill Kit	Lid secured		T X		The state of the s	
	Contents checked		Y		The second secon	
	Locked		X			
	PPE available		X			
	Trash pump in containment		N/A			
Storage	Pump fuel in containment		1/1/17			
Shed	Soil amendments in co		MA			
	SDS' available		10/1-5			
	Sample kit contents ch	ecked	X			
	Observed on site (iden		Y			
AAGIAIGA	Damage to facility		X			
Wildlife	Birds on or near pond		X			
	Bears in or near facility					
	Evidence of spills/leaks		X			
Facility	Rutting		NIA			
Grounds	Ice		NA			
	Evidence of soil tracking	g	NA			
	Berm stability		χ,			
	Liner visible		χ.			Boso War will
	Road stability		X			Bern the visible
Soil Pad	Drainage system workir	ng	k			
	Dust control		X		The second secon	
	Soil piles in good condit	ion:	*x			Do 602/
	Water tanks in good cor	ndition	X			Ja land
	Erosion		N/A			7.7
Water	Liner visible		X			
	Filter cloth on pump into	ake	NIA		-	,
	Tarp intact & secure		NIA			
	Pond level		MA			
	Flow meter working		MA	THE RESERVE AND ADDRESS OF THE PARTY OF THE		
9	System function		MA	-		

Que alla

<sup>\*</sup>placing on X in a shaded box requires entry into Maintenance Log and follow-up.

### Weekly Inspection Checklist

	· · · · · · · · · · · · · · · · · · ·	cut mish			
		inuvite Soil T	reatment Fa	ncility	
Date (MM/DD/YY):		21,20	22	Time:	12:00
Inspector:	tarder E	21,20°	A la	Weather:	12:00 -23/ mostly smy
Current acti	vities on site:	soil in st	-	•	- 23/ MOHY 30009
	- tetrag	7011 111 1	Freeboard in	ditch	A C ( A
Water in Ce	II? :: \( \lambda // \A		Freeboard in		1///1 1// A
Soil on Pad?	765,600	end.	If yes, fill out page 2 (x)		70774
Treated wat	ter tank in use?	740	# of TW tank		2 Empty
	ew Maintenance Log (Y/N)			work order (Y/N)	
		<del> </del>	Outstanding	The state of the s	
		ОК	Needs	Entered into	Comment
	Site Conditions		Attention	Maintenance Log	Comment
		(x or N/A)	(x)		*additional comments on Page 2
	Gate in working order	MA		(Y/N, Initial)	
Access	Signage visible/in good condition	NA			
	On site	10/7			
Spill Kit	Lid secured	X			
	Contents checked	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
	Locked	1 2			
	PPE available	1 %			
	Trash pump in containment	NA			
Storage	Pump fuel in containment	11/1			
Shed	Soil amendments in containment	NA			
	SDS' available	10/14			
	Sample kit contents checked	1			
	Observed on site (identify type)	Y.			
	Damage to facility	X			
Wildlife	Birds on or near pond	X.			
	Bears in or near facility	k.			
	Evidence of spills/leaks/staining	X			
Facility	Rutting	NIA		-	
Grounds	Ice	MA			
	Evidence of soil tracking	NIA			
	Berm stability	V			,
	Liner visible	X			Bern line visible
	Road stability	X			11 2 VISIOLE
Soil Pad	Drainage system working	X			
	Dust control	1			
	Soil piles in good condition	2.			· In bogg
	Water tanks in good condition	1			· In 6095
	Erosion *	NIA			
Water	Liner visible	X X AGGA			1
	Filter cloth on pump intake	XVIA			beneficie visible
Pond	Tarp intact & secure				
Julia	Pond level	INIA		-	
	Flow meter working	N/A			
14000	I IOW IIICLE WOLKING	1 / 1/1/		1	

System function

gwer alle

<sup>\*</sup>placing on X in a shaded box requires entry into Maintenance Log and follow-up.

### Weekly Inspection Checklist

		7 5 5 6 6 6 6 6 7 6 7 6 6 7 7 7 7 7 7 7	
Date (MM/DD/YY):	Florony 28, 29	22 Time:	12:00
Inspector:	Howter Enterpr	ise REP Weather:	-13 M35+10 SMAND
Current activities on site:	Placing Soil in	4-F	-24, 50007
		Freeboard in ditch	NA
Water in Cell? ::	NIA	Freeboard in Pond	MA
Soil on Pad?	485/649900	If yes, fill out page 2 (x)	9/
Treated water tank in use?	MA	# of TW tanks	2 Fanaly
Review Maintenance Log (Y/N)		Outstanding work order (Y/N)	

				Outstanding Work order (1714)			
	Site Conditions		OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2	
	Access	Gate in working order	N/A	1	1		
		Signage visible/in good condition	MA				
	Spill Kit	On site	X				
		Lid secured	X				
		Contents checked	X				
		Locked	X				
		PPE available	X				
	Storage	Trash pump in containment	MA				
	Shed	Pump fuel in containment	X				
1	Siled	Soil amendments in containment	MA				
1		SDS' available	V				
L		Sample kit contents checked	Ŷ				
1		Observed on site (identify type)	X				
ı	Wildlife	Damage to facility	X				
ı		Birds on or near pond	X				
L		Bears in or near facility	X				
	Facility Grounds	Evidence of spills/leaks/staining	X				
ı		Rutting	NIA				
L		Ice	MIA				
L		Evidence of soil tracking	NIA				
Γ		Berm stability	1 ///				
L		Liner visible	T V			0	
L		Road stability	\ \frac{1}{\sigma}			Bern lier visible	
L	Soil Pad	Drainage system working	<del>                                     </del>				
ı		Dust control	-				
ı		Soil piles in good condition	X X				
		Water tanks in good condition	X			In 6095	
Г		Erosion 1					
	Water	Liner visible	N/A				
R	etention	Filter cloth on pump intake	1100				
		Tarp intact & secure	NIA				
	_	Pond level	NGA				
	WTP FI		NA				
		Flow meter working	NIA				
		System function	V/A				

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

1 1 1

Owe alle

		We	ekly Insp	ection Ch	lecklist		
		11	nuvik Soil Ti	restment Fa	cility		
D	ate (MM/DD				Time:	12.00	
Inspector:		Harter E	terprise R		Weather:	-10,500W	
	urrent activi	ties on site:	oil in ST	R	vvcatrici.	10/ 1/19/51	_
Č	arrent activi	ties on site.	0/1 /1 31	Freeboard in	ditch		-
V	Vater in Cell	? :: <i>NA</i>		Freeboard in			-
	oil on Pad?		ged where				-
		er tank in use?	940 20 1914			2 Empty	
			# of TW tanks Outstanding work order (Y/N)				-
F	veview iviaiii	tenance Log (Y/N)	<del></del>	Outstanding			-
١			014	Needs	Entered into		
١		Site Conditions	OK	Attention	Maintenance	Comment	
١			(x or N/A)	(x)	Log	*additional comments on Page 2	
ŀ		Cohe in word in a set	10000		(Y/N, Initial)		_
		Gate in working order	NIA				_
ł		Signage visible/in good condition On site	NA				
		Lid secured	1 3				_
	Spill Kit	Contents checked	1-1				-
		Locked	1 1				_
	Storage	PPE available	<del>  X</del> -				_
		Trash pump in containment	MA				_
		Pump fuel in containment	11/1/12				_
	Shed	Soil amendments in containment	MA				_
		SDS' available	10/14				_
		Sample kit contents checked	1				
		Observed on site (identify type)	V				
		Damage to facility	1				
	Wildlife	Birds on or near pond	Y				
		Bears in or near facility	\ \hat{\chi}				
		Evidence of spills/leaks/staining	X				
	Facility	Rutting	NIA				
	Grounds	Ice	MA				
		Evidence of soil tracking	MA				-
	Soil Pad	Berm stability	1			,	
		Liner visible	T V			Liner visible on sides	
		Road stability	X.			11010 011 37 ALS	
		Drainage system working	χ.				
		Dust control	X;				
		Soil piles in good condition	X			In 6495	
		Water tanks in good condition	X			T. Guy	

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Filter cloth on pump intake

Tarp intact & secure Pond level

Flow meter working

System function

Erosion

Liner visible

Water

Retention Pond

WTP

gwalle

MA

# RBL Environmental LTD.

			Z.	Weekly Ins	martian	Charlettee		
		111						
		1			Treatment	: Facility		
		1M/DD/YY):	March	14, 2022 Enterprisi		Time:	(2,90	
	Inspect	or:	HWZer	Enterprisi	Res	Weather:	-17, MOSHY (19-84	
	Current	activities on site:	DIARICO	Soil in sal	= 11		14 (10)1.7 (140)	
			1/01011	2011 - 12 (1	Freeboard	in ditch		
	Water i	n Cell? ::	0///	1	Freeboard			
	Soil on I	Pad?	V05 //want	od and piled	If yes, fill out page 2 (x)			
	Treated	water tank in use?		2	# of TW tai		2 Empty	_
		Maintenance Log (Y/N)	107/7			ng work order (Y	Longity	
		208 (1711)		<del></del>	T	Entered int		
				ОК	Needs			
		Site Conditions			Attention	Maintenand	Comment	
١				(x or N/A)	(x)	Log	*additional comments on Page 2	
ı		Coto in working and a		10/10	<del> </del>	(Y/N, Initial	)	-
	Acces	Gate in working order		NA	-	-		
		Signage visible/in good	condition	NA				
	Spill Ki	On site		- X				
	Spill Ki			X				
		Contents checked		X				
		Locked		X.				
Storage	PPE available		X					
	Storage	Trash pump in containm		NrA				
	Shed	Pump fuel in containme		X				
		Soil amendments in con	tainment	INIA				
		SDS' available		X				
	-;	Sample kit contents ched		K				
		Observed on site (identif	y type)	X				
	Wildlife	Damage to facility		X				
		Birds on or near pond		X				
		Bears in or near facility		X				
		Evidence of spills/leaks/s	taining	X				
	Facility	Rutting		NA				
(	Grounds	Ice		INIA				
		Evidence of soil tracking		NA				
		Berm stability		X			/	$\neg$
		Liner visible		Y			Liner Visible en sides	$\dashv$
		Road stability		V			Vinue at 5105	$\dashv$
ŝ	oil Pad	Drainage system working		X				$\dashv$
		Dust control		8				$\dashv$
		Soil piles in good condition	:	28			Tolash	$\dashv$
		Water tanks in good condit		<b>C</b>			Tr hay s	4
		Erosion 1	.1011	V(( V			to forg	4
V	Vater	Liner visible		N/A				4
		Filter cloth on pump intake		0000				4
				NIA				
•	-	Tarp intact & secure		MA				
	-	Pond level		IVIA				

