

KBL Environmental Ltd.

Soil Treatment Facility Inuvik, Northwest Territories



2023 Annual Report

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

March 2024

TABLE OF CONTENTS

1.0	Introduction	3
1.1.	Project Information	3
1.2.	Purpose.....	4
2.0	Licence Schedule 1 – Annual Water Licence Report	4
2.1.	1. a) The generator, carrier, volume, and analytical results of soil, snow and water accepted at the Inuvik Soil Treatment Facility	4
2.2.	1. b) The generator, carrier, volume, and analytical results of soil, snow and water refused at the Inuvik Soil Treatment Facility	4
2.3.	1. c) The volume, analytical results, carrier, and destination of treated soil removed at the Inuvik Soil Treatment Facility.....	5
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	5
2.5.	1. e) The water level and remaining capacity of each of the Water Holding Tanks and Water Retention Pond	5
2.6.	1. f) A description and volume or quantity of process additives used, with MSDS provided	5
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	5
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	5
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	6
2.10.	1. j) Laboratory reports for all samples collected for the Surveillance Network Program, attached as an appendix	7
2.11.	1. k) For parameters that exhibit on-going exceedances of compliance criteria, provide:	7
2.12.	1. l) A summary of Construction activities conducted in accordance with Part F of this Licence	7
2.13.	1. m) A summary of major maintenance activities carried out during previous calendar year	7
2.14.	1. n) A copy of facility inspection reports referred to in Part F, condition 7 of this Licence.....	7
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	7
2.16.	1. p) An outline of any spill training and communications exercises carried out during the previous calendar year	7
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	7

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	8
2.19.	1. s) A summary of actions taken to address concerns, nonconformances, or deficiencies in any reports filed by an Inspector	8
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	8
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	8
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.	8

LIST OF TABLES

Table 2.1: Amount of soil accepted in 2023

Table 2.2: Amount of soil refused in 2023

APPENDICES

Appendix A: Accepted Soil and Water Analytical

Appendix B: Outgoing Soil and Water Analytical

Appendix C: SDS for Amendments

Appendix D: Tabular Summaries of SNP Sampling

Appendix E: Laboratory Analytical of SNP Sampling

Appendix F: Facility inspections

1.0 INTRODUCTION

1.1. Project Information

Corporate Office

KBL Environmental Ltd.
17 Cameron Road, Box 1895
Yellowknife, NT X1A 2P4

Project Location

Town of Inuvik Solid Waste Disposal Facility
Lot 65, Group 1355, CLSR 611339
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

5,631.5 tonnes of soil, no water and snow were accepted at the facility in 2023. Analytical results are shown in Appendix A.

Table 2.1: Amount of soil accepted in 2023

Generator	Date	Carrier	Volume (tonnes)
Government of Northwest Territories	April 1, 2023	E. Gruben's Transport Ltd.	419.52
Northwest Territories Power Corporation	April 1, 2023	E. Gruben's Transport Ltd.	2,035.278
Northwest Territories Power Corporation	May 1, 2023	E. Gruben's Transport Ltd.	3,176.676

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

289.8MT of soil was requested to be brought to the facility in 2023, however full analytical was not received and the material was not accepted and delivery did not occur.

Table 2.2: Amount of soil refused in 2023

Generator	Date	Carrier	Volume (tonnes)
Government of Northwest Territories	October 3, 2023	N/A	289.8

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

A total of 1479.6 tonnes of soil was remediated to meet soil reuse criteria and was accepted by City of Inuvik Landfill in 2023. 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

No water was discharged from the facility in 2023.

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 m³ of water with the capacity of 60 m³. The retention pond has approximately 100m³ of water, a freeboard of 1.3m with a capacity of 205 m³.

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 (1 5L 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

There was no discharge event for 2023.

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 6, 2023. All monitoring wells were observed to be dry. Sampling was completed at SNP 0037-1 (MW1) and SNP 0037-3 (MW3) on October 28, 2023 and tabular summaries are included in Appendix D. SNP 0037-2 (MW2) and SNP 0037-4 (MW4) were observed to be dry on October 28, 2023. SNP 0037-4 was observed to be damaged and repairs are scheduled for 2024.

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

KBL attempted to perform groundwater monitoring on June 6, 2023. All monitoring wells were observed to be dry. Sampling was completed at SNP 0037-1 (MW1) and SNP 0037-3 (MW3) on October 28, 2023 and tabular summaries are included in Appendix D. SNP 0037-2 (MW2) and SNP 0037-4 (MW4) were observed to be dry on October 28, 2023. SNP 0037-4 was observed to be damaged and repairs are scheduled for 2024.

The groundwater samples collected from all the wells were analyzed for the following chemical parameters as per the Surveillance Network Program (SNP):

- ICP-MS Metal Scan (Total)
- Field Parameters
- Total Petroleum Hydrocarbons (F1, F2, F3, F4 CCME Fractions)
- Benzene, Toluene, Ethylbenzene, and Xylene (BTEX)
- Chemical Oxygen Demand (COD)
- Extractable Petroleum Hydrocarbons (TPH)
- Total Suspended Solids (TSS)
- Oil and Grease
- pH

Please refer to Appendix D for the tabulated results. A discussion of the observed exceedance SNP 0037-3 (MW3) is included below.

Aluminum, Chromium, Copper, Phosphorus and Silicon

There were exceedances of Aluminum, Chromium, Copper, Phosphorus and Silicon in SNP 0037-3 (MW3) in the fall sampling event. As per the Groundwater Monitoring Program, KBL Inuvik Soil Treatment Facility, Section 5.2 Corrective Actions, Step 1 of the Corrective Actions, was implemented. A review of the facility waste streams and operations was conducted to determine if the Facility is a source of the elevated metals levels in SNP 0037-3. A review of soil treated at the Facility indicated that while the noted metals are present, concentrations are not above the GNWT contaminated soil remediation guidelines. Historical baseline soil sampling of the soil below the Facility did indicate baseline Copper exceedances. In addition, SNP 0037-3 is located on the southeast corner of the Facility, is hydrogeological cross to down gradient, is adjacent to the City of Inuvik landfill metals storage area, and downgradient monitoring wells did not indicate metals exceedances.

It is also noted that the Federal Interim Groundwater Quality Guidelines for Federal Contaminated Sites (June 2016) (FIGQG), in section 4.3 Special Considerations on the Application of the Numerical Guidelines, Dissolved vs. Total Concentrations, the FIGQG states that for inorganics, the guidelines are meant to be applied to dissolved concentrations. Based on this information, KBL will apply to the Board to change from Total Metals to Dissolved Metals sampling for future groundwater monitoring. KBL will continue monitoring Aluminum, Chromium, Copper, Phosphorus and Silicon per the Water Licence

Surveillance Network Program. No additional action is required at this time.

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

Laboratory reports of SNP sampling are included in Appendix E.

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

On-going exceedances are not applicable as there was only baseline monitoring in 2021 and wells were dry in 2022 and the spring of 2023. Initial sampling was completed in fall 2023 and is included in this report.

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

No construction work was completed in 2023 other than the repair of a fence section.

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

No major maintenance work was completed in 2023.

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 F.

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 on-site spill training or communications exercises carried out in 2023. Standard staff first aid, WHIMIS, spills, and TDG Training was completed and on April 14, 2023, KBL completed a Table Top Emergency Response Plan Training exercise.

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 2023 and none is anticipated in 2024.

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 2023 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

No report filed by an Inspector in 2023.

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

No updates or revisions were completed in 2023.

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

No updates were completed in 2023.

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 on or before November 1st, 2023.

APPENDIX A

Appendix A: Accepted Soil and Water Analytical



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

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

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 (Tl) 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 % Moisture 17.8 0.25 % 29-OCT-21 R5633079 pH (1:2 soil:water) 7.94 0.10 pH 04-NOV-21 R5636189 CCME Total Extractable Hydrocarbons 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 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 (Tl) 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 pH 04-NOV-21 R5636189 CCME Total Extractable Hydrocarbons 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							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2656073-321BH03 Sampled By: CLIENT on 24-OCT-21 Matrix: SOIL CCME Total Hydrocarbons F3 (C16-C34) F4 (C34-C50)	 4810 382		 20 20	 mg/kg mg/kg		 31-OCT-21 31-OCT-21	
L2656073-421BH04 Sampled By: CLIENT on 24-OCT-21 Matrix: SOIL Metals in Soil by ICPMS (CCME) Mercury in Soil by CVAAS Mercury (Hg) Metals in Soil by CRC ICPMS Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Lead (Pb) Molybdenum (Mo) Nickel (Ni) Selenium (Se) Silver (Ag) Thallium (Tl) Tin (Sn) Uranium (U) Vanadium (V) Zinc (Zn) Miscellaneous Parameters % Moisture pH (1:2 soil:water) CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 Prep/Analysis Dates CCME Total Hydrocarbons F2 (C10-C16) F3 (C16-C34) F4 (C34-C50)	 0.110 0.67 14.4 494 0.50 0.596 17.6 9.91 24.5 13.7 1.71 31.7 0.85 0.17 0.159 <2.0 0.886 40.9 114 19.8 7.94 93.1 YES 1270 4120 231		 0.0050 0.10 0.10 0.50 0.10 0.020 0.50 0.10 0.50 0.50 0.10 0.50 0.10 0.50 0.20 0.10 0.050 2.0 0.050 0.20 2.0 0.25 0.10 70-130 20 20 20	 mg/kg mg/kg % pH % mg/kg mg/kg mg/kg	 04-NOV-21 04-NOV-21 29-OCT-21 04-NOV-21 31-OCT-21 31-OCT-21 31-OCT-21 31-OCT-21 31-OCT-21 31-OCT-21	 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21	 R5636119 R5636172 R5633079 R5636189 R5633421 R5633421 R5633421 31-OCT-21 31-OCT-21 31-OCT-21
L2656073-521BH05 Sampled By: CLIENT on 24-OCT-21 Matrix: SOIL Metals in Soil by ICPMS (CCME) Mercury in Soil by CVAAS Mercury (Hg) Metals in Soil by CRC ICPMS Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Cadmium (Cd) Chromium (Cr)	 0.0959 0.62 13.1 427 0.46 0.502 15.7		 0.0050 0.10 0.10 0.50 0.10 0.020 0.50	 mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21	 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21 04-NOV-21	 R5636119 R5636172 R5636172 R5636172 R5636172 R5636172 R5636172 R5636172