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

System function

WTP

5

. <u>6</u>

, 8

. 9

Office Back-up: Date (DD/MM/YY) Initial

Jul Elle

## Weekly Inspection Checklist

			muvic son	treatment	Facility	
Date (MM/DD/YY):		Arri 2	1. 2000	).	Time:	12,00
Inspector: Harder		1000	(A D C.		72 50	
Current act	tivities on site:	1	- NA AU	or it eb	Weather:	-23 MOSHY CIR-DY
	- P/a	chy soi	il in ST			
Water in C	ell? ::	00/1		_ Freeboard i		
Soil on Pad		MA.		Freeboard i		
		1/649 ged	and priced	If yes, fill ou	it page 2 (x)	
	eter tank in use?	NIA		# of TW tan	ks	2 Empty
Review Ma	aintenance Log (Y/N)			Outstanding	g work order (Y/N	V)
					Entered into	
	Site Conditions		ОК	Needs	Maintenance	
	Site Conditions		(x or N/A)	Attention		Comment
			( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( ( (	(x)	Log	*additional comments on Page 2
A	Gate in working order		MA	The state of the s	(Y/N, Initial)	
Access	Signage visible/in good cond	ition	MA	-		
	On site	ition	X			
Spill Kit	Lid secured		X			
	Contents checked		-			·
	Locked		X			
	PPE available		X			
	Trash pump in containment					
Storage	Pump fuel in containment		MA			/
Shed	Soil amendments in containment		χ.			
	SDS' available		NIA			
	Sample kit contents checked		V			
-	Observed as site (identification		X			
	Observed on site (identify typ	e)	X			
Wildlife	Damage to facility Birds on or near pond		χ			
	Boars in a reason for its		X			
	Bears in or near facility		X			
Facility	Evidence of spills/leaks/staini	ng	X			
	Rutting		NIA			
Grounds	Ice		MIA			
	Evidence of soil tracking		MA			
	Berm stability		X			
	Liner visible		X			111000000
	Road stability		Y			Link visible en sider
Soil Pad	Drainage system working		X			
	Dust control		k			
	Soil piles in good condition		K			
	Water tanks in good condition		\$			In bugs
	Erosion <sup>2</sup>		MA			
Water	Liner visible		X			
Retention	Filter cloth on pump intake		MA			,
Pond	Tarp intact & secure		MA			
	Pond level		MA			1
WTP	Flow meter working		MA			
	System function		1114			

placing an X in a shaded box requires entry into Maintenance Log and follow-up

Que alle

## Weekly Inspection Checklist

Date (MM/D	D/YY):	C - SOR I	reatment Fa	icility	
Inspector:	DMY):  March 2  Harder E	6/ 705.	1	Time:	12,90
	vities on site:	nterphse	Rep	Weather:	-24 sunay
	ities on site: Placing 50	Il in st			1/5/1/
Water in Cel			Freeboard in		
Soil on Pad?			Freeboard in	Pond	
	er tank in use?	ed 6/169	If yes, fill out	page 2 (x)	
Review Mai	ntenance les (V/A)				2 Empty
TOVICOV IVIAI	ntenance Log (Y/N)		Outstanding	work order (Y/N)	
			Needs	Entered into	
	Site Conditions	OK	Attention	Maintenance	Comment
		(x or N/A)	(x)	Log	*additional comments on Page 2
	Gate in working and		(^/	(Y/N, Initial)	
Access	Gate in working order	NA			
	Signage visible/in good condition On site	NIA			
Spill Kit	Lid secured	<b>\</b>			
Sp. II Kit	Contents checked	X			
	Locked	X			
	PPE available	λ			
	Trash pump in containment	NIA			
Storage	Pump fuel in containment	V			
Shed	Soil amendments in containment				
	SDS' available	MA			
	Sample kit contents checked	V			
	Observed on site (identify type)	X.			
VACILAL:E	Damage to facility	X			
Wildlife	Birds on or near pond	$\lambda$			
	Bears in or near facility	Y			
	Evidence of spills/leaks/staining	k			
Facility	Rutting	MA			
Grounds	Ice	NIA			
	Evidence of soil tracking	NA			
	Berm stability	X			
	Liner visible	Y			The Michael Control
	Road stability	V			Liner Visible on sides
Soil Pad	Drainage system working	F			
	Dust control	X			
	Soil piles in good condition	15			
	Water tanks in good condition	2			In 6495
	Erosion <sup>4</sup>	MA			Tr (7)
Water	Liner visible	V			
Retention	Filter cloth on pump intake	ΝΊΑ			,
Pond	Tarp intact & secure	NA			
	Pond level	NA			
LA CTITO	Flow meter working	NA			
WTP	Custom for the	10/12			

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Am alle-

### Weekly Inspection Checklist

	1	Inuvils Soil Treatment Facility						
Date (MM/D	D/YY):	April 4120	22		Time:	12:00		
Inspector:		Hearter En	terprise		Weather:	76 (2014)		
Current activ	vities on site:	Placing soil			·	270/3/1400		
		- Hour y John		Freeboard in	ditch	۸//Δ		
Water in Cel	1? ::	MA		Freeboard in		10//1		
Soil on Pad?		Y85/649900	bails ha	If yes, fill out		10/A		
	er tank in use?	NIA	710 1910	# of TW tank		2 Empty		
Review Mair	ntenance Log (Y/N)				work order (Y/N)	I LNIPTY		
					Entered into			
	Site Conditions		ОК	Needs	Maintenance	C		
	Site Conditions		(x or N/A)	Attention	Log	Comment *additional comments on Page 2		
				(x)	(Y/N, Initial)	additional comments on rage 2		
Access	Gate in working orde	r	NA					
	Signage visible/in goo	od condition	NA					
6.111.111	On site		X					
Spill Kit	Lid secured		X			·		
-	Contents checked		X					
	Locked		X					
	PPE available		χ.					
Storage	Trash pump in contai	nment	MA					
Shed	Pump fuel in contain		X					
	Soil amendments in c	containment	MA					
	SDS' available		X					
-	Sample kit contents of	hecked	X					
	Observed on site (ide Damage to facility	entify type)	X					
Wildlife	Birds on or near pond	-1	X					
	Bears in or near facili	<u> </u>	X					
	Evidence of spills/lea		I V					
Facility	Rutting	K3/Stailing	X Mrs					
Grounds	Ice		NIA					
	Evidence of soil track	ing	MA					
-	Berm stability	1	MA					
	Liner visible		- X					
	Road stability		X			Bern liner visible on sides		
Soil Pad	Drainage system wor	king	1					
	Dust control	KIIIB	X					
	Soil piles in good con-	dition :	V.					
	Water tanks in good	Condition	X'					
	Erosion	- CONTROLLOR	-					
Water	Liner visible		MA					
Retention	Filter cloth on pump i	intake	N/CA					
Pond	Tarp intact & secure	THE REAL PROPERTY.	NIA					
	Pond level		MA					
14.770	Flow meter working		IVIA					
WTP	System function		MA					

Quealle

<sup>\*</sup>placing on X in a shaded box requires entry into Maintenance Log and follow-up.

#### Weekly Inspection Checklist inuvik Soil Treatment Facility Date (MM/DD/YY): Time: Inspector: Weather: Current activities on site: Freeboard in ditch Water in Cell? Freeboard in Pond Soil on Pad? and pilot If yes, fill out page 2 (x) Treated water tank in use? # of TW tanks Review Maintenance Log (Y/N) Outstanding work order (Y/N) **Entered into** Needs OK Maintenance Comment **Site Conditions** Attention \*additional comments on Page 2 (x or N/A) Log (x) (Y/N, Initial) Gate in working order NA Access Signage visible/in good condition MA On site Lid secured Spill Kit Contents checked Locked PPE available Trash pump in containment Storage Pump fuel in containment Shed Soil amendments in containment MA SDS' available Sample kit contents checked Observed on site (identify type) Damage to facility Wildlife Birds on or near pond Bears in or near facility Evidence of spills/leaks/staining Facility Rutting NIA Grounds Evidence of soil tracking MA Berm stability bern liner visible on sides Liner visible X Road stability Drainage system working Soil Pad **Dust control** Soil piles in good condition Water tanks in good condition Erosion Water Liner visible Filter cloth on pump intake Retention MA Tarp intact & secure Pond NIA Pond level Flow meter working

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

System function

WTP

Office Back-up: Date (DD/MM/YY) Initial

NA

and alle

## Weekly Inspection Checklist

Inuvik Soil Treatment Facility

		1		Time:	1/100 Am
Date (MM/DD/YY): 07/		122		- Weather:	Sunmy + 22 %
Inspector:	Jesse	Harder	E		
Current ac	tivities on site: Soil	in 57	Freeboard in	ditch	NA
	- 110		Freeboard in		NIA
Water in C	ell? N/H	101121	If yes, fill out		
Soil on Pad		Piled	# of TW tank		2 Fall
	ater tank in use?			work order (Y/N)	
Review Ma	nintenance Log (Y/N)		Tutstanding	Entered into	
		CV	Needs	Maintenance	Comment
	Site Conditions	OK	Attention	Log	*additional comments on Page 2
	Site Conditions	(x or N/A)	(x)	(Y/N, Initial)	
		11/0		(1)	
Access	Gate in working order	NA			
Access	Signage visible/in good condition	NA	And the same		
	On site	X	Salar and Care Con-		
Spill Kit	Lid secured	X			
	Contents checked	X	No. of the last of		A
	Locked	X			
1	PPE available	WIA	Samuel Control		confirmation and the second
Storage	Trash pump in containment	WIA			2.02746.727.027
Shed	Pump fuel in containment	11/2			
Jileu	Soil amendments in containment	N/A			
	SDS' available	X			
	Sample kit contents checked	X			
	Observed on site (identify type)	×			No. of the Control of
Wildlife	Damage to facility				
VVIIGING	Birds on or near pond	X			
	Bears in or near facility	+ 2			
	Evidence of spills/leaks/staining	NIA	and and an analysis		
Facility	Rutting	NIA	de Carrela		
Grounds	lce Sailtensking	NA			
	Evidence of soil tracking	CONTRACTOR OF THE PERSON NAMED IN			
	Berm stability	X			
	Liner visible	X		Contract of the second	
	Road stability	×		-	
Soil Pad	Drainage system working	X	Commission of the Commission o	Marin California Communication	
	Dust control	×	-775	Annual State of the State of th	
	Soil piles in good condition	2			
	Water tanks in good condition	NIA			
	Erosion Liner visible		Market Market Land		
Water	Filter cloth on pump intake	NIA	Contraction of the		
Retention		NIA			
Pond	Tarp intact & secure Pond level	10/11	AND THE RESERVE OF THE PARTY OF		3/4 Full
	Flow meter working	NIA	Maria Maria		
WTP	Flow meter working	11/12			

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

11:00 AM

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

	1.,	/ -		Time:	10:00 1411	
Date (MM/DD/YY): 07/11/2a			Weather:	overcast 18°		
Inspector:	Owen	Allen	Market a 12.15			
Current act	ivities on site: Soil	NSTE	Freeboard in	ditch	NA	
			Freeboard in		NIA	
Water in Ce	ell? ?!!	021	If yes, fill out	page 2 (x)		
Soil on Pad		Piled	# of TW tank	, habe = (	2 Full	
Treated wa	ter tank in use?	10	Outstanding	work order (Y/N)		
Review Ma	intenance Log (Y/N)		Outstanding	Entered into		
			Needs	Maintenance	Comment	
	Site Conditions	OK	Attention	Log	*additional comments on Page 2	
	Site Conditions	(x or N/A)	(x)	(Y/N, Initial)		
		110		(1/14, micial)		
	Gate in working order	NA				
Access	Signage visible/in good condition	NIA				
	On site	×	3			
Spill Kit	Lid secured	×				
	Contents checked	×				
	Locked	X				
	PPE available	X,				
	Trash pump in containment	N/A				
Storage	Pump fuel in containment	X	- September 1			
Shed	Soil amendments in containment	X	100000000000000000000000000000000000000			
	SDS' available	X				
	Sample kit contents checked	X				
	Observed on site (identify type)	X		ment and the second		
	Damage to facility	X				
Wildlife	Birds on or near pond	X	The second second		CMARGON A CO.	
	Bears in or near facility	X			Control of the Contro	
E-Parities	Evidence of spills/leaks/staining	X		CONTRACTOR OF THE PARTY OF THE		
Facility	Rutting	NA		The second second second	The State of the Land of the L	
Grounds	Ice	NIA		Same and the same		
	Evidence of soil tracking	N/A				
	Berm stability	X		The second second second		
	Liner visible	X				
	Road stability	X				
Soil Pad	Drainage system working	X				
	Dust control	X				
	Soil piles in good condition	×		and the second of the	Full Compacted / BAGO	
	Water tanks in good condition	×				
The state of the s	Erosion 1	N/A				
Water	Liner visible	X				
Retention	Filter cloth on pump intake	NA			The second secon	
Pond	Tarp intact & secure	NIA		Na hay comment		
Toriu	Pond level	×,			Full	
	Flow meter working	N/A			-	
WTP	System function	NA				
		MIT	The second secon	THE RESERVE TO SHARE THE PARTY OF THE PARTY	The state of the s	

<sup>\*</sup>placing on X in a shaded box requires entry into Maintenance Log and follow-up.

### Weekly Inspection Checklist

Date (MN	1/DD/YY): 07/2.	5 22	reatment F	Time:	10:00 AM
Inspector:				Weather:	SUMMY 24°C
Current ac	ctivities on site:	STF		- Wedther.	30011101 24 6
			Freeboard in	n ditch	NIA
Water in (		1	Freeboard in	Pond	NIA
Soil on Pa	10	Piled	If yes, fill ou	t page 2 (x)	
	rater tank in use?	A	# of TW tank		2 Full
Review M	aintenance Log (Y/N)		Outstanding	work order (Y/N)	
				Entered into	
	Site Conditions	OK	Needs	Maintenance	Comment
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
			(x)	(Y/N, Initial)	
Access	Gate in working order	NA			
	Signage visible/in good condition	NIA	in the second second	and the second second	
	On site	*			
Spill Kit	Lid secured	X			
	Contents checked	X			
	Locked	X			
	PPE available	X			
Storage	Trash pump in containment	A)/A			
Shed	Pump fuel in containment	X			
Siled	Soil amendments in containment	1			
	SDS' available	X			
	Sample kit contents checked	12			
-	Observed on site (identify type)	10			
Wildlife	Damage to facility	12			
vyname	Birds on or near pond	1 2			
	Bears in or near facility	1 2			A STATE OF THE STA
	Evidence of spills/leaks/staining	12			
Facility	Rutting	10/0			Control of the Contro
Grounds	Ice	10/0			
	Evidence of soil tracking	WA			The state of the s
	Berm stability	1			
	Liner visible	1			
	Road stability	12			
Soil Pad	Drainage system working	1 -			
	Dust control	1 2			
	Soil piles in good condition	X			
	Water tanks in good condition	+ > +			
The second	Erosion 2	N/A			
Water	Liner visible	T X			
Retention	Filter cloth on pump intake	D/A			
Pond	Tarp intact & secure	N/A			
	Pond level	X			State of the state
	Flow meter working	NA		-	and the second s
VVIP	System function	ALC		7 15 15 Ye 1-100	Market and the second of the s
The second liverage of		1 / 1 / 1	THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	NAME AND ADDRESS OF THE OWNER, WHEN PARTY AND PARTY AND PARTY AND PARTY AND PARTY AND PARTY AND PARTY.	

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

July 25/23 OA

## Weekly Inspection Checklist

Date (M Inspecto	IM/DD/YY):	118/22	reatment	Time:	10:00 Am
Current activities on site:		Wen Allen		Weather:	Sunmy -20%
Carrent	activities on site:				ZAMIN AT L
Water in	Cell?		_ Freeboard i		NIA
Soil on Pa			Freeboard i		NIA
Treated v	water tank in use?		_ If yes, fill ou	t page 2 (x)	
	Maintenance Log (Y/N)		# of TW tan		2 Full
			Outstanding	work order (Y/N)	
	Site Conditions	ОК	Needs	Entered into	
	Site Collattions	(x or N/A)	Attention	Maintenance	Comment
		(1.5, 10, 10,	(x)	Log	*additional comments on Page 2
Access	Gate in working order	NA		(Y/N, Initial)	
	Signage visible/in good cond	ition NA			
	On site	X			
Spill Kit	Lid secured	x			
	Contents checked	X			
	Locked				
	PPE available	×			
Storage	Trash pump in containment	NA			
Shed	Pump fuel in containment				The second secon
	Soil amendments in containm	ent N/A			
	SDS' available	N/H			
	Sample kit contents checked	×			
	Observed on site (identify type				
Wildlife	Damage to facility	X			
	Birds on or near pond	X			
	Bears in or near facility	X			
	Evidence of spills/leaks/staining	X			
-acility	Rutting	Aila			
	Ice	1/1/4			
E	Evidence of soil tracking	11/2			
THE RESERVE OF THE PERSON NAMED IN	Berm stability *	AITT			
	iner visible	X			
	Road stability	X			
il Pad D	Prainage system working	V			
	oust control	12			
Sc	oil piles in good condition ·	1			
W	later tanks in good condition	X			
Er	rosion "	11/0			
	ner visible	NIT			
ention Fil	lter cloth on pump intake	1010			
ond Tai	rp intact & secure	THE T			
	nd level	1			
TP Flo	ow meter working	Nic			
Svs	stem function	17/19			

Office Back-up: Date (DD/MM/YY) Initial

July 18/22 0A

## Weekly Inspection Checklist Inuvik Soil Treatment Facility

Date (MM/	DD/YY): 08/01/	122		Time	1 - 1 - 1
Inspector: Jesse Harde		Time:		10:05 AM	
Current activities on site:			<u> </u>	_Weather:	18 %
	_3811	in STF			
Water in Ce	113	^	Freeboard in		NIA
Soil on Pad		+	Freeboard in	n Pond	NA
	ter tank in use?	Piled	If yes, fill ou	t page 2 (x)	
	intenance Log (Y/N)	5	# of TW tank	ks	2 Full
THE VICTOR IVIA	interiance Log (Y/N)		Outstanding	work order (Y/N)	
			Needs	Entered into	
	Site Conditions	OK		Maintenance	Comment
		(x or N/A)	Attention	Log	*additional comments on Page 2
			(x)	(Y/N, Initial)	The same and the s
Access	Gate in working order	NIA			
	Signage visible/in good condition	NA			
	On site	X			
Spill Kit	Lid secured	×			
	Contents checked	X			
	Locked	X			
	PPE available	X			
Channe	Trash pump in containment	AIG			
Storage	Pump fuel in containment	X.			
Shed	Soil amendments in containment	11/2			
	SDS' available	1 X			
	Sample kit contents checked	12			
	Observed on site (identify type)	10			
1101 1116	Damage to facility	1 2			
Wildlife	Birds on or near pond	10			
	Bears in or near facility				
	Evidence of spills/leaks/staining	12			
Facility	Rutting	111/2			
Grounds	Ice	1 1/1/2			
	Evidence of soil tracking	AY/A			
	Berm stability	1/0/17			
	Liner visible	1 2			
	Road stability	X			
Soil Pad	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
	Erosion 1	NA			The state of the s
Water	Liner visible	X			
Retention	Filter cloth on pump intake	NIA			
	Tarp intact & secure	NA			The state of the s
	Pond level	X			
	Flow meter working	N/A			
WIP	System function	N/A			

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

08/01/22 det

### Weekly Inspection Checklist

Date (MM	/DD/YY).	08/08	nuvik soli i	reatment F	acility	
Inspector:		00/08	122		Time:	10:05 AM
	ctivities on site:	Jesse	Harden		_Weather:	16 ° overcast
current at	ctivities on site:	50111	N STF	WARRY COLOR OF THE PARTY OF THE		C OUCICAST
Water in C	20112	110		Freeboard in		1)//-
Soil on Pag		N/1+	-	Freeboard in		10/14
		yes	Piled	If yes, fill out		10/11
	ater tank in use?	Yes		# of TW tank		2 Full TANKS
Keview IVI	aintenance Log (Y/N)			Outstanding	work order (Y/N)	7.11077
				Needs	Entered into	
	Site Conditions		OK	Attention	Maintenance	Comment
			(x or N/A)		Log	*additional comments on Page 2
			110	(x)	(Y/N, Initial)	
Access	Gate in working order		N/I+			
	Signage visible/in good	condition	NA			
	On site		X			
Spill Kit	Lid secured		X			Committee of the Commit
	Contents checked		×			
	Locked		X			
	PPE available		X			
Storage	Trash pump in containr	ment	NA			
Shed	Pump fuel in containme	ent	X.			
Sileu	Soil amendments in cor	ntainment	III			
	SDS' available		X			
	Sample kit contents che	ecked	X			
	Observed on site (ident		X			
Metallic	Damage to facility		X			
Wildlife	Birds on or near pond		X			
	Bears in or near facility		X			
	Evidence of spills/leaks,	/staining	X			
Facility	Rutting		11/12			
Grounds	Ice		AMIT			
	Evidence of soil tracking	3	AYOL			
	Berm stability		X			
	Liner visible		X			
	Road stability	+	X			
Soil Pad	Drainage system working	g	X			
	Dust control		X			
	Soil piles in good condit	ion ·	X			
	Water tanks in good cor		X			
	Erosion 1		N/A			
Water	Liner visible		X			
Retention	Filter cloth on pump into	ake	11/1			
Pond	Tarp intact & secure		MA			
Folia	Pond level		Y			
	Flow meter working		Th			
WTP			MA			
	System function		1/11/-		The second secon	