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2656073-521BH05 Sampled By: CLIENT on 24-OCT-21 Matrix: SOIL Metals in Soil by CRC ICPMS Cobalt (Co)8.680.10mg/kg04-NOV-2104-NOV-21R5636172 Copper (Cu)22.60.50mg/kg04-NOV-2104-NOV-21R5636172 Lead (Pb)12.20.50mg/kg04-NOV-2104-NOV-21R5636172 Molybdenum (Mo)1.610.10mg/kg04-NOV-2104-NOV-21R5636172 Nickel (Ni)28.00.50mg/kg04-NOV-2104-NOV-21R5636172 Selenium (Se)0.840.20mg/kg04-NOV-2104-NOV-21R5636172 Silver (Ag)0.150.10mg/kg04-NOV-2104-NOV-21R5636172 Thallium (Tl)0.1430.050mg/kg04-NOV-2104-NOV-21R5636172 Tin (Sn)<2.02.0mg/kg04-NOV-2104-NOV-21R5636172 Uranium (U)0.7830.050mg/kg04-NOV-2104-NOV-21R5636172 Vanadium (V)36.20.20mg/kg04-NOV-2104-NOV-21R5636172 Zinc (Zn)99.82.0mg/kg04-NOV-2104-NOV-21R5636172 Miscellaneous Parameters % Moisture20.90.25%29-OCT-21R5633079 pH (1:2 soil:water)7.990.10pH04-NOV-21R5636189 CCME Total Extractable Hydrocarbons Surrogate: 2-Bromobenzotrifluoride90.170-130%31-OCT-2131-OCT-21R5633421 Chrom. to baseline at nC50YES31-OCT-2131-OCT-21R5633421 Prep/Analysis Dates31-OCT-2131-OCT-21R5633421 CCME Total Hydrocarbons F2 (C10-C16)76820mg/kg31-OCT-21 F3 (C16-C34)339020mg/kg31-OCT-21 F4 (C34-C50)24420mg/kg31-OCT-21							
L2656073-621BH06 Sampled By: CLIENT on 24-OCT-21 Matrix: SOIL Metals in Soil by ICPMS (CCME) Mercury in Soil by CVAAS Mercury (Hg)0.1100.0050mg/kg04-NOV-2104-NOV-21R5636119 Metals in Soil by CRC ICPMS Antimony (Sb)0.720.10mg/kg04-NOV-2104-NOV-21R5636172 Arsenic (As)15.20.10mg/kg04-NOV-2104-NOV-21R5636172 Barium (Ba)5020.50mg/kg04-NOV-2104-NOV-21R5636172 Beryllium (Be)0.510.10mg/kg04-NOV-2104-NOV-21R5636172 Cadmium (Cd)0.6270.020mg/kg04-NOV-2104-NOV-21R5636172 Chromium (Cr)17.50.50mg/kg04-NOV-2104-NOV-21R5636172 Cobalt (Co)10.10.10mg/kg04-NOV-2104-NOV-21R5636172 Copper (Cu)25.90.50mg/kg04-NOV-2104-NOV-21R5636172 Lead (Pb)14.20.50mg/kg04-NOV-2104-NOV-21R5636172 Molybdenum (Mo)1.900.10mg/kg04-NOV-2104-NOV-21R5636172 Nickel (Ni)32.30.50mg/kg04-NOV-2104-NOV-21R5636172 Selenium (Se)0.930.20mg/kg04-NOV-2104-NOV-21R5636172 Silver (Ag)0.170.10mg/kg04-NOV-2104-NOV-21R5636172 Thallium (Tl)0.1640.050mg/kg04-NOV-2104-NOV-21R5636172 Tin (Sn)<2.02.0mg/kg04-NOV-2104-NOV-21R5636172 Uranium (U)0.8450.050mg/kg04-NOV-2104-NOV-21R5636172 Vanadium (V)42.20.20mg/kg04-NOV-2104-NOV-21R5636172 Zinc (Zn)1182.0mg/kg04-NOV-2104-NOV-21R5636172 Miscellaneous Parameters % Moisture20.70.25%29-OCT-21R5633079 pH (1:2 soil:water)7.930.10pH04-NOV-21R5636189							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

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 Chrom. to baseline at nC50 Prep/Analysis Dates CCME Total Hydrocarbons F2 (C10-C16) F3 (C16-C34) F4 (C34-C50)	 86.6 YES 1170 4180 357		 70-130 20 20 20	 % mg/kg mg/kg mg/kg	 31-OCT-21 31-OCT-21 31-OCT-21	 31-OCT-21 31-OCT-21 31-OCT-21	 R5633421 R5633421 R5633421
L2656073-7 COMPOSITE Sampled By: CLIENT on 24-OCT-21 Matrix: SOIL % Particles > 75um (Coarse/Fine) % >75um General Texture Class	 35.1 Fine		 1.0	 %		 12-NOV-21 12-NOV-21	 R5646121 R5646121

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

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

Reference Information

Test Method References:

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

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:

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 ww - 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.

Quality Control Report

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	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-4-TMB-ED		Soil						
Batch	R5633421							
WG3648797-4	DUP	L2656073-1						
F2 (C10-C16)		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
WG3648797-3	IRM	ALS PHC RM3						
F2 (C10-C16)			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
WG3648797-2	LCS	DIESEL/MOTOR OIL						
F2 (C10-C16)			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
WG3648797-1	MB							
F2 (C10-C16)			<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-Bromobenzotrifluoride			93.9		%		70-130	31-OCT-21
HG-200.2-CVAA-ED		Soil						
Batch	R5636119							
WG3652321-3	CRM	SCP_SS-2_SOIL						
Mercury (Hg)			98.6		%		70-130	04-NOV-21
WG3652321-4	DUP	L2656073-1						
Mercury (Hg)		0.101	0.0954		mg/kg	6.1	40	04-NOV-21
WG3652321-2	LCS							
Mercury (Hg)			89.0		%		80-120	04-NOV-21
WG3652321-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	04-NOV-21
MET-200.2-CCMS-ED		Soil						
Batch	R5636172							
WG3652321-3	CRM	SCP_SS-2_SOIL						
Antimony (Sb)			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
Cobalt (Co)			97.3		%		70-130	04-NOV-21

Quality Control Report

Workorder: L2656073

Report Date: 16-NOV-21

Page 2 of 5

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-ED		Soil						
Batch	R5636172							
WG3652321-3	CRM	SCP_SS-2_SOIL						
Copper (Cu)			98.0		%		70-130	04-NOV-21
Lead (Pb)			92.4		%		70-130	04-NOV-21
Molybdenum (Mo)			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 (Tl)			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 (Mo)		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 (Tl)		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	LCS							
Antimony (Sb)			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

Quality Control Report

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							
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 (Tl)			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 (Tl)			<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							

Quality Control Report

Workorder: L2656073

Report Date: 16-NOV-21

Page 4 of 5

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-1:2-ED								
Soil								
Batch	R5636189							
WG3652602-2	DUP	L2656073-3						
pH (1:2 soil:water)		7.96	7.94	J	pH	0.02	0.3	04-NOV-21
WG3652602-1	IRM	ALS SAL 2019						
pH (1:2 soil:water)			7.79		pH		7.55-8.15	04-NOV-21
WG3652602-3	LCS	PH-6						
pH (1:2 soil:water)			6.01		pH		5.8-6.2	04-NOV-21
PREP-MOISTURE-ED								
Soil								
Batch	R5633079							
WG3648801-3	DUP	L2656073-1						
% Moisture		18.1	18.5		%	1.7	20	29-OCT-21
WG3648801-2	LCS							
% Moisture			101.8		%		90-110	29-OCT-21
WG3648801-1	MB							
% Moisture			<0.25		%		0.25	29-OCT-21
PSA-75UM-SIEVE-ED								
Soil								
Batch	R5646121							
WG3657382-2	IRM	ALS SAL 2019						
% >75um			34.6		%		29.1-39.1	12-NOV-21
WG3657382-1	MB							
% >75um			<1.0		%		1	12-NOV-21

Quality Control Report

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.