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

Ayoraz atto

#### Weekly Inspection Checklist

Date (MM	(/DD/YY): 08/15	122	reatment re	Time:	11:30 Am
Inspector: Vesse		Harde	X	Weather:	150 Raining
Current ac	ctivities on site:	NSTF			/sc Admira)
			Freeboard in	ditch	NIA
Water in C	Cell?	-	Freeboard in	Pond	11/4
Soil on Pag	d? Yes P	ited	If yes, fill out	page 2 (x)	,,,,,,,
Treated w	ater tank in use?		# of TW tank		2 Full
Review Ma	aintenance Log (Y/N)		Outstanding	work order (Y/N)	
			Manda	Entered into	
	Site Conditions	OK	Needs	Maintenance	Comment
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
			(x)	(Y/N, Initial)	
Access	Gate in working order	WIA			
Access	Signage visible/in good condition	NIA			
	On site	X			
Spill Kit	Lid secured	X			
	Contents checked	X	entitle and the		
	Locked	X			
	PPE available	X,	a production of the		
Storage	Trash pump in containment	N/A			
Shed	Pump fuel in containment	X			
Sileu	Soil amendments in containment	X	Selection of the Control of the Cont		
	SDS' available	X	A CANADA	Grant Comment	
	Sample kit contents checked	X	Contract of the Contract of th	September 1997	A STATE OF THE STA
	Observed on site (identify type)	X	Service Control		
Wildlife	Damage to facility	X			
wildine	Birds on or near pond	X	and the second		
	Bears in or near facility	X	etti umpanin e		
	Evidence of spills/leaks/staining	×		The second second second second	
Facility	Rutting	1//+			
Grounds	Ice	ALA			
	Evidence of soil tracking	NA			
	Berm stability	×		Company and the second	
	Liner visible	X		1 1 1 1 1 1 1 1 1 1 1	
	Road stability	X		and the second	
Soil Pad	Drainage system working	×	-	Addition between	
	Dust control	X		Maria Company	
	Soil piles in good condition	X		Andrew Art of the	
	Water tanks in good condition	X			
	Erosion <sup>1</sup>	NID	-		the state of the s

Filter cloth on pump intake

Tarp intact & secure

Flow meter working

System function

Liner visible

Pond level

Water

Retention

Pond

WTP

Aug 15/2 Atto

<sup>\*</sup>placing an X in a shaded box requires entry into Maintenance Log and follow-up.

#### Weekly Inspection Checklist

Inuvik Soil Treatment Facility							
Date (MM/	DD/YY): 08/22	122		Time:	10:15 Am		
Inspector:	Special Specia	Herd	es	Weather:	10:15 Am Raining 17%		
The second secon	ivities on site:	on STF	=		700000		
	3-011	in or	Freeboard in	ditch	WIN		
Water in Ce	1/0		Freeboard in		11/2		
Soil on Pad		Piled	If yes, fill out		2/1-		
	ter tank in use?	1100	# of TW tank		2 + 11		
	intenance Log (Y/N)			work order (Y/N)	Ltull		
Neview ivia	interiance Log (1714)	1	Outstanding	Entered into			
		ОК	Needs	Maintenance			
	Site Conditions		Attention		Comment *additional comments on Page 2		
		(x or N/A)	(x)	Log	additional comments on Fage 2		
	la	1110		(Y/N, Initial)			
Access	Gate in working order	WIT					
	Signage visible/in good condition	N/A					
	On site	X					
Spill Kit	Lid secured	X					
	Contents checked	X					
	Locked	X					
	PPE available	X					
Storage	Trash pump in containment	NA					
	Pump fuel in containment						
Shed	Soil amendments in containment	X					
	SDS' available	X					
	Sample kit contents checked	X					
	Observed on site (identify type)	X					
Wildlife	Damage to facility	×					
volidille	Birds on or near pond	×					
	Bears in or near facility	X					
	Evidence of spills/leaks/staining	<b>X</b>					
Facility	Rutting	NA					
Grounds	Ice	NA					
	Evidence of soil tracking	MA					
	Berm stability	X					
	Liner visible	X					
	Road stability	X					
Soil Pad	Drainage system working	X					
	Dust control	X					
	Soil piles in good condition	×					
	Water tanks in good condition	X					
	Erosion 2	NA			AND THE RESIDENCE OF THE PARTY		
Water	Liner visible	X					
Retention	Filter cloth on pump intake	NA					
Pond	Tarp intact & secure	WA					
	Pond level	X					
	Flow meter working	11/14					
WTP	System function	13/10					

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

08/24/22 200

	W	eekly Insp			
	: 1-	Inuvik Soil T	reatment Fa	acility	
Date (MM/	DD/YY): 08/20	1/22		Time:	1:30 Am
Inspector:	Vecce	Hard	PN	Weather:	overcost 20's
	ivities on site:	Tima			
			Freeboard in	ditch	NIA
Water in Ce	ell? 1//A		Freeboard in		1//2-
Soil on Pad		Diled	If yes, fill out		VIA
	ter tank in use?	1	# of TW tank		1
	intenance Log (Y/N)			work order (Y/N)	
	208 (17.17	T		Entered into	
		ОК	Needs	Maintenance	Comment
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
		(10114/74)	(x)	(Y/N, Initial)	
	Gate in working order	1)14		(1/14, micial)	
Access	Signage visible/in good condition	1/10			
	On site	N/I+			
Spill Kit	Lid secured	1			
John Kit	Contents checked	10			
	Locked	+ ×			
	PPE available	+>			
	Trash pump in containment	17/1			
Storage		W/A			
Shed	Pump fuel in containment Soil amendments in containment	12			
	SDS' available	12			
		16			
	Sample kit contents checked				
	Observed on site (identify type)	+X			
Wildlife	Damage to facility	+ 3			
	Birds on or near pond	X			
	Bears in or near facility	1 ×			
E. ille.	Evidence of spills/leaks/staining	11/2			
Facility	Rutting	10/14			
Grounds	lice	MA			
	Evidence of soil tracking	WIT			
	Berm stability	\\ \\			
	Liner visible	12			
6 11 - 1	Road stability	1			
Soil Pad	Drainage system working	1			
	Dust control	1			
	Soil piles in good condition	1			
	Water tanks in good condition	17/10			
	Erosion <sup>1</sup>	MIT			
Water	Liner visible	17/1			
	Filter cloth on pump intake	N/H			
Pond	Tarp intact & secure	NA			
	Pond level	X			
WTP	Flow meter working	MAT			
	System function	11/14			

<sup>\*</sup>placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Weekly Inspection Checklist

	,	ynuvik Soil 7	Treatment F	acility	
Date (MM)	(DD/YY): A9/05	122		Time:	9:30 AM
Inspector:		seHard	11	Weather:	IA'r Rainny
	tivities on site:	50/14.4			100
currentac	3/		Freeboard in	n ditch	11/2
Water in C	1/1/	1	Freeboard in	-	1112
		red/Tuned			N/II
Soil on Pad		12 June	# of TW tank		0 1
	ater tank in use?	77	-	work order (Y/N)	ac .
Keview ivia	intenance Log (Y/N)		Outstanding	Entered into	
		01/	Needs		
	Site Conditions	OK	Attention	Maintenance	Comment *additional comments on Page 2
		(x or N/A)	(x)	Log	*aaaitional comments on Page 2
		1111		(Y/N, Initial)	
Access	Gate in working order	V/H			
	Signage visible/in good condition	NIA			
	On site	X			
Spill Kit	Lid secured	X			
	Contents checked	X			
	Locked	×			
	PPE available	X			
Storage	Trash pump in containment	NIA			
Shed	Pump fuel in containment	2			
Sileu	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
	Observed on site (identify type)	X			
met net	Damage to facility	X			
Wildlife	Birds on or near pond	X			and the second control of
	Bears in or near facility	X			
	Evidence of spills/leaks/staining	X			
Facility	Rutting	NIA			
Grounds	Ice	NIA			
	Evidence of soil tracking	NIA			
	Berm stability	X			
	Liner visible	X			
	Road stability	X			
Soil Pad	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	12			
	Water tanks in good condition	X			
	Erosion 2	NIA			
Water	Liner visible	1/2//			
Retention	Filter cloth on pump intake	17/12			
Pond	Tarp intact & secure	NA			
Tonu	Pond level	TXIT I			
	Flow meter working	TIA			
WTP	Contant for ation	1/1/2			

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

sept.05/22 Att

Weekly Inspection Checklist Inuvik Soil Treatment Facility

Data (MMM/	09/12/	22		Time:	9:52 AM
Date (MM/DD/YY): Inspector: Current activities on site:		Allen	A STATE OF THE PARTY OF THE PAR	Weather:	T'c overcast
		T			. 1
Current act	ivities off site.		Freeboard in	ditch	N/A
Water in Ce	N/A		Freeboard in	Pond	N/A
Soil on Pad	141.1	The state of the s	If yes, fill out	page 2 (x)	
	ter tank in use?		# of TW tank	s	2
	intenance Log (Y/N)		Outstanding	work order (Y/N)	
		The state of the s	Needs	Entered into	
	City Conditions	OK	Attention	Maintenance	Comment
	Site Conditions	(x or N/A)		Log	*additional comments on Page 2
			(x)	(Y/N, Initial)	
Access	Gate in working order	NA			
Access	Signage visible/in good condition	MA			
	On site	X			
Spill Kit	Lid secured	X			
	Contents checked	X			
	Locked	X			
	PPE available	X	The state of the s		
Storage	Trash pump in containment	NA			
Shed	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	X			
-	Sample kit contents checked	1			
	Observed on site (identify type)  Damage to facility	1			
Wildlife	Birds on or near pond	2			
	Bears in or near facility	2			
	Evidence of spills/leaks/staining	2			
Facility	Rutting	NIA			
Grounds	Ice	NA			
	Evidence of soil tracking	17/12			
	Berm stability	X			
	Liner visible	X			
	Road stability	X			
Soil Pad	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	×		1	
	Water tanks in good condition	X			
Mata	Erosion 1	X			
Water Retention	Liner visible	X			
Pond	Filter cloth on pump intake	NIA			
Tona	Tarp intact & secure Pond level	NIA			
		X			
WTP	Flow meter working	NA			
*placing an V is	System function	10/A			
process on X III	a shaded box requires entry into Maintenance Log ar	nd follow-up.			With parties and the second