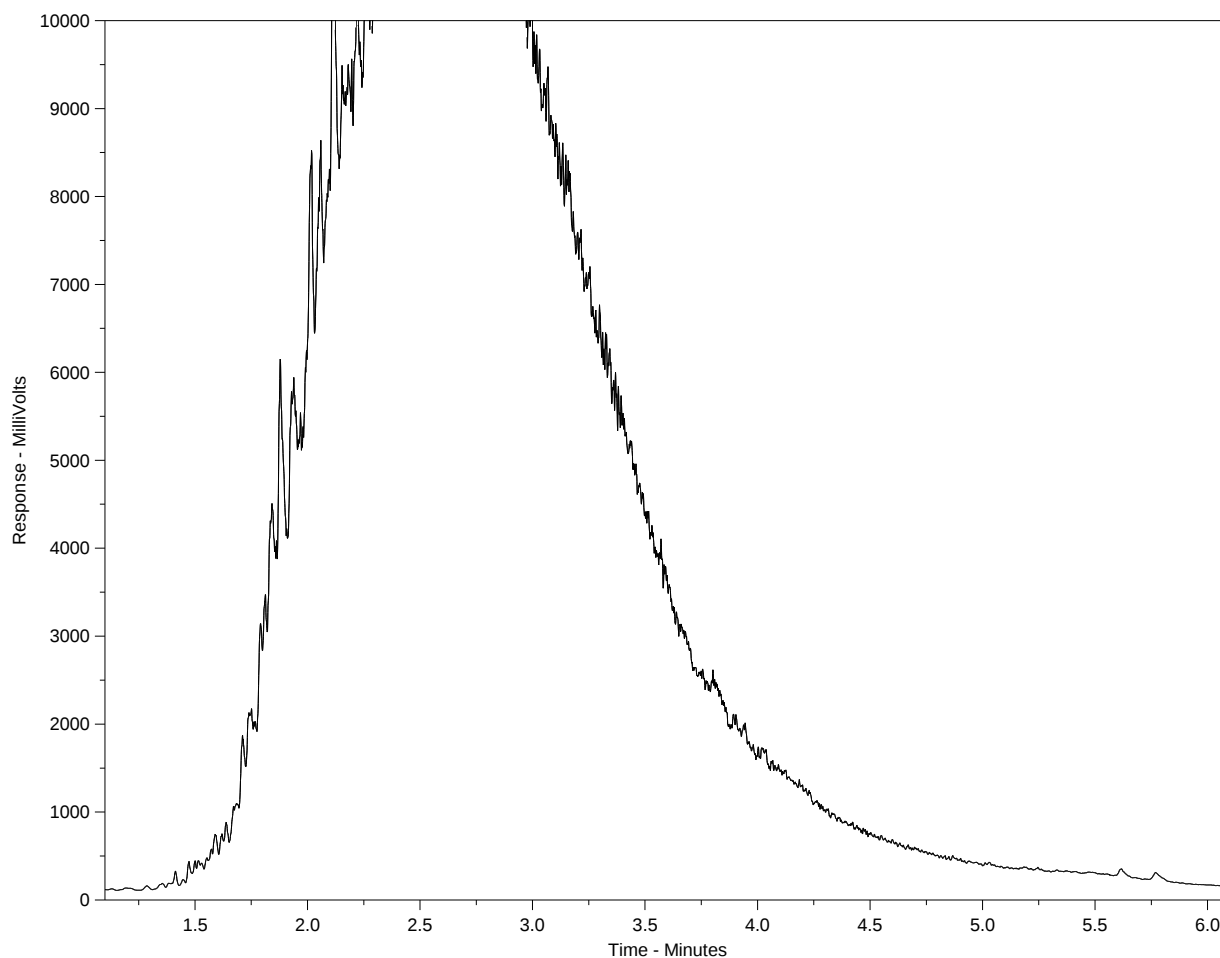
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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: L2656073-1
Client ID: 21BH01



F2		F3		F4		>F4
nC10	nC16		nC34		nC50	
174°C	287°C		481°C		575°C	
346°F	549°F		898°F		1067°F	
Gasoline		Motor Oils/ Lube Oils/ Grease				
Diesel/ Jet Fuels						

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.

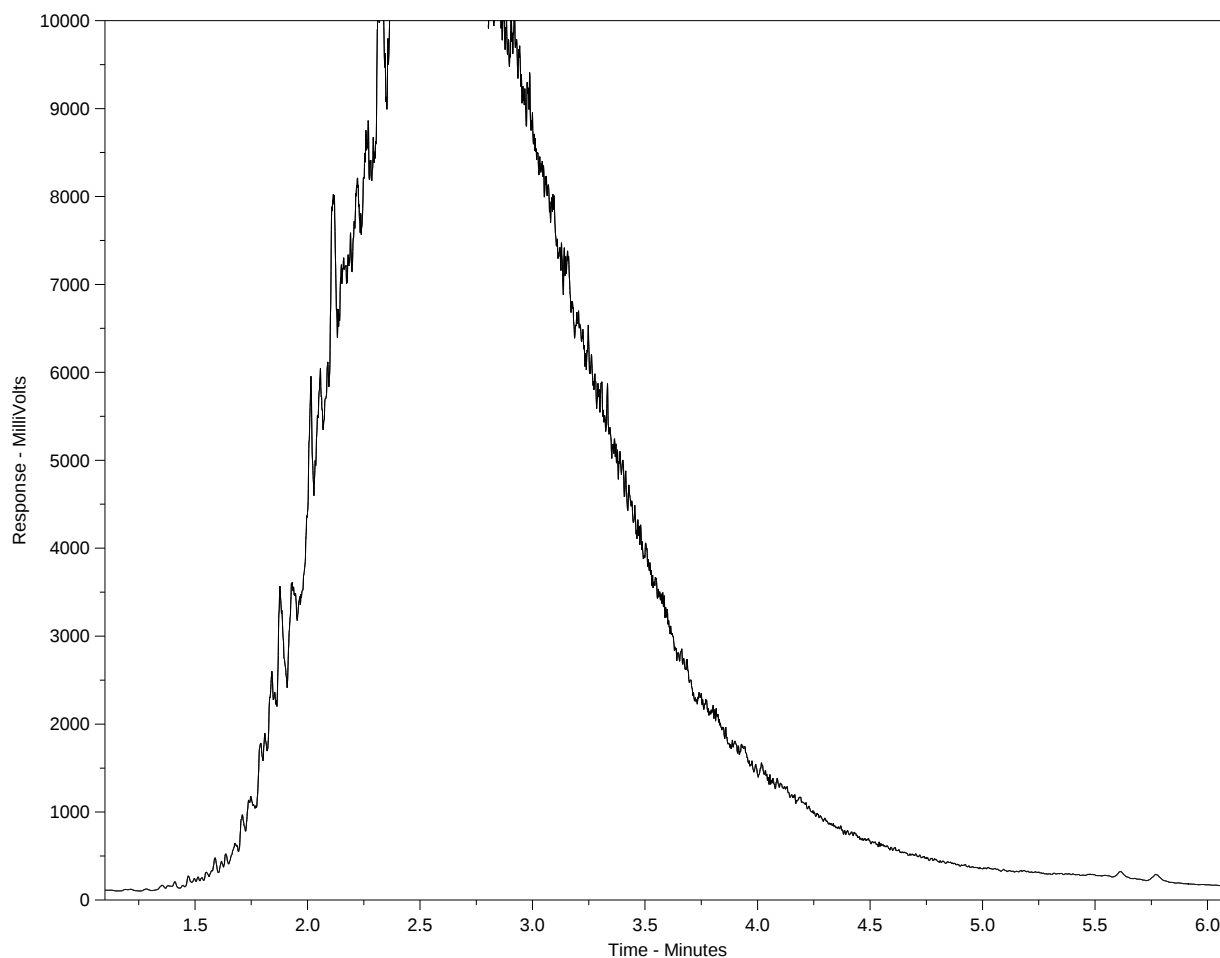
Note:

This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method. Note that retention times and distribution profiles from reports produced using different GC programs will differ.

Hydrocarbon Distribution Report



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



F2		F3		F4		>F4
nC10	nC16		nC34		nC50	
174°C	287°C		481°C		575°C	
346°F	549°F		898°F		1067°F	
Gasoline		Motor Oils/ Lube Oils/ Grease				
Diesel/ Jet Fuels						

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.

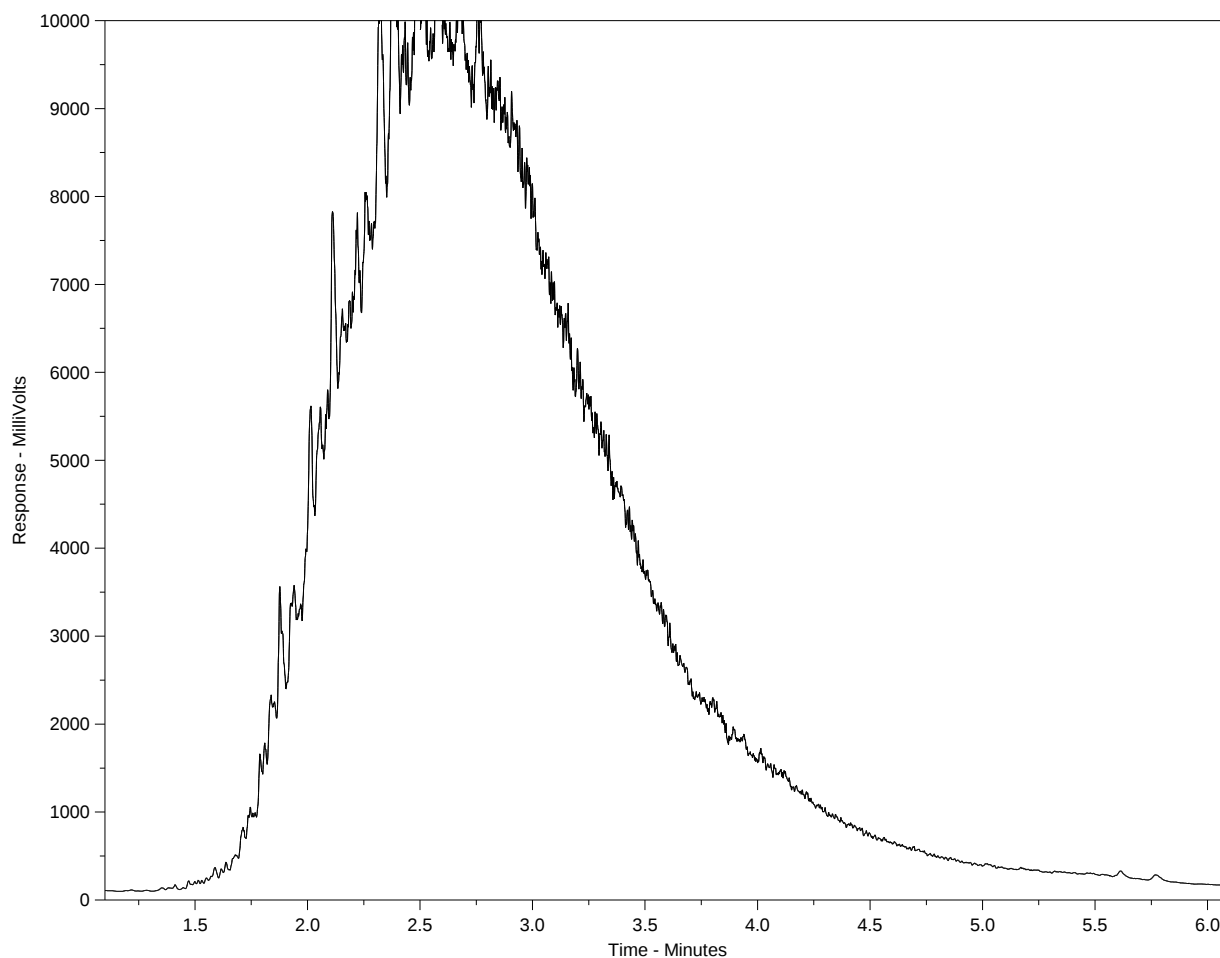
Note:

This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method. Note that retention times and distribution profiles from reports produced using different GC programs will differ.