## 3

### \*\* KBL Environmental LTD.

### Weekly Inspection Checklist

Date (MM/	(DD/YY): 9/19/	27	reatment F	Time:	11:36 AM
Inspector:		Allen		Weather:	Cloudy 5°C
	tivities on site:	T		- ***	C10009 5 E
			Freeboard in	ditch	11/0
Water in Co	all?	1	Freeboard in		7/17
Soil on Pad	_/\/	Tod	If yes, fill out		NITT
	iter tank in use?	1-60	# of TW tank		- NIT
	intenance Log (Y/N)	T		work order (Y/N)	4
Neview IVIa	interiarice Log (1714)	T	T		
		ОК	Needs	Entered into Maintenance	Comment
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
			(x)	(Y/N, Initial)	
	Gate in working order	NA			
Access	Signage visible/in good condition	10 14			
	On site	1/8			
Spill Kit	Lid secured	X			
	Contents checked	X			
	Locked	X		N. N. S. C.	
	PPE available	1			
C+	Trash pump in containment	NA			
Storage	Pump fuel in containment	X			
Shed	Soil amendments in containment	X			
	SDS' available	X			The second secon
	Sample kit contents checked	X			
	Observed on site (identify type)	2			
Wildlife	Damage to facility	X			
vviidine	Birds on or near pond	X			
	Bears in or near facility	1'X			
	Evidence of spills/leaks/staining	X			
Facility	Rutting	NA			
Grounds	Ice	NA			
	Evidence of soil tracking	NIA			
	Berm stability	X			
	Liner visible	X			
	Road stability	X			and the second second second second
Soil Pad	Drainage system working	X			
	Dust control	X			and the second s
	Soil piles in good condition ·	X			the state of the s
	Water tanks in good condition	X			
	Erosion 1	1 X		Silva Property	
Water	Liner visible	13/			
Retention	Filter cloth on pump intake	14/19			
Pond	Tarp intact & secure	NA			
	Pond level	X			A STATE OF THE STA
WTP	Flow meter working	NIA			
Maria Carlo	System function	1111	The state of the s		

\*placing an X in a shaded box requires entry into Maintenance Log and follow-u

9/19/22 OA

		1	Inuvik Soil 7	reatment Fa	acility	
	Date (MM/	(DD/YY): 9/21.	122		Time:	1:27 Pm
	Inspector:	Diver	Allen		Weather:	overcast 3°c
		civities on site:	FIRE			14
			,	Freeboard in	ditch	AJ/A
	Water in Ce	ell? W/	A	Freeboard in	Pond	VIA
	Soil on Pad	? Piled	Thomas	If yes, fill out	page 2 (x)	
	Treated wa	ter tank in use?		# of TW tank		2
	Review Ma	intenance Log (Y/N)		Outstanding	work order (Y/N)	
				Needs	Entered into	
		Site Conditions	OK	Attention	Maintenance	Comment
		Site Collations	(x or N/A)	(x)	Log	*additional comments on Page 2
				(^)	(Y/N, Initial)	
ı	Access	Gate in working order	WA			
ı	Access	Signage visible/in good condition	X			
ı		On site	X			
	Spill Kit	Lid secured	X			
	And the organisation	Contents checked	X			
		Locked	X			
		PPE available	XII			
1	Storage	Trash pump in containment	NIA			
۱	Shed	Pump fuel in containment	X			
ı		Soil amendments in containment	X			
ı		SDS' available	10			
ı		Sample kit contents checked	1			
ı		Observed on site (identify type)	10			
ı	Wildlife	Damage to facility	10			
ı		Birds on or near pond	1			
ı		Bears in or near facility  Evidence of spills/leaks/staining	1			
ı	Facility	Rutting	11/1			
ı	Grounds	Ice	1/1/2			
	Grounds	Evidence of soil tracking	1111			
ı		Berm stability	N/II			
ı		Liner visible	1			
ı		Road stability	12			
ı	Soil Pad	Drainage system working	1			
ı		Dust control	1X			
ı		Soil piles in good condition	1			
ı		Water tanks in good condition	X			
I		Erosion ^	X			
-	Water	Liner visible	X			
1	Retention	Filter cloth on pump intake	MA			
I	Pond	Tarp intact & secure	1//4			
1		Pond level	No.			
t	WTP	Flow meter working	1914			
ı	VVIP					

	We		ection Ci		
		Inuvik Soil T	reatment Fa	acility	1500 000
/ / .	many. enla	22		Time:	1:28 PM Overcust -1°C
Date (MM/I	Owen	Tilen		Weather:	overcust -1°C
Inspector:		111001			, ,
Current act	ivities on site: 3TF		Freeboard in	ditch	NA
	NIA NIA		Freeboard in	Pond	NIA
Water in Ce	3111/10		If yes, fill out		
Soil on Pad		44	# of TW tank		2
				work order (Y/N)	
Review Mai	intenance Log (Y/N)	1		Entered into	
		ОК	Needs	Maintenance	Comment
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
		(x 0) (4)/4)	(x)	(Y/N, Initial)	
	To a translation and or	MA			
Access	Gate in working order Signage visible/in good condition	1			
		TV V			
0 :11 101	On site	· ·			
Spill Kit	Lid secured	1			
	Contents checked	+5			
	Locked PPE available	×			
		NIA			
Storage	Trash pump in containment	V			
Shed	Pump fuel in containment Soil amendments in containment	10			
	SDS' available	10			
	Sample kit contents checked	1			
-		10			
	Observed on site (identify type)	<b>*</b>			
Wildlife	Damage to facility Birds on or near pond	1			
	Bears in or near facility	1			
	Evidence of spills/leaks/staining	1			,
Facility	Rutting	MIA			
Facility Grounds	Ice	MIA			
Grounus	Evidence of soil tracking	MA			
	Berm stability	X			
	Liner visible	V			
	Road stability	Ý		Telephone and the	
Soil Pad	Drainage system working	X			
3011144	Dust control	Y			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
	Erosion	X			
Water	Liner visible	Y			
Retention	Filter cloth on pump intake	NIA			
Pond	Tarp intact & secure	NIA			
1	Pond level	X			
	Flow meter working	NIA			
WTP	System function	NIA			

				reatment	Time:	11: 10 Am
Date (MM/DD/YY):		10/11/2 Soilin	72			11:10 Am Cloudy - 3
		Ow	engler		_Weather:	Cloudy 3
Current act	tivities on site:	soilin	STF		10. 1	1/1 1
				Freeboard in		NIA
Water in Co	ell?	NIA	0	Freeboard in		NIVT
Soil on Pad	?	1/ex/ / 1/1	rel	If yes, fill out		
Treated wa	iter tank in use?	NIA		# of TW tank		7
Review Ma	intenance Log (Y/N)			Outstanding	work order (Y/N)	
				Needs	Entered into	
			ОК		Maintenance	Comment
	Site Conditions		(x or N/A)	Attention	Log	*additional comments on Page 2
				(x)	(Y/N, Initial)	
	Gate in working order		NA			
Access	Signage visible/in good	condition	MA			
	On site		X			
Spill Kit	Lid secured		X			
	Contents checked		X			
	Locked		×			
	PPE available		X			
	Trash pump in contain	ment	NIA			
Storage	Pump fuel in containm		X			
Shed	Soil amendments in co		MA			
	SDS' available		Y			
	Sample kit contents ch	ecked	X			
	Observed on site (iden		X			
	Damage to facility		X			
Wildlife	Birds on or near pond		X			
	Bears in or near facility		X			
	Evidence of spills/leaks	/staining	X			
Facility	Rutting		NIA			
Grounds	Ice		NIA			
	Evidence of soil trackin	g	NIA			
	Berm stability		X			
	Liner visible		X			
	Road stability		X			
Soil Pad	Drainage system working	ng	X			
	Dust control		X			
	Soil piles in good condit	tion ·	X			
	Water tanks in good co		×			
	Erosion 1		NIA			
Water	Liner visible		X			
Retention	Filter cloth on pump int	ake	NA			
Pond	Tarp intact & secure		NIA			
	Pond level		X			
	Flow meter working		NIA			
WTP	System function		MA			

			, ,	reatment F		
		1101	inuvik soil i	reament		11:15 Am
Date (MM/	DD/YY): /(	1/8/	22		Time:	1/ils Am
Inspector:		Uhrer	Allen		_Weather:	-> 2 over east
Current act	ivities on site:	soil ih	371-			
				Freeboard in		NIA
Water in Ce		114	1	Freeboard in		N14
Soil on Pad	? <u>\let</u>	25-16	illed	If yes, fill out		
Treated wa	ter tank in use?	114		# of TW tank		2
Review Ma	intenance Log (Y/N)			Outstanding	work order (Y/N)	
				Needs	Entered into	
	Site Conditions		OK	Attention	Maintenance	Comment
	Site Conditions		(x or N/A)	(x)	Log	*additional comments on Page 2
				(^/	(Y/N, Initial)	
A	Gate in working order		NIA			
Access	Signage visible/in good cond	dition	NIA			
	On site		X			
Spill Kit	Lid secured		X			
	Contents checked		X			
	Locked		X			
	PPE available		X			
	Trash pump in containment		NIA			
Storage	Pump fuel in containment		X			
Shed	Soil amendments in contain	ment	NIA			
	SDS' available		X			
	Sample kit contents checked	1	1		1	
	Observed on site (identify ty		X			
	Damage to facility		Y			
Wildlife	Birds on or near pond		X			
	Bears in or near facility		X			
	Evidence of spills/leaks/stain	ning	X			
Facility	Rutting		NAA			
Grounds	Ice		NA			
	Evidence of soil tracking		NAA			
	Berm stability		X			
	Liner visible		X			
	Road stability		X			
Soil Pad	Drainage system working		X			
	Dust control		×			
	Soil piles in good condition		X			
	Water tanks in good condition	on	X			
	Erosion 1		NA			
Water	Liner visible		X			
Retention	Filter cloth on pump intake		NIA	NO AMERICAN CONTRACTOR		
Pond	Tarp intact & secure		NIA			
	Pond level		X			
MITO	Flow meter working		NIA			
WTP	System function		NIA			

	Inuvik Soil	Treatment Facility	
Date (MM/DD/YY):	25/10/22	Time:	9:52 AM
Inspector:	25/10/22 Owen Allen	Weather:	-14% over cast snow
Current activities on site:	SollinsTF		
		Freeboard in ditch	NIA.
Water in Cell?	NIA.	Freeboard in Pond	NA
Soil on Pad?	Nec Diled	If yes, fill out page 2 (x)	
Treated water tank in use?	NIA	# of TW tanks	2
Review Maintenance Log (Y/N)		Outstanding work order (Y/N)	3.6

1						
		Site Conditions	OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2
		Gate in working order	NIA			
8	Access	Signage visible/in good condition	NIA			
		On site	X			
ı	Spill Kit	Lid secured	1			
ı		Contents checked	\$			
ı		Locked	×			
3		PPE available	1			
á	C+	Trash pump in containment	NIA			
	Storage Shed	Pump fuel in containment	X			
ı	Sned	Soil amendments in containment	NA			
		SDS' available	X			
ı		Sample kit contents checked	X			
	Wildlife	Observed on site (identify type)	X			
ı		Damage to facility	×			
		Birds on or near pond	1			
		Bears in or near facility	*			
		Evidence of spills/leaks/staining				
	Facility	Rutting	N14			
	Grounds	Ice	NIA			
		Evidence of soil tracking	NIA			
		Berm stability	X			
		Liner visible	X			
ı		Road stability	X			
1	Soil Pad	Drainage system working	X			
ı		Dust control	X			
ı		Soil piles in good condition	X			
I		Water tanks in good condition	4.44			
ı		Erosion ,1	NICH			
1	Water	Liner visible	N/A			
1		Filter cloth on pump intake	11/1			
N	Pond	Tarp intact & secure Pond level	NIA			
1			LIVE			
	WTP	Flow meter working	10/10			
		System function	NIA			

<sup>\*</sup>placing an X in a shaded box requires entry into Maintenance Log and follow-up.

### Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY): Inspector: Current activities on site:  1/N60/4  0.00 en  5.7F		12		Time:	10;05 Am overlost -15°C show	
		Allen		Weather:	overlast -1501 show	
			Freeboard in	n ditch	NIA	
	Water in Ce	II? NIA		Freeboard in		NIA
	Soil on Padi	74/01	rilled	If yes, fill out		WITT
		ter tank in use?	1.	# of TW tank		2
		ntenance Log (Y/N)	7		work order (Y/N)	Name and the second sec
	Review Ivial	Titeriance Log (1/14)		l	Entered into	
			ОК	Needs	Maintenance	Comment
		Site Conditions		Attention		Comment *additional comments on Page 2
				(x)	Log	additional comments on rage 2
			14/1/		(Y/N, Initial)	
	Access	Gate in working order	NIA			
		Signage visible/in good condition	MA			
		On site	X			
	Spill Kit	Lid secured	X			
		Contents checked	X			
		Locked	X			
		PPE available	X			
	Storage Shed	Trash pump in containment	NIA			
		Pump fuel in containment	X			
	Siled	Soil amendments in containment	X			
		SDS' available	X			
		Sample kit contents checked	X			
		Observed on site (identify type)	X			
	Wildlife	Damage to facility	X			
ì	Wilding	Birds on or near pond	X			
		Bears in or near facility	X			
		Evidence of spills/leaks/staining	X			
ij	Facility	Rutting	NIA			
ij	Grounds	Ice	NIA			
		Evidence of soil tracking	NIA			
		Berm stability	X			
		Liner visible	X			
		Road stability	X			
1000	Soil Pad	Drainage system working	×			
		Dust control	X			
ľ		Soil piles in good condition ·	I X			
-		Water tanks in good condition	X			
-		Erosion	X			
	Water	Liner visible	X			
1	Retention	Filter cloth on pump intake	NIA			
1	Pond	Tarp intact & secure	NIA			
		Pond level	1			
1	WITD	Flow meter working	NIA			
	WTP	System function	NIA			

<sup>\*</sup>placing on X in a shaded box requires entry into Maintenance Log and follow-up.

		nuvik Soil Ti	reatment Fa	cility	
D-+- /0.40.4/D				Time:	10:08 Am Cloudy -9
Date (MM/DD/YY):		122 Allen		Weather:	Cloudy -9
Inspector:		mer			
Current activ	ities on site:		Freeboard in	ditch	MA
Malana in Call	1/1.0		Freeboard in		NIA
Water in Cel	1? · · NIA	illed	If yes, fill out		
Soil on Pad?	er tank in use?	4	# of TW tank		2
	ntenance Log (Y/N)	7		work order (Y/N	)
Keview iviali	iteriance Edg (1714)	1		Entered into	
		ОК	Needs	Maintenance	Comment
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
		(1.0)	(x)	(Y/N, Initial)	
	Gate in working order	MA			
Access	Signage visible/in good condition	NIA			
	On site	V			
Spill Kit	Lid secured	1		4	
	Contents checked	1 8			
	Locked	X			
	PPE available	X			
	Trash pump in containment	NIA			
Storage	Pump fuel in containment	X			
Shed	Soil amendments in containment	V			
	SDS' available	X			
	Sample kit contents checked	X			
	Observed on site (identify type)	X			
Wildlife	Damage to facility	X			
Wildine	Birds on or near pond	Y	S. S. Sansana		
	Bears in or near facility	X			
	Evidence of spills/leaks/staining	1 7			
Facility	Rutting	NIA		and the second	
Grounds	Ice	NIA	of Charles Co.		
	Evidence of soil tracking	NIA	50 Local Science (1975)		
	Berm stability	1 1			
	Liner visible	X			
	Road stability	X	C. Company		
Soil Pad	Drainage system working	X	The second second		
	Dust control	1 1			
	Soil piles in good condition	X			
	Water tanks in good condition	X	-		
	Erosion 1	X			
Water	Liner visible	1000			
Retention		NIA			
Pond	Tarp intact & secure	11/14	-		
	Pond level	1040	The second second second		
WTP	Flow meter working	NI M			

<sup>\*</sup>placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Date (MM/	(DD/YY): 15 /	11/22	reatment r	Time:	10. 11 Am -14°C Showing over cas	
Inspector:		Owed Allen We		Weather:	-14°C Showing over cas	
	civities on site:	E				
Current act			Freeboard in	n ditch	NIA	
Water in Ce	ell? NIA		Freeboard in		NIA	
Soil on Pad		114	If yes, fill out			
		IA	# of TW tank		2	
	intenance Log (Y/N)	//		work order (Y/N)	Name and the second of the second of	
THE VIEW IVIE	meeriance 20g (1711)		T	Entered into		
		ОК	Needs	Maintenance	Comment	
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2	
		(1.2.1.7.7	(x)	(Y/N, Initial)		
	Gate in working order	NIA	THE REAL PROPERTY AND THE			
Access	Signage visible/in good condition	NIA				
	On site	X		N. State of the st		
Spill Kit	Lid secured	1		7		
	Contents checked	1				
	Locked	X				
	PPE available	X				
Channe	Trash pump in containment	NIA				
Storage Shed	Pump fuel in containment	\ \				
Sned	Soil amendments in containment	X				
	SDS' available	X				
	Sample kit contents checked	X				
	Observed on site (identify type)	X				
Wildlife	Damage to facility	X				
Wilding	Birds on or near pond	X				
	Bears in or near facility	*				
	Evidence of spills/leaks/staining	X				
Facility	Rutting	NIA				
Grounds	Ice	NIA				
	Evidence of soil tracking	NIA				
	Berm stability	1 7				
	Liner visible	X				
C-11 D-4	Road stability	X	and the same of the same			
Soil Pad	Drainage system working Dust control	- X				
	Soil piles in good condition	X X				
	Water tanks in good condition	1				
	Erosion "	15				
Water	Liner visible	1				
Retention	Filter cloth on pump intake	NIA				
Pond	Tarp intact & secure	NIA				
	Pond level	*				
	Flow meter working	NIA				
WTP	System function	MA				

### Weekly Inspection Checklist

	in	uvik Soil	Freatment Fa	acility	
Date (MM/DD/YY):	22/11/	22		Time:	10: 07 Am
Inspector:	OWEN4			Weather:	-70c Overcust
Current activities on site:	STFI	NWJ-ON	site w/ Ex	cavatur.	
			Freeboard in	ditch	NIA
Water in Cell?	NIA		Freeboard in	Pond	NIA
Soil on Pad?	-	illed	If yes, fill out		
Treated water tank in use?	NIA		# of TW tank	S	2
Review Maintenance Log (Y/N)			Outstanding work order (Y/N)		
		OK	Needs	Entered into Maintenance	Comment

	Site Conditions	OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2
Access	Gate in working order	NIA			
Access	Signage visible/in good condition	NIA			
	On site	X			
Spill Kit	Lid secured	X			
	Contents checked	X			
	Locked	X			
	PPE available	X			
Channe	Trash pump in containment	NIA	1		
Storage Shed	Pump fuel in containment	X			
Sned	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
	Observed on site (identify type)	Y			
Mildlife	Damage to facility	Ý			
Wildlife	Birds on or near pond	X			
	Bears in or near facility	I X			
	Evidence of spills/leaks/staining	X			
Facility	Rutting	NIA			
Grounds	Ice	MA			
	Evidence of soil tracking	NIA			
	Berm stability	1 X			_ '
	Liner visible	1 1			
	Road stability	X			
Soil Pad	Drainage system working	X			
	Dust control	1 X			
	Soil piles in good condition	1			
	Water tanks in good condition	1 7			
	Erosion	X			
Water	Liner visible	1		_	
The state of the s	Filter cloth on pump intake	NIA			
Pond	Tarp intact & secure	NIA			
	Pond level	X			
WTP	Flow meter working	NIA			
VVIF	System function	NIA			