Hydrocarbon Distribution Report



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



F2		F3		F4		>F4
nC10	nC16		nC34		nC50	
174°C	287°C		481°C		575°C	
346°F	549°F		898°F		1067°F	
Gasoline		Motor Oils/ Lube Oils/ Grease				
Diesel/ Jet Fuels						

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.

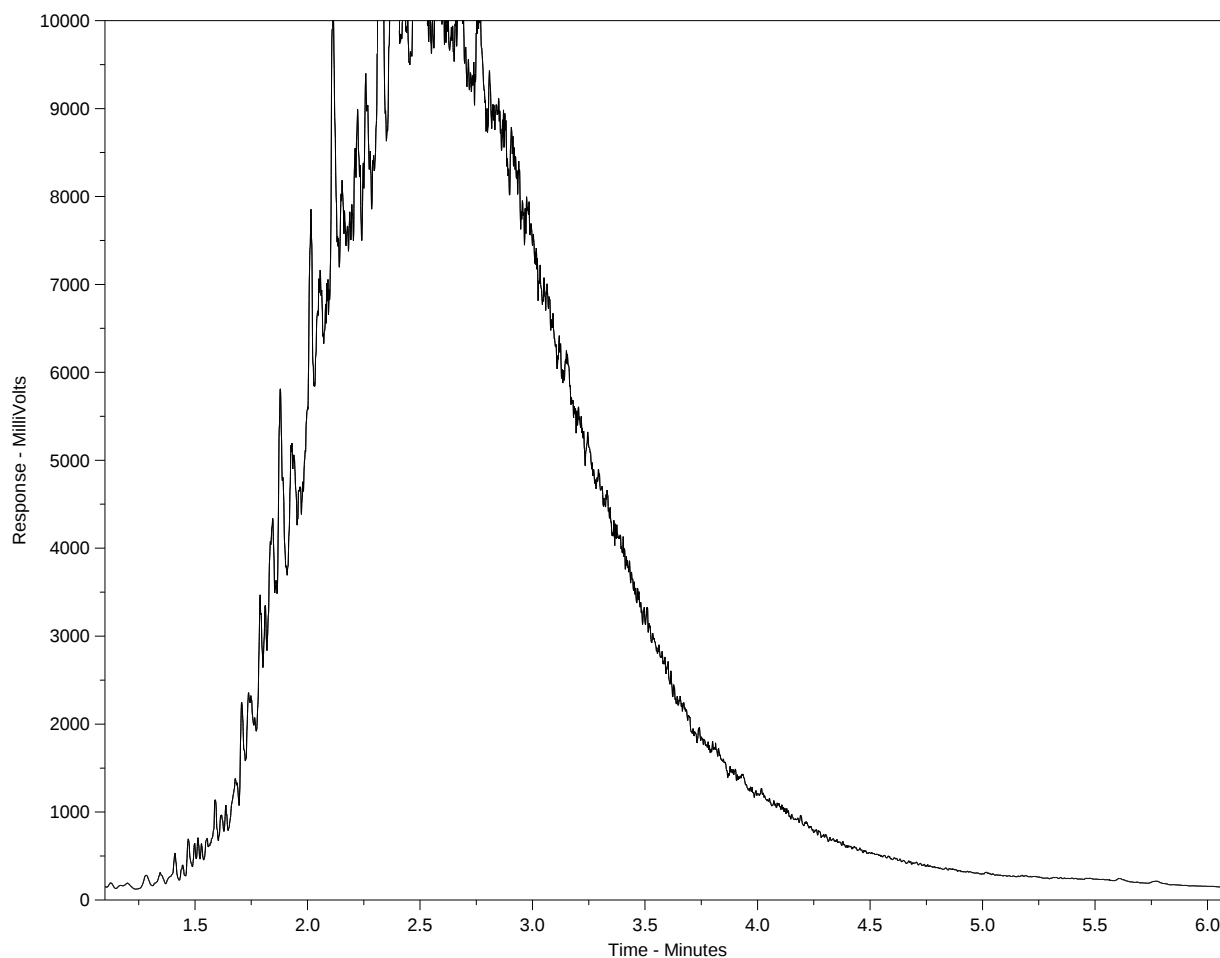
Note:

This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method. Note that retention times and distribution profiles from reports produced using different GC programs will differ.

Hydrocarbon Distribution Report



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



F2		F3		F4	>F4
nC10	nC16		nC34	nC50	
174°C	287°C		481°C	575°C	
346°F	549°F		898°F	1067°F	
Gasoline		Motor Oils/ Lube Oils/ Grease			
Diesel/ Jet Fuels					

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.

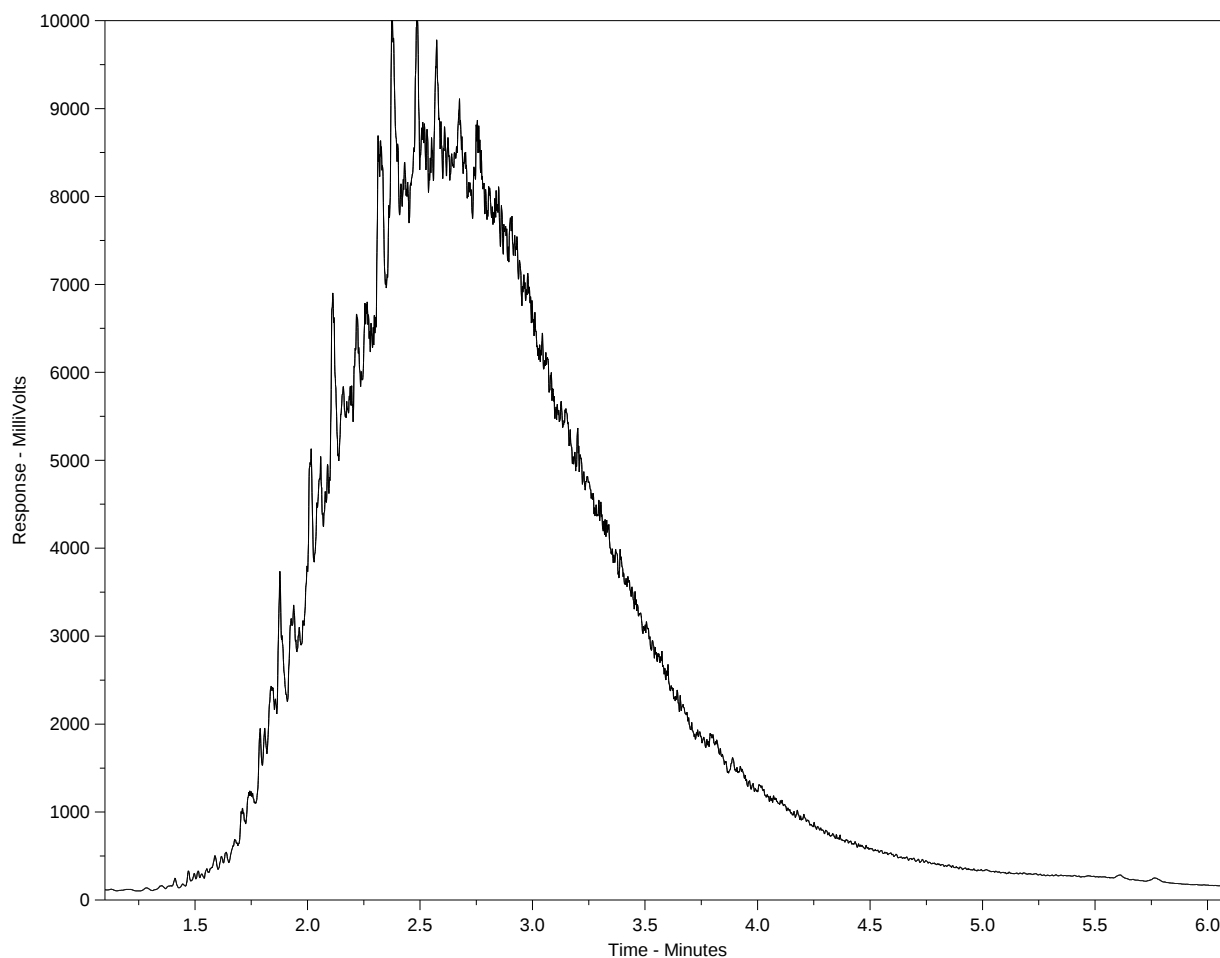
Note:

This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method. Note that retention times and distribution profiles from reports produced using different GC programs will differ.

Hydrocarbon Distribution Report



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



F2		F3		F4	>F4
nC10	nC16		nC34		nC50
174°C	287°C		481°C		575°C
346°F	549°F		898°F		1067°F
Gasoline		Motor Oils/ Lube Oils/ Grease			
Diesel/ Jet Fuels					

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.

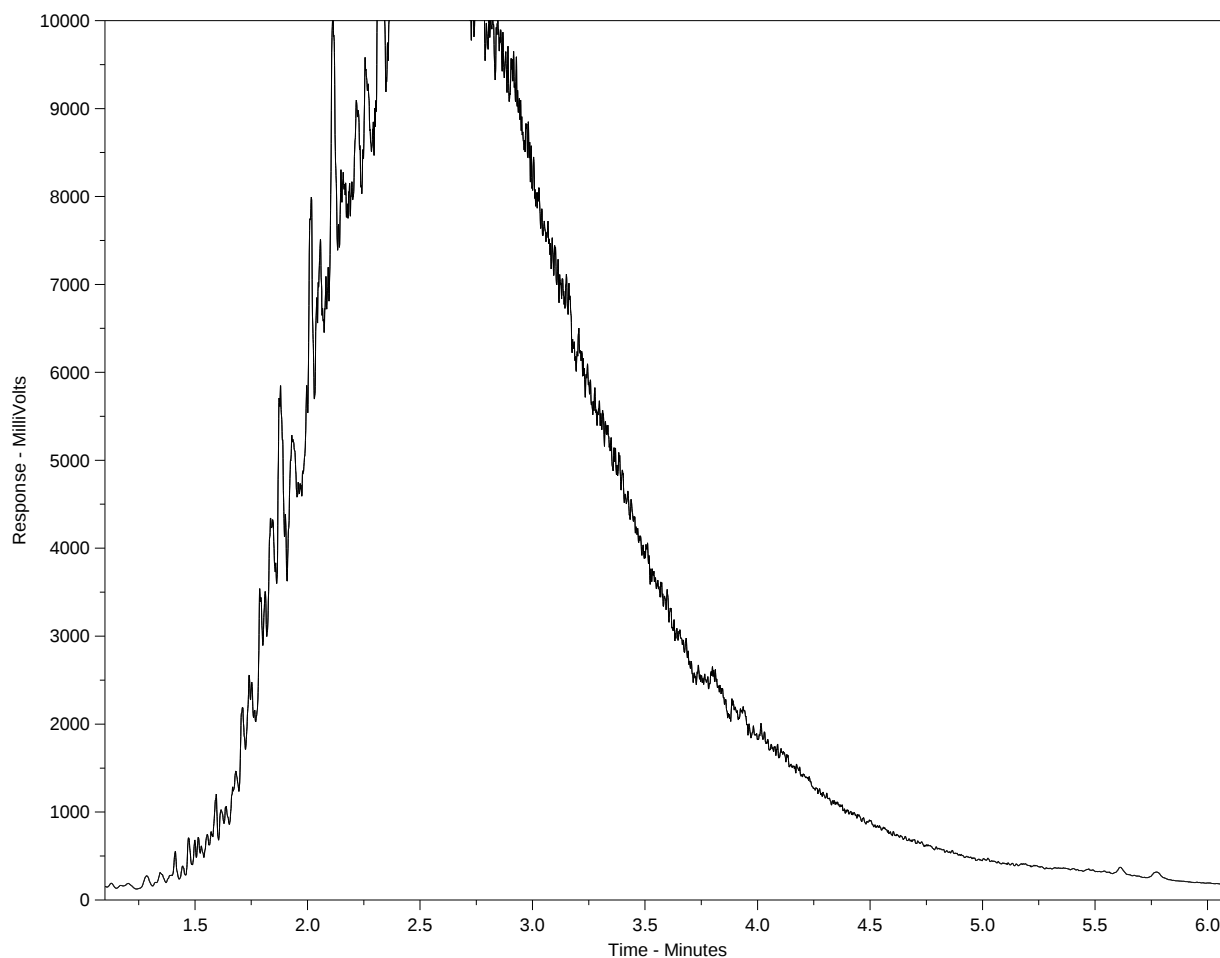
Note:

This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method. Note that retention times and distribution profiles from reports produced using different GC programs will differ.

Hydrocarbon Distribution Report



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



F2		F3		F4		>F4
nC10	nC16		nC34		nC50	
174°C	287°C		481°C		575°C	
346°F	549°F		898°F		1067°F	
Gasoline		Motor Oils/ Lube Oils/ Grease				
Diesel/ Jet Fuels						

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:

This chromatogram was produced with a high temperature GC method that is specific to the Canada-Wide Standard method. Note that retention times and distribution profiles from reports produced using different GC programs will differ.



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 -

Page of

Canada Toll Free: 1 800 668 9878

Report To		Contact and company name below will appear on the final report		
Company:	KBL	Select Report Format: ☒ PDF ☒ EXCEL ☒ EDO (DIGITAL)		
Contact:	David Vanderkey	Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A		
Phone:		☐ Compare Results to Criteria on Report - provide details below if box checked		
Company address below will appear on the final report		Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX		
Street:	3909 68Ave	Email 1 or Fax dvanderkey@kblenv.com		
City/Province:	Leduc, AB	Email 2 mmatkin@kblenv.com		
Postal Code:	T9E0Z4	Email 3		
Invoice To	Same as Report To ☒ YES ☐ NO	Invoice Recipients		
Company:	Copy of Invoice with Report ☐ YES ☐ NO	Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX		
Contact:		Email 1 or Fax dvanderkey@kblenv.com		
Project Information		Email 2		
ALS Account # / Quote #:		Oil and Gas Required Fields (client use)		
Job #:	21-051NT	AFE/Cost Center		
PO / AFE:	MM025	Major/Minor Code		
LSD:		Requisitioner:		
ALS Lab Work Order # (ALS use only): <i>W22A L2 656073</i>		ALS Contact:		
ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type
21BH01		24-Oct-21		Soil
21BH02		24-Oct-21		Soil
21BH03		24-Oct-21		Soil
21BH04		24-Oct-21		Soil
21BH05		24-Oct-21		Soil
21BH06		24-Oct-21		Soil
Drinking Water (DW) Samples ¹ (client use)		Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)		
Are samples taken from a Regulated DW System? ☐ YES ☐ NO				
Are samples for human consumption/ use? ☐ YES ☐ NO				
Released by: Matt Matkin		Date: October 24, 2021	Time:	
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (ALS use only)		
Received by: <i>[Signature]</i>		Date: <i>Oct 26, 21</i>	Time: <i>10:15</i>	
WHITE - LABORATORY COPY		YELLOW - CLIENT COPY		
REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION		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.				
NUMBER OF CONTAINERS		Turnaround Time (TAT) Requested		
BTEX F1-F4		☒ Routine (R) if received by 3pm M-F - no surcharges apply		
Metals + Hg		☐ 4 day (P4) if received by 3pm M-F - 20% rush surcharge minimum		
pH		☐ 3 day (P3) if received by 3pm M-F - 25% rush surcharge minimum		
Particle Size		☐ 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		
		☐ Same day (E2) if received by 10am M-S - 200% rush surcharge.		
		Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.		
		Date and Time Required for all E&P TATs:		
		For all tests with rush TATs requested, please contact your A/E to confirm availability.		
		Analysis Request		
		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below		
		SAMPLES ON HOLD		
		EXTENDED STORAGE REQUIRED		
		SUSPECTED HAZARD (see notes)		
		AFFIX ALS BARCODE LABEL HERE (ALS use only)		
		SAMPLE RECEIPT DETAILS (ALS use only)		
		Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED		
		Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO		
		Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A		
		INITIAL COOLER TEMPERATURES °C		
		FINAL COOLER TEMPERATURES °C		
		446		
		FINAL SHIPMENT RECEPTION (ALS use only)		
		Date:	Time:	



L2656073-COFC

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: YL2201887	Page	: 1 of 5
Client	: Government of the Northwest Territories	Laboratory	: Yellowknife - Environmental
Contact	: Judy Mah	Account Manager	: Oliver Gregg
Address	: Taiga Environmental Lab 4601 52 Ave Yellowknife NT Canada X1A 2L9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: 867 765 6638	Telephone	: 1 867 446 5593
Project	: ----	Date Samples Received	: 21-Oct-2022 09:44
PO	: 3913	Date Analysis Commenced	: 24-Oct-2022
C-O-C number	: ----	Issue Date	: 27-Oct-2022 16:35
Sampler	: ----		
Site	: ----		
Quote number	: YL22-GPNT100-005		
No. of samples received	: 6		
No. of samples analysed	: 6		

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
- Guideline Comparison

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Dan Nguyen	Team Leader - Inorganics	Metals, Edmonton, Alberta
Fahad Husain	Lab Assistant	Inorganics, Edmonton, Alberta
Geoff Berg	Lab Analyst	Organics, Edmonton, Alberta
Joan Wu	Lab Analyst	Metals, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Organics, Edmonton, Alberta
Krystal During	Lab Assistant	Organics, Edmonton, Alberta
Yan Zhang	Lab Analyst	Organics, Edmonton, Alberta



No Breaches Found

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.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guidelines are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Key : LOR: Limit of Reporting (detection limit).

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

>: greater than.

<: less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

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).



Analytical Results Evaluation

Matrix:

Client sample ID			----	----	----	----	----	----	----
Sampling date/time			----	----	----	----	----	----	----
Sub-Matrix			----	----	----	----	----	----	----
Analyte	CAS Number	Unit	----	----	----	----	----	----	----
		-							

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



moisture	----	%							
pH (1:2 soil:water)	----	pH units							
finer (<0.075mm)	----	%							
sand (>0.075mm)	----	%							
texture class	----	-							
aluminum	7429-90-5	mg/kg							
antimony	7440-36-0	mg/kg							
arsenic	7440-38-2	mg/kg							
barium	7440-39-3	mg/kg							
beryllium	7440-41-7	mg/kg							
bismuth	7440-69-9	mg/kg							
boron	7440-42-8	mg/kg							
cadmium	7440-43-9	mg/kg							
calcium	7440-70-2	mg/kg							
chromium	7440-47-3	mg/kg							
cobalt	7440-48-4	mg/kg							
copper	7440-50-8	mg/kg							
iron	7439-89-6	mg/kg							
lead	7439-92-1	mg/kg							
lithium	7439-93-2	mg/kg							
magnesium	7439-95-4	mg/kg							
manganese	7439-96-5	mg/kg							
mercury	7439-97-6	mg/kg							
molybdenum	7439-98-7	mg/kg							
nickel	7440-02-0	mg/kg							
phosphorus	7723-14-0	mg/kg							
potassium	7440-09-7	mg/kg							
selenium	7782-49-2	mg/kg							
silver	7440-22-4	mg/kg							
sodium	7440-23-5	mg/kg							
strontium	7440-24-6	mg/kg							
sulfur	7704-34-9	mg/kg							
thallium	7440-28-0	mg/kg							
tin	7440-31-5	mg/kg							
titanium	7440-32-6	mg/kg							
tungsten	7440-33-7	mg/kg							
uranium	7440-61-1	mg/kg							
vanadium	7440-62-2	mg/kg							
zinc	7440-66-6	mg/kg							
zirconium	7440-67-7	mg/kg							
benzene	71-43-2	mg/kg							
ethylbenzene	100-41-4	mg/kg							