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

22/11/22 OA

### Weekly Inspection Checklist

	11	inuvik son i	reatment Fa	аситеу	1-111 100
Date (MM/	DD/YY): 29/11 	122		Time:	10:11 Am -30°C ptop of wad Fill
Inspector:	Ower	nAllen		Weather:	-30°C
Current act	ivities on site:	STF 1	VWI- Mou	145/01/ to 46	pap of Land Fill
			Freeboard in	ditch	NIA
Water in Ce	ell? :: NIA		Freeboard in	Pond	NIA
Soil on Pad	?	Pilled	If yes, fill out	page 2 (x)	
Treated wa	ter tank in use? VIA		# of TW tank	S	2
Review Ma	intenance Log (Y/N)		Outstanding	work order (Y/N)	
				Entered into	
	Ch. C. Just	OK	Needs	Maintenance	Comment
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
			(x)	(Y/N, Initial)	
A =====	Gate in working order	NIA	CONTRACTOR OF STREET, SAN		
Access	Signage visible/in good condition	NIA.			
	On site	T X			
Spill Kit	Lid secured	IX			
	Contents checked	X			
	Locked	X			
	PPE available	X			
Ctorogo	Trash pump in containment	NIA			
Storage Shed	Pump fuel in containment	X			
Sileu	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
	Observed on site (identify type)	X			
Wildlife	Damage to facility	X			
Whalie	Birds on or near pond	X			
	Bears in or near facility	X			
	Evidence of spills/leaks/staining	X			
Facility	Rutting	NIA			
Grounds	Ice	NIA			
	Evidence of soil tracking	NIA			
	Berm stability	X			_/
	Liner visible	X			
	Road stability	X			
Soil Pad	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition:	X			
	Water tanks in good condition	X			
104	Erosion "	I X			
Water	Liner visible	X			
Retention	Filter cloth on pump intake	NIA			
Pond	Tarp intact & secure	MA			
	Pond level	X			
WTP	Flow meter working	MA			
System function	System function	MIG			

\*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

29/11/22 DA

weekly inspection checkist					
		Inuvik Soil T	reatment Fa	acility	1-1-1
Date (MM/	DD/YY): 06/De	c/22		Time:	-25°C overcust
Inspector:	DW-	n Allen IWI- kno		Weather:	-25°C over cust
Current act	ivities on site: STE-A	IWI- Renor	ive suit		Congression of the Congress of the Congression of t
			Freeboard in	ditch	NA
Water in Ce	all? :: 1//A		Freeboard in	Pond	NIA NIA
Soil on Pad	? Befry Mer	ued	If yes, fill out	page 2 (x)	and the second s
Treated wa	? Being More ter tank in use? Nus	THE RESERVE OF THE PARTY OF THE	# of TW tank		2
Review Ma	intenance Log (Y/N)		Outstanding	work order (Y/N)	
		1		Entered into	
		ОК	Needs	Maintenance	Comment
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
		1	(x)	(Y/N, Initial)	
	Gate in working order	MA	THE THE PROPERTY OF THE PARTY O		
Access	Signage visible/in good condition	WiA			
	On site	17			
Spill Kit	Lid secured	1		-	
	Contents checked	1			
	Locked	1			
	PPE available	X			
	Trash pump in containment	NIA.			
Storage	Pump fuel in containment	T Y			
Shed	Soil amendments in containment	1			
	SDS' available	V			
	Sample kit contents checked	1			
	Observed on site (identify type)	X			
	Damage to facility	V			
Wildlife	Birds on or near pond	X			
	Bears in or near facility	+			
	Evidence of spills/leaks/staining	4			
Facility	Rutting	NIA			
Grounds	Ice	NIA			
	Evidence of soil tracking	NIA			
	Berm stability	X			- /
	Liner visible	4			
	Road stability	X			
Soil Pad	Drainage system working	+			
	Dust control	X			
	Soil piles in good condition:	1 4			
	Water tanks in good condition	X			
	Erosion ?	4			
Water	Liner visible	+			
Retention	Filter cloth on pump intake	NIA			
Pond	Tarp intact & secure	NIA			
	Pond level	*			
WTP	Flow meter working	NIA			
S	System function	NIA			

<sup>\*</sup>placing an X in a shaded box requires entry into Maintenance Log and follow-up.

	1 / 1		restment Fa		
Date (MM/	(DD/YY): 12/12/2			Time:	9:58 Am
Inspector:	10/11/	2 Allen		Weather:	9158 AM
	civities on site:	V ( ) [[ [		*	-70 0 00 000
			Freeboard in	ditch	NIA
Water in Ce	ell? :: NCA		Freeboard in		NIA
Soil on Pad	?	Pilled	If yes, fill out	page 2 (x)	
Treated wa	iter tank in use?		# of TW tank	S	2
Review Ma	intenance Log (Y/N)		Outstanding	work order (Y/N)	
	Site Conditions	OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2
Access	Gate in working order	INA	Marie and the state of the stat		
Access	Signage visible/in good condition	NIA			
	On site	X			
Spill Kit	Lid secured	1 7.			
In a consideration	Contents checked	1 7			
	Locked	7	(A. 1) (A. 1)	Tales of the control	
	PPE available	74			
Storage	Trash pump in containment	NIA		The second secon	A Marie Control of the Control of th
Shed	Pump fuel in containment	X			
	Soil amendments in containment SDS' available	X			
		X			
	Sample kit contents checked  Observed on site (identify type)	X			
	Damage to facility	7			
Wildlife	Birds on or near pond	X			
	Bears in or near facility	7			
	Evidence of spills/leaks/staining	×			
Facility	Rutting	NIA			
Grounds	Ice	NIA			
	Evidence of soil tracking	NIA			
	Berm stability	X	and the second	Contracting and addition	/
	Liner visible	X	in a minute an area	Mary Control of the C	
	Road stability	X			And the second s
Soil Pad	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition:	X	the state of the		
Section 1988	Water tanks in good condition	X	No. of the last of		ASSA TO SECURIOR SECU
	Erosion	*		E A CONTRACTOR OF THE CONTRACT	
Water	Liner visible	7	And the second second		
Retention Pond	Filter cloth on pump intake	NIA		Samuel Control of the	
Pona	Tarp intact & secure Pond level	NIA			
	Flow meter working	4			
WTP	now meter working	MA	Marine Committee of the last	Military Constitution of the Parket	Contraction of the last of the

\*placing on X in a shaded box requires entry into Maintenance Log and follow-up.

12/2/22 00

	111	Inuvik Soil T			
Date (MM)	(DD/VV): 1240 5/			Time:	10:15 Am
Inspector:	spector: 120/2		Allen Weather:		10:15 Am
	tivities on site:	41160		- Weather.	· over cast
Current act	STE		Freeboard in	ditch	NA
Water in Co	ell? :: NIA		Freeboard in Pond		NIA
Soil on Pad	The state of the s	Pilled	If yes, fill out		7004
	iter tank in use?	# of TW tanks			2
	intenance Log (Y/N)			work order (Y/N)	
THE WILL	miteriance Log (1714)	1	Catstanaing	Entered into	
		ОК	Needs	Maintenance	Comment
	Site Conditions	(x or N/A)	Attention	Log	*additional comments on Page 2
		(KOI IN)	(x)	(Y/N, Initial)	
	Gate in working order	NIA	ANCINCARION DISTRIBUTION CONTRACTOR CONTRACT	(1) (1) mileiary	
Access	Signage visible/in good condition	NIA			
	On site	Y			
Spill Kit	Lid secured				·
	Contents checked	1 X			
	Locked	1 4			
	PPE available	X			
-	Trash pump in containment	NIA			
Storage	Pump fuel in containment	T V			
Shed	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
	Observed on site (identify type)	X			
Wildlife	Damage to facility	X			
Wildine	Birds on or near pond	X		A-Manual Color State Color Sta	
	Bears in or near facility	X			•
	Evidence of spills/leaks/staining	X			
Facility	Rutting	NIA			
Grounds	Ice	NIA			
	Evidence of soil tracking	NIA			
	Berm stability	X			- 1
	Liner visible	X			
	Road stability	X			
Soil Pad	Drainage system working	X			
	Dust control	1 2 1			
	Soil piles in good condition	X			
	Water tanks in good condition Erosion	1 7			
Water	Liner visible	7			
Retention	Filter cloth on pump intake	NIA			
Pond	Tarp intact & secure	NIA			
Tonu	Pond level	7017			
	Flow meter working	1000			
WTP	C	1144			

#### Weekly Inspection Checklist

Date (MM/DD/YY):	28/12/22	Time:	10:15 Am
Inspector:	Owen Allen	Weather:	overcust
Current activities on site:	STE		
		Freeboard in ditch	NIA
Water in Cell? ::	NIA	Freeboard in Pond	NIA
Soil on Pad?	Pilled	If yes, fill out page 2 (x)	
Treated water tank in use?	NIA	# of TW tanks	
Review Maintenance Log (Y/N)		Outstanding work order (Y/N)	

	Site Conditions	OK (x or N/A)	Needs Attention (x)	Entered into Maintenance Log (Y/N, Initial)	Comment *additional comments on Page 2
Access	Gate in working order	MA	THE RESERVE THE PERSON NAMED IN		
Access	Signage visible/in good condition	MA	THE CONTROL OF THE CO		
	On site	X			
Spill Kit	Lid secured	T X			
	Contents checked	X	THE RESERVE OF THE PARTY OF THE		
	Locked	X			
	PPE available	X			
Storage	Trash pump in containment	NIA			
Shed	Pump fuel in containment	1 X			
Sileu	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	1/4			
	Observed on site (identify type)	V			
Wildlife	Damage to facility	X			
wildine	Birds on or near pond	X			
	Bears in or near facility	I X			
	Evidence of spills/leaks/staining	X			
Facility	Rutting	NYA			
Grounds	Ice	NIA			
	Evidence of soil tracking	NIA			
	Berm stability	X			- 1
	Liner visible	X			
	Road stability	*			
Soil Pad	Drainage system working	1			
	Dust control	1			
	Soil piles in good condition	\\X\			
	Water tanks in good condition	1			
	Erosion ,	X			
Water	Liner visible	1			
	Filter cloth on pump intake	MA			
Pond	Tarp intact & secure	NIM			
	Pond level	X			
WTP	Flow meter working	NA			
0011	System function	MA			

11:

## **APPENDIX E**

**Appendix E: Engagement Activities** 



From: AlecSandra Macdonald <AMacdonald@glwb.com>

**Sent:** February 25, 2022 10:20 AM

**To:** Katie Oliver

**Subject:** RE: Water Licence G17L1-002 - Public Engagement

Hi Katie,

Thanks for reaching out. Your first point of contact for Engagement within the Gwich'in Settlement Area is Leigh-Ann Williams-Jones at GTC Lands and Resources. She should be able to provide direction for your engagement activities. I also recommend contacting Nihtat Gwich'in Council and Inuvik Native Band, information below.

Gwich'in Tribal Council – Lands and Resources Director Leigh-Ann Williams Jones <u>leighann.williamsjones@gwichintribal.ca</u> (867) – 777-7927

Inuvik Native Band
Chief
Robert
Charlie
chief@inuviknativeband.ca

(867) 777-5868

Nihtat Gwich'in Council (Inuvik)
President
Kelly
McLeod
president@nihtatgwichin.ca
(867) 777-6650

Please don't hesitate to reach out if you require any assistance as you move forward with your application.