Page : 5 of 5
 Work Order : YL2201887
 Client : Government of the Northwest Territories
 Project : ----



methyl-tert-butyl ether [MTBE]	1634-04-4	mg/kg							
styrene	100-42-5	mg/kg							
toluene	108-88-3	mg/kg							
xylene, m+p-	179601-23-1	mg/kg							
xylene, o-	95-47-6	mg/kg							
xylenes, total	1330-20-7	mg/kg							
chromatogram to baseline at nC50	n/a	-							
F1 (C6-C10)	----	mg/kg							
F1-BTEX	----	mg/kg							
F2 (C10-C16)	----	mg/kg							
F3 (C16-C34)	----	mg/kg							
F4 (C34-C50)	----	mg/kg							
TEH (C10-C50)	n/a	mg/kg							
TEH (C16-C50)	----	mg/kg							
VHs (C6-C10)	----	mg/kg							

CERTIFICATE OF ANALYSIS

Work Order	: YL2201887	Page	: 1 of 8
Client	: Government of the Northwest Territories	Laboratory	: Yellowknife - Environmental
Contact	: Judy Mah	Account Manager	: Oliver Gregg
Address	: Taiga Environmental Lab 4601 52 Ave Yellowknife NT Canada X1A 2L9	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: 867 765 6638	Telephone	: 1 867 446 5593
Project	: ----	Date Samples Received	: 21-Oct-2022 09:44
PO	: 3913	Date Analysis Commenced	: 24-Oct-2022
C-O-C number	: ----	Issue Date	: 27-Oct-2022 16:32
Sampler	: ----		
Site	: ----		
Quote number	: YL22-GPNT100-005		
No. of samples received	: 6		
No. of samples analysed	: 6		

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
Fahad Husain	Lab Assistant	Inorganics, Edmonton, Alberta
Geoff Berg	Lab Analyst	Organics, Edmonton, Alberta
Joan Wu	Lab Analyst	Metals, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Organics, Edmonton, Alberta
Krystal During	Lab Assistant	Organics, Edmonton, Alberta
Yan Zhang	Lab Analyst	Organics, Edmonton, Alberta



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).



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID				
(Matrix: Soil/Solid)					222168-001 (EGT-CS SP-1A)	222168-002 (EGT-CS SP-1A)	222168-003 (EGT-CS SP-1B)	222168-004 (EGT-CS SP-3A)	222168-005 (EGT-CS SP-2B)
Client sampling date / time					18-Oct-2022 08:55	18-Oct-2022 09:00	18-Oct-2022 09:05	18-Oct-2022 09:25	18-Oct-2022 09:15
Analyte	CAS Number	Method	LOR	Unit	YL2201887-001	YL2201887-002	YL2201887-003	YL2201887-004	YL2201887-005
					Result	Result	Result	Result	Result
Physical Tests									
moisture	----	E144	0.25	%	16.1	13.9	14.5	16.4	12.0
pH (1:2 soil:water)	----	E108	0.10	pH units	8.10	7.91	7.88	7.76	8.04
Particle Size									
sand (>0.075mm)	----	E178	1.0	%	60.7	59.4	71.5	63.8	69.2
finer (<0.075mm)	----	E178	1.0	%	39.3	40.6	28.5	36.2	30.8
texture class	----	E178	-	-	Coarse	Coarse	Coarse	Coarse	Coarse
Metals									
aluminum	7429-90-5	E440	50	mg/kg	7440	7550	6580	6920	6800
antimony	7440-36-0	E440	0.10	mg/kg	0.65	0.64	0.64	0.66	0.52
arsenic	7440-38-2	E440	0.10	mg/kg	17.2	15.9	11.3	15.1	11.5
barium	7440-39-3	E440	0.50	mg/kg	458	322	327	456	309
beryllium	7440-41-7	E440	0.10	mg/kg	0.40	0.39	0.34	0.43	0.35
bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20
boron	7440-42-8	E440	5.0	mg/kg	6.8	6.2	5.9	6.0	6.2
cadmium	7440-43-9	E440	0.020	mg/kg	0.256	0.265	0.201	0.261	0.195
calcium	7440-70-2	E440	50	mg/kg	24100	18100	21800	21500	20400
chromium	7440-47-3	E440	0.50	mg/kg	45.2	25.8	23.0	52.6	50.0
cobalt	7440-48-4	E440	0.10	mg/kg	8.77	8.40	7.70	8.20	7.45
copper	7440-50-8	E440	0.50	mg/kg	17.7	15.3	15.0	16.2	13.4
iron	7439-89-6	E440	50	mg/kg	28700	20600	17800	27500	19700
lead	7439-92-1	E440	0.50	mg/kg	10.4	9.62	8.82	8.96	7.75
lithium	7439-93-2	E440	2.0	mg/kg	9.9	10.6	9.7	9.5	9.6
magnesium	7439-95-4	E440	20	mg/kg	9250	7290	8180	7050	5710
manganese	7439-96-5	E440	1.0	mg/kg	469	339	322	726	473
mercury	7439-97-6	E510	0.0050	mg/kg	0.0494	0.0358	0.0290	0.0507	0.0329
molybdenum	7439-98-7	E440	0.10	mg/kg	2.41	2.19	1.78	3.04	1.76
nickel	7440-02-0	E440	0.50	mg/kg	37.2	26.9	24.4	38.6	36.0
phosphorus	7723-14-0	E440	50	mg/kg	755	584	520	810	976
potassium	7440-09-7	E440	100	mg/kg	1120	1160	1100	1130	1090



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					222168-001 (EGT-CS SP-1A)	222168-002 (EGT-CS SP-1A)	222168-003 (EGT-CS SP-1B)	222168-004 (EGT-CS SP-3A)	222168-005 (EGT-CS SP-2B)
Client sampling date / time					18-Oct-2022 08:55	18-Oct-2022 09:00	18-Oct-2022 09:05	18-Oct-2022 09:25	18-Oct-2022 09:15
Analyte	CAS Number	Method	LOR	Unit	YL2201887-001	YL2201887-002	YL2201887-003	YL2201887-004	YL2201887-005
					Result	Result	Result	Result	Result
Metals									
selenium	7782-49-2	E440	0.20	mg/kg	0.78	0.75	0.48	0.64	0.53
silver	7440-22-4	E440	0.10	mg/kg	0.16	0.11	0.10	0.12	<0.10
sodium	7440-23-5	E440	50	mg/kg	140	106	99	119	115
strontium	7440-24-6	E440	0.50	mg/kg	52.6	42.2	45.7	59.1	50.7
sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	<1000	<1000	<1000
thallium	7440-28-0	E440	0.050	mg/kg	0.150	0.148	0.132	0.160	0.124
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	75.1	83.5	107	62.9	79.7
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	0.837	1.01	0.917	0.912	0.821
vanadium	7440-62-2	E440	0.20	mg/kg	36.4	30.4	28.3	28.1	28.2
zinc	7440-66-6	E440	2.0	mg/kg	70.1	73.5	62.8	69.9	57.2
zirconium	7440-67-7	E440	1.0	mg/kg	3.9	3.9	4.4	3.4	3.8
Volatile Organic Compounds [Fuels]									
benzene	71-43-2	E611A	0.0050	mg/kg	<0.0050	0.0162	<0.0050	<0.0050	<0.0050
ethylbenzene	100-41-4	E611A	0.015	mg/kg	0.025	0.047	0.022	0.071	0.018
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.200	mg/kg	<0.200	<0.200	<0.200	<0.200	<0.200
styrene	100-42-5	E611A	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
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	0.030	mg/kg	0.051	0.080	0.043	0.593	0.067
xylene, o-	95-47-6	E611A	0.030	mg/kg	0.102	0.203	0.049	1.20	0.089
xylenes, total	1330-20-7	E611A	0.050	mg/kg	0.153	0.283	0.092	1.79	0.156
Hydrocarbons									
chromatogram to baseline at nC50	n/a	E601.SG	-	-	Yes	Yes	Yes	Yes	Yes
F1 (C6-C10)	----	E581.VH+F1	5.0	mg/kg	140	283	41.6	471	45.9
F2 (C10-C16)	----	E601.SG	25	mg/kg	1370	2250	311	4320	836
F3 (C16-C34)	----	E601.SG	50	mg/kg	430	477	76	656	209
F4 (C34-C50)	----	E601.SG	50	mg/kg	150	<50	<50	<50	<50
TEH (C10-C50)	n/a	E601.SG	75	mg/kg	1950	2730	387	4980	1040
TEH (C16-C50)	----	E601.SG	75	mg/kg	580	477	76	656	209



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					222168-001 (EGT-CS SP-1A)	222168-002 (EGT-CS SP-1A)	222168-003 (EGT-CS SP-1B)	222168-004 (EGT-CS SP-3A)	222168-005 (EGT-CS SP-2B)
Client sampling date / time					18-Oct-2022 08:55	18-Oct-2022 09:00	18-Oct-2022 09:05	18-Oct-2022 09:25	18-Oct-2022 09:15
Analyte	CAS Number	Method	LOR	Unit	YL2201887-001	YL2201887-002	YL2201887-003	YL2201887-004	YL2201887-005
					Result	Result	Result	Result	Result
Hydrocarbons									
VHs (C6-C10)	----	E581.VH+F1	10	mg/kg	140	283	42	471	46
F1-BTEX	----	EC580	5.0	mg/kg	140	283	41.5	469	45.7
Hydrocarbons Surrogates									
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601.SG	1.0	%	98.3	105	85.4	123	95.3
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	88.4	95.6	72.5	79.4	73.3
Volatile Organic Compounds Surrogates									
bromofluorobenzene, 4-	460-00-4	E611A	0.10	%	115	108	113	94.9	94.9
difluorobenzene, 1,4-	540-36-3	E611A	0.10	%	89.9	84.1	88.8	81.1	71.8