Mahsi,

#### AlecSandra Macdonald

**Regulatory Specialist** 

#### **Gwich'in Land and Water Board**

Alex Moses-Greenland Building | 105 Veterans Way P.O. Box 2018 | Inuvik, NT | X0E 0T0 (867) 777-4954

<u>amacdonald@glwb.com</u> | <u>www.glwb.com</u>



All correspondence to the Board, including emails, letters, faxes and attachments are public documents and may be posted to the public registry.

From: Katie Oliver <koliver@kblenv.com>

Sent: February 24, 2022 8:33 AM

**To:** AlecSandra Macdonald <AMacdonald@glwb.com> **Subject:** Water Licence G17L1-002 - Public Engagement

#### Good Morning AlecSandra;

We are preparing to renew our Water Licence (G17L1-002) for the Inuvik Soil Treatment Facility. Would you please forward me the list of GLWB - Engagement Contacts?

#### Thank you;



#### Katie Oliver, MBA, CET, PMP

#### **General Manager, Environmental Consulting**

**m**: 780.893.3305 **d**: 587.601.5736 **p**: 780.452.7779 **f**: 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

From: Katie Oliver

**Sent:** February 28, 2022 10:25 AM

**To:** leighann.williamsjones@gwichintribal.ca

**Subject:** KBL Inuvik Soil Treatment Facility Renewal (G17L1-002)

#### Good Morning Leigh-Ann;

KBL Environmental Ltd. (KBL) will be submitting a renewal application of the Inuvik Soil Treatment Facility Type B Water License (G17L1-002) to the Gwich'in Land and Water Board. The renewal does not contemplate any significant changes to the design or operation of the facility. The Gwich'in Land and Water Board recommended I reach out to you for further direction on engagement activities prior to the submission of the application.

If you have any questions or concerns about the proposed project, please contact me. KBL welcomes the opportunity to discuss the project with you in advance of our renewal submission.

#### Regards,



#### Katie Oliver, MBA, CET, PMP

#### **General Manager, Environmental Consulting**

**m:** 780.893.3305

**d:** 587.601.5736 **p:** 780.452.7779 **f:** 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

From: Katie Oliver

**Sent:** February 28, 2022 10:25 AM **To:** chief@inuviknativeband.ca

**Subject:** KBL Inuvik Soil Treatment Facility Renewal (G17L1-002)

#### Good Morning Chief Robert;

KBL Environmental Ltd. (KBL) will be submitting a renewal application of the Inuvik Soil Treatment Facility Type B Water License (G17L1-002) to the Gwich'in Land and Water Board. Your organization has been identified as potentially having an interest in the project. In accordance with the Engagement Plan associated with this renewal, this email serves to inform you o KBL's renewal of our water licence. The renewal does not contemplate any significant changes to the design or operation of the facility.

If you have any questions or concerns about the proposed project, please contact me. KBL welcomes the opportunity to discuss the project with you in advance of our renewal submission.

#### Regards,



#### Katie Oliver, MBA, CET, PMP

#### **General Manager, Environmental Consulting**

**m:** 780.893.3305 **d:** 587.601.5736 **p:** 780.452.7779 **f:** 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

From: Katie Oliver

**Sent:** February 28, 2022 10:25 AM **To:** president@nihtatgwichin.ca

**Subject:** KBL Inuvik Soil Treatment Facility Renewal (G17L1-002)

#### Good Morning Kelly;

KBL Environmental Ltd. (KBL) will be submitting a renewal application of the Inuvik Soil Treatment Facility Type B Water License (G17L1-002) to the Gwich'in Land and Water Board. Your organization has been identified as potentially having an interest in the project. In accordance with the Engagement Plan associated with this renewal, this email serves to inform you o KBL's renewal of our water licence. The renewal does not contemplate any significant changes to the design or operation of the facility.

If you have any questions or concerns about the proposed project, please contact me. KBL welcomes the opportunity to discuss the project with you in advance of our renewal submission.

Regards,



#### Katie Oliver, MBA, CET, PMP

#### **General Manager, Environmental Consulting**

**m:** 780.893.3305 **d:** 587.601.5736 **p:** 780.452.7779 **f:** 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

From: Christina Martin
To: Katie Oliver

Cc: <u>Leigh-Ann Williams-Jones</u>

**Subject:** RE: KBL Inuvik Soil Treatment Facility Renewal (G17L1-002)

**Date:** May 9, 2022 9:43:56 AM

Attachments: <u>image001.png</u>

Good morning Katie,

We would like to let you know that no follow-up questions or concerns were brought to the GTC's Lands & Resources attention re. our information session with you..

From our perspective, please consider KBL's pre-engagement consultations with the GTC to be complete.

We look forward to reviewing your LUP application and will be in touch with any future questions.

Thank you for your time, and have a great day,



Christina Martin
Lands & Resources Coordinator
GWICH'IN TRIBAL COUNCIL

P: 867-777-7925 F: 867-777-7919

E: Christina.Martin@gwichintribal.ca

Gwich'in Land, Culture & Economy for a Better Future.

From: Katie Oliver <koliver@kblenv.com>

**Sent:** April 25, 2022 11:46 AM

**To:** Christina Martin < Christina. Martin@gwichintribal.ca>

**Cc:** Leigh-Ann Williams-Jones <LeighAnn.WilliamsJones@gwichintribal.ca>

**Subject:** RE: KBL Inuvik Soil Treatment Facility Renewal (G17L1-002)

Hi Christina;

Thursday at 3pm works perfectly. Is there anything I should prepare or specific questions you may have that I can prepare in advance?

Thanks;

Thank you | Merci | Mársı | Kinanāskomitin | Hai' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsì

Katie Oliver, MBA, CET, PMP



#### **General Manager, Environmental Consulting**

**m:** 780.893.3305 **d:** 587.601.5736 **p:** 780.452.7779 **f:** 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

This email and any accompanying attachments may contain confidential information and are intended only for the named recipients. Content may not be used or relied upon by any party other than KBL's client unless otherwise authorized in writing by KBL. Any unauthorized use of information contained in this email is at the sole risk of the user. If you have received this email in error, please notify the sender and destroy the email.

**From:** Christina Martin < <a href="mailto:Christina.Martin@gwichintribal.ca">Christina.Martin@gwichintribal.ca</a>>

**Sent:** April 25, 2022 11:44 AM

**To:** Katie Oliver < koliver@kblenv.com >

**Cc:** Leigh-Ann Williams-Jones < LeighAnn.WilliamsJones@gwichintribal.ca>

**Subject:** RE: KBL Inuvik Soil Treatment Facility Renewal (G17L1-002)

Good morning Katie,

Would you be available for an online meeting with myself and our Lands and Resources Manager, Leigh-Ann, on Thursday afternoon (April 28<sup>th</sup>)? Suggesting 3:00 MT.

If so, I'll send along a Teams meeting invitation.

Thank you,



Christina Martin
Lands & Resources Coordinator
GWICH'IN TRIBAL COUNCIL

P: 867-777-7925 F: 867-777-7919

E: Christina.Martin@gwichintribal.ca

Gwich'in Land, Culture & Economy for a Better Future.

**From:** Katie Oliver < <u>koliver@kblenv.com</u>>

**Sent:** April 21, 2022 10:17 AM

**To:** Christina Martin < Christina. Martin@gwichintribal.ca>

**Cc:** Leigh-Ann Williams-Jones < LeighAnn.WilliamsJones@gwichintribal.ca>

**Subject:** RE: KBL Inuvik Soil Treatment Facility Renewal (G17L1-002)

Hi Christina;

I am available to meet tomorrow afternoon, or next week on Monday or Tuesday afternoon or anytime Thursday and Friday.

Thanks;

Thank you | Merci | Mársı | Kinanāskomitin | Hại' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsì



#### Katie Oliver, MBA, CET, PMP

#### **General Manager, Environmental Consulting**

**m:** 780.893.3305

**d**: 587.601.5736

**p:** 780.452.7779 **f:** 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com

This email and any accompanying attachments may contain confidential information and are intended only for the named recipients. Content may not be used or relied upon by any party other than KBL's client unless otherwise authorized in writing by KBL. Any unauthorized use of information contained in this email is at the sole risk of the user. If you have received this email in error, please notify the sender and destroy the email.

**From:** Christina Martin < Christina. Martin@gwichintribal.ca>

**Sent:** April 21, 2022 9:37 AM

**To:** Katie Oliver < <u>koliver@kblenv.com</u>>

**Cc:** Leigh-Ann Williams-Jones < LeighAnn.WilliamsJones@gwichintribal.ca> **Subject:** FW: KBL Inuvik Soil Treatment Facility Renewal (G17L1-002)

Good morning Katie,

My name is Christina, I'm the Lands and Resources Coordinator at the Gwich'in Tribal Council. Please accept my apologies for my delayed response to you. We appreciate that you reached out to us to regarding the Water Licence Renewal at the soil treatment facility.

We would like to request a meeting with KBL and our Lands Department and invite the Nihtat Renewable Resource Council and Nihtat Gwich'in Council to join us.

I'll get back to you with availabilities and please let me know yours; we could set it up either inperson with KBL's local personnel, or virtually.

Thank you,



# Christina Martin Lands & Resources Coordinator GWICH'IN TRIBAL COUNCIL

P: 867-777-7925 F: 867-777-7919

E: <u>Christina.Martin@gwichintribal.ca</u> *Gwich'in Land, Culture & Economy for a Better Future.* 

From: Katie Oliver < koliver@kblenv.com > Sent: Monday, February 28, 2022 10:25 AM

**To:** Leigh-Ann Williams-Jones < LeighAnn.WilliamsJones@gwichintribal.ca >

**Subject:** KBL Inuvik Soil Treatment Facility Renewal (G17L1-002)

Good Morning Leigh-Ann;

KBL Environmental Ltd. (KBL) will be submitting a renewal application of the Inuvik Soil Treatment Facility Type B Water License (G17L1-002) to the Gwich'in Land and Water Board. The renewal does not contemplate any significant changes to the design or operation of the facility. The Gwich'in Land and Water Board recommended I reach out to you for further direction on engagement activities prior to the submission of the application.

If you have any questions or concerns about the proposed project, please contact me. KBL welcomes the opportunity to discuss the project with you in advance of our renewal submission.

Regards,

### Katie Oliver, MBA, CET, PMP

**General Manager, Environmental Consulting** 

m: 780.893.3305



**d:** 587.601.5736

**p:** 780.452.7779 **f:** 866.316.7991

3909, 68 Avenue Leduc, AB T9E 0Z4

kblenv.com