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



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					222168-006 (EGT-CS SP-3B)	----	----	----	----
Client sampling date / time					18-Oct-2022 09:30	----	----	----	----
Analyte	CAS Number	Method	LOR	Unit	YL2201887-006	-----	-----	-----	-----
					Result	----	----	----	----
Physical Tests									
moisture	----	E144	0.25	%	14.5	----	----	----	----
pH (1:2 soil:water)	----	E108	0.10	pH units	7.89	----	----	----	----
Particle Size									
sand (>0.075mm)	----	E178	1.0	%	69.6	----	----	----	----
finer (<0.075mm)	----	E178	1.0	%	30.4	----	----	----	----
texture class	----	E178	-	-	Coarse	----	----	----	----
Metals									
aluminum	7429-90-5	E440	50	mg/kg	6490	----	----	----	----
antimony	7440-36-0	E440	0.10	mg/kg	0.67	----	----	----	----
arsenic	7440-38-2	E440	0.10	mg/kg	19.9	----	----	----	----
barium	7440-39-3	E440	0.50	mg/kg	324	----	----	----	----
beryllium	7440-41-7	E440	0.10	mg/kg	0.44	----	----	----	----
bismuth	7440-69-9	E440	0.20	mg/kg	<0.20	----	----	----	----
boron	7440-42-8	E440	5.0	mg/kg	6.2	----	----	----	----
cadmium	7440-43-9	E440	0.020	mg/kg	0.237	----	----	----	----
calcium	7440-70-2	E440	50	mg/kg	26800	----	----	----	----
chromium	7440-47-3	E440	0.50	mg/kg	23.2	----	----	----	----
cobalt	7440-48-4	E440	0.10	mg/kg	8.17	----	----	----	----
copper	7440-50-8	E440	0.50	mg/kg	15.2	----	----	----	----
iron	7439-89-6	E440	50	mg/kg	32800	----	----	----	----
lead	7439-92-1	E440	0.50	mg/kg	10.2	----	----	----	----
lithium	7439-93-2	E440	2.0	mg/kg	9.2	----	----	----	----
magnesium	7439-95-4	E440	20	mg/kg	5920	----	----	----	----
manganese	7439-96-5	E440	1.0	mg/kg	529	----	----	----	----
mercury	7439-97-6	E510	0.0050	mg/kg	0.0621	----	----	----	----
molybdenum	7439-98-7	E440	0.10	mg/kg	2.15	----	----	----	----
nickel	7440-02-0	E440	0.50	mg/kg	26.0	----	----	----	----
phosphorus	7723-14-0	E440	50	mg/kg	630	----	----	----	----
potassium	7440-09-7	E440	100	mg/kg	960	----	----	----	----
selenium	7782-49-2	E440	0.20	mg/kg	0.62	----	----	----	----



Analytical Results

Sub-Matrix: Soil/Solid

Client sample ID

(Matrix: Soil/Solid)

					222168-006 (EGT-CS SP-3B)	----	----	----	----
Client sampling date / time					18-Oct-2022 09:30	----	----	----	----
Analyte	CAS Number	Method	LOR	Unit	YL2201887-006	-----	-----	-----	-----
					Result	----	----	----	----
Metals									
silver	7440-22-4	E440	0.10	mg/kg	0.14	----	----	----	----
sodium	7440-23-5	E440	50	mg/kg	100	----	----	----	----
strontium	7440-24-6	E440	0.50	mg/kg	62.0	----	----	----	----
sulfur	7704-34-9	E440	1000	mg/kg	<1000	----	----	----	----
thallium	7440-28-0	E440	0.050	mg/kg	0.150	----	----	----	----
tin	7440-31-5	E440	2.0	mg/kg	<2.0	----	----	----	----
titanium	7440-32-6	E440	1.0	mg/kg	71.6	----	----	----	----
tungsten	7440-33-7	E440	0.50	mg/kg	<0.50	----	----	----	----
uranium	7440-61-1	E440	0.050	mg/kg	0.977	----	----	----	----
vanadium	7440-62-2	E440	0.20	mg/kg	30.8	----	----	----	----
zinc	7440-66-6	E440	2.0	mg/kg	72.9	----	----	----	----
zirconium	7440-67-7	E440	1.0	mg/kg	3.4	----	----	----	----
Volatile Organic Compounds [Fuels]									
benzene	71-43-2	E611A	0.0050	mg/kg	<0.0050	----	----	----	----
ethylbenzene	100-41-4	E611A	0.015	mg/kg	0.034	----	----	----	----
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.200	mg/kg	<0.200	----	----	----	----
styrene	100-42-5	E611A	0.050	mg/kg	<0.050	----	----	----	----
toluene	108-88-3	E611A	0.050	mg/kg	<0.050	----	----	----	----
xylene, m+p-	179601-23-1	E611A	0.030	mg/kg	0.946	----	----	----	----
xylene, o-	95-47-6	E611A	0.030	mg/kg	0.756	----	----	----	----
xylenes, total	1330-20-7	E611A	0.050	mg/kg	1.70	----	----	----	----
Hydrocarbons									
chromatogram to baseline at nC50	n/a	E601.SG	-	-	Yes	----	----	----	----
F1 (C6-C10)	----	E581.VH+F1	5.0	mg/kg	409	----	----	----	----
F2 (C10-C16)	----	E601.SG	25	mg/kg	5080	----	----	----	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	856	----	----	----	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	64	----	----	----	----
TEH (C10-C50)	n/a	E601.SG	75	mg/kg	6000	----	----	----	----
TEH (C16-C50)	----	E601.SG	75	mg/kg	920	----	----	----	----
VHs (C6-C10)	----	E581.VH+F1	10	mg/kg	409	----	----	----	----



Analytical Results

Sub-Matrix: Soil/Solid					Client sample ID	222168-006 (EGT-CS SP-3B)	----	----	----	----
(Matrix: Soil/Solid)					Client sampling date / time	18-Oct-2022 09:30	----	----	----	----
Analyte	CAS Number	Method	LOR	Unit	YL2201887-006	Result	-----	-----	-----	-----
Hydrocarbons										
F1-BTEX	----	EC580	5.0	mg/kg	407	----	----	----	----	----
Hydrocarbons Surrogates										
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601.SG	1.0	%	137	----	----	----	----	----
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	96.6	----	----	----	----	----
Volatile Organic Compounds Surrogates										
bromofluorobenzene, 4-	460-00-4	E611A	0.10	%	98.4	----	----	----	----	----
difluorobenzene, 1,4-	540-36-3	E611A	0.10	%	86.7	----	----	----	----	----

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

CERTIFICATE OF ANALYSIS

Work Order	: YL2201887	Page	: 1 of 12
Client	: Government of the Northwest Territories	Laboratory	: Yellowknife - Environmental
Contact	: Judy Mah	Account Manager	: Oliver Gregg
Address	: Taiga Environmental Lab 4601 52 Ave Yellowknife NT Canada X1A 2L9	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: 867 765 6638	Telephone	: 1 867 446 5593
Project	: ----	Date Samples Received	: 21-Oct-2022 09:44
PO	: 3913	Date Analysis	: 24-Oct-2022
		Commenced	
		Issue Date	: 27-Oct-2022 16:34
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: YL22-GPNT100-005		
No. of samples received	: 6		
No. of samples analysed	: 6		

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
Fahad Husain	Lab Assistant	Inorganics, Edmonton, Alberta
Geoff Berg	Lab Analyst	Organics, Edmonton, Alberta
Joan Wu	Lab Analyst	Metals, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Organics, Edmonton, Alberta
Krystal During	Lab Assistant	Organics, Edmonton, Alberta
Yan Zhang	Lab Analyst	Organics, Edmonton, Alberta



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

>: greater than.

<: less 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).



Analytical Results

YL2201887-001

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-001 (EGT-CS SP-1A)

Client sampling date / time: 18-Oct-2022 08:55

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
moisture	----	16.1	0.25	%	E144	-	24-Oct-2022	711067
pH (1:2 soil:water)	----	8.10	0.10	pH units	E108	27-Oct-2022	27-Oct-2022	717418
Particle Size								
sand (>0.075mm)	----	60.7	1.0	%	E178	-	27-Oct-2022	717733
finer (<0.075mm)	----	39.3	1.0	%	E178	-	27-Oct-2022	717733
texture class	----	Coarse	-	-	E178	-	27-Oct-2022	717733
Metals								
aluminum	7429-90-5	7440	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
antimony	7440-36-0	0.65	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
arsenic	7440-38-2	17.2	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
barium	7440-39-3	458	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
beryllium	7440-41-7	0.40	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
bismuth	7440-69-9	<0.20	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
boron	7440-42-8	6.8	5.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cadmium	7440-43-9	0.256	0.020	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
calcium	7440-70-2	24100	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
chromium	7440-47-3	45.2	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cobalt	7440-48-4	8.77	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
copper	7440-50-8	17.7	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
iron	7439-89-6	28700	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lead	7439-92-1	10.4	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lithium	7439-93-2	9.9	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
magnesium	7439-95-4	9250	20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
manganese	7439-96-5	469	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
mercury	7439-97-6	0.0494	0.0050	mg/kg	E510	26-Oct-2022	26-Oct-2022	715626
molybdenum	7439-98-7	2.41	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
nickel	7440-02-0	37.2	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
phosphorus	7723-14-0	755	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
potassium	7440-09-7	1120	100	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
selenium	7782-49-2	0.78	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
silver	7440-22-4	0.16	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sodium	7440-23-5	140	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
strontium	7440-24-6	52.6	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sulfur	7704-34-9	<1000	1000	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
thallium	7440-28-0	0.150	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tin	7440-31-5	<2.0	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
titanium	7440-32-6	75.1	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tungsten	7440-33-7	<0.50	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
uranium	7440-61-1	0.837	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
vanadium	7440-62-2	36.4	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zinc	7440-66-6	70.1	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zirconium	7440-67-7	3.9	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
Volatile Organic Compounds [Fuels]								
benzene	71-43-2	<0.0050	0.0050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
ethylbenzene	100-41-4	0.025	0.015	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
methyl-tert-butyl ether [MTBE]	1634-04-4	<0.200	0.200	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901



Analytical Results

YL2201887-001

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-001 (EGT-CS SP-1A)

Client sampling date / time: 18-Oct-2022 08:55

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Volatile Organic Compounds [Fuels]								
styrene	100-42-5	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
toluene	108-88-3	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, m+p-	179601-23-1	0.051	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, o-	95-47-6	0.102	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylenes, total	1330-20-7	0.153	0.05	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
Hydrocarbons								
chromatogram to baseline at nC50	n/a	Yes	-	-	E601.SG	24-Oct-2022	24-Oct-2022	710885
F1 (C6-C10)	----	140	5.0	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F2 (C10-C16)	----	1370	25	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F3 (C16-C34)	----	430	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F4 (C34-C50)	----	150	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C10-C50)	n/a	1950	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C16-C50)	----	580	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
VHs (C6-C10)	----	140	10	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F1-BTEX	----	140	55.8	mg/kg	EC580	-	25-Oct-2022	-
Hydrocarbons Surrogates								
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	98.3	1.0	%	E601.SG	24-Oct-2022	24-Oct-2022	710885
dichlorotoluene, 3,4-	97-75-0	88.4	1.0	%	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
Volatile Organic Compounds Surrogates								
bromofluorobenzene, 4-	460-00-4	115	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901
difluorobenzene, 1,4-	540-36-3	89.9	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901

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

Analytical Results

YL2201887-002

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-002 (EGT-CS SP-1A)

Client sampling date / time: 18-Oct-2022 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
moisture	----	13.9	0.25	%	E144	-	24-Oct-2022	711067
pH (1:2 soil:water)	----	7.91	0.10	pH units	E108	27-Oct-2022	27-Oct-2022	717418
Particle Size								
sand (>0.075mm)	----	59.4	1.0	%	E178	-	27-Oct-2022	717733
finer (<0.075mm)	----	40.6	1.0	%	E178	-	27-Oct-2022	717733
texture class	----	Coarse	-	-	E178	-	27-Oct-2022	717733
Metals								
aluminum	7429-90-5	7550	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
antimony	7440-36-0	0.64	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
arsenic	7440-38-2	15.9	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
barium	7440-39-3	322	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
beryllium	7440-41-7	0.39	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
bismuth	7440-69-9	<0.20	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
boron	7440-42-8	6.2	5.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627



Analytical Results

YL2201887-002

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-002 (EGT-CS SP-1A)

Client sampling date / time: 18-Oct-2022 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Metals								
cadmium	7440-43-9	0.265	0.020	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
calcium	7440-70-2	18100	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
chromium	7440-47-3	25.8	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cobalt	7440-48-4	8.40	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
copper	7440-50-8	15.3	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
iron	7439-89-6	20600	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lead	7439-92-1	9.62	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lithium	7439-93-2	10.6	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
magnesium	7439-95-4	7290	20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
manganese	7439-96-5	339	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
mercury	7439-97-6	0.0358	0.0050	mg/kg	E510	26-Oct-2022	26-Oct-2022	715626
molybdenum	7439-98-7	2.19	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
nickel	7440-02-0	26.9	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
phosphorus	7723-14-0	584	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
potassium	7440-09-7	1160	100	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
selenium	7782-49-2	0.75	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
silver	7440-22-4	0.11	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sodium	7440-23-5	106	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
strontium	7440-24-6	42.2	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sulfur	7704-34-9	<1000	1000	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
thallium	7440-28-0	0.148	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tin	7440-31-5	<2.0	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
titanium	7440-32-6	83.5	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tungsten	7440-33-7	<0.50	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
uranium	7440-61-1	1.01	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
vanadium	7440-62-2	30.4	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zinc	7440-66-6	73.5	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zirconium	7440-67-7	3.9	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
Volatile Organic Compounds [Fuels]								
benzene	71-43-2	0.0162	0.0050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
ethylbenzene	100-41-4	0.047	0.015	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
methyl-tert-butyl ether [MTBE]	1634-04-4	<0.200	0.200	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
styrene	100-42-5	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
toluene	108-88-3	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, m+p-	179601-23-1	0.080	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, o-	95-47-6	0.203	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylenes, total	1330-20-7	0.283	0.05	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
Hydrocarbons								
chromatogram to baseline at nC50	n/a	Yes	-	-	E601.SG	24-Oct-2022	24-Oct-2022	710885
F1 (C6-C10)	----	283	5.0	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F2 (C10-C16)	----	2250	25	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F3 (C16-C34)	----	477	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F4 (C34-C50)	----	<50	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C10-C50)	n/a	2730	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C16-C50)	----	477	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
VHs (C6-C10)	----	283	10	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902



Analytical Results

YL2201887-002

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-002 (EGT-CS SP-1A)

Client sampling date / time: 18-Oct-2022 09:00

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Hydrocarbons								
F1-BTEX	----	283	111	mg/kg	EC580	-	25-Oct-2022	-
Hydrocarbons Surrogates								
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	105	1.0	%	E601.SG	24-Oct-2022	24-Oct-2022	710885
dichlorotoluene, 3,4-	97-75-0	95.6	1.0	%	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
Volatile Organic Compounds Surrogates								
bromofluorobenzene, 4-	460-00-4	108	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901
difluorobenzene, 1,4-	540-36-3	84.1	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901

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

Analytical Results

YL2201887-003

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-003 (EGT-CS SP-1B)

Client sampling date / time: 18-Oct-2022 09:05

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
moisture	----	14.5	0.25	%	E144	-	24-Oct-2022	711067
pH (1:2 soil:water)	----	7.88	0.10	pH units	E108	27-Oct-2022	27-Oct-2022	717418
Particle Size								
sand (>0.075mm)	----	71.5	1.0	%	E178	-	27-Oct-2022	717733
finer (<0.075mm)	----	28.5	1.0	%	E178	-	27-Oct-2022	717733
texture class	----	Coarse	-	-	E178	-	27-Oct-2022	717733
Metals								
aluminum	7429-90-5	6580	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
antimony	7440-36-0	0.64	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
arsenic	7440-38-2	11.3	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
barium	7440-39-3	327	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
beryllium	7440-41-7	0.34	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
bismuth	7440-69-9	<0.20	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
boron	7440-42-8	5.9	5.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cadmium	7440-43-9	0.201	0.020	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
calcium	7440-70-2	21800	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
chromium	7440-47-3	23.0	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cobalt	7440-48-4	7.70	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
copper	7440-50-8	15.0	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
iron	7439-89-6	17800	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lead	7439-92-1	8.82	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lithium	7439-93-2	9.7	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
magnesium	7439-95-4	8180	20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
manganese	7439-96-5	322	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
mercury	7439-97-6	0.0290	0.0050	mg/kg	E510	26-Oct-2022	26-Oct-2022	715626
molybdenum	7439-98-7	1.78	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
nickel	7440-02-0	24.4	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
phosphorus	7723-14-0	520	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627



Analytical Results

YL2201887-003

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-003 (EGT-CS SP-1B)

Client sampling date / time: 18-Oct-2022 09:05

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Metals								
potassium	7440-09-7	1100	100	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
selenium	7782-49-2	0.48	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
silver	7440-22-4	0.10	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sodium	7440-23-5	99	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
strontium	7440-24-6	45.7	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sulfur	7704-34-9	<1000	1000	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
thallium	7440-28-0	0.132	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tin	7440-31-5	<2.0	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
titanium	7440-32-6	107	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tungsten	7440-33-7	<0.50	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
uranium	7440-61-1	0.917	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
vanadium	7440-62-2	28.3	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zinc	7440-66-6	62.8	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zirconium	7440-67-7	4.4	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
Volatile Organic Compounds [Fuels]								
benzene	71-43-2	<0.0050	0.0050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
ethylbenzene	100-41-4	0.022	0.015	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
methyl-tert-butyl ether [MTBE]	1634-04-4	<0.200	0.200	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
styrene	100-42-5	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
toluene	108-88-3	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, m+p-	179601-23-1	0.043	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, o-	95-47-6	0.049	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylenes, total	1330-20-7	0.092	0.05	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
Hydrocarbons								
chromatogram to baseline at nC50	n/a	Yes	-	-	E601.SG	24-Oct-2022	24-Oct-2022	710885
F1 (C6-C10)	----	41.6	5.0	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F2 (C10-C16)	----	311	25	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F3 (C16-C34)	----	76	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F4 (C34-C50)	----	<50	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C10-C50)	n/a	387	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C16-C50)	----	76	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
VHs (C6-C10)	----	42	10	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F1-BTEX	----	41.5	17.8	mg/kg	EC580	-	25-Oct-2022	-
Hydrocarbons Surrogates								
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	85.4	1.0	%	E601.SG	24-Oct-2022	24-Oct-2022	710885
dichlorotoluene, 3,4-	97-75-0	72.5	1.0	%	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
Volatile Organic Compounds Surrogates								
bromofluorobenzene, 4-	460-00-4	113	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901
difluorobenzene, 1,4-	540-36-3	88.8	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901

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



Analytical Results

YL2201887-004

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-004 (EGT-CS SP-3A)

Client sampling date / time: 18-Oct-2022 09:25

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QC/Lot
Physical Tests								
moisture	----	16.4	0.25	%	E144	-	24-Oct-2022	711175
pH (1:2 soil:water)	----	7.76	0.10	pH units	E108	27-Oct-2022	27-Oct-2022	717418
Particle Size								
sand (>0.075mm)	----	63.8	1.0	%	E178	-	27-Oct-2022	717733
finer (<0.075mm)	----	36.2	1.0	%	E178	-	27-Oct-2022	717733
texture class	----	Coarse	-	-	E178	-	27-Oct-2022	717733
Metals								
aluminum	7429-90-5	6920	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
antimony	7440-36-0	0.66	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
arsenic	7440-38-2	15.1	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
barium	7440-39-3	456	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
beryllium	7440-41-7	0.43	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
bismuth	7440-69-9	<0.20	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
boron	7440-42-8	6.0	5.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cadmium	7440-43-9	0.261	0.020	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
calcium	7440-70-2	21500	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
chromium	7440-47-3	52.6	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cobalt	7440-48-4	8.20	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
copper	7440-50-8	16.2	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
iron	7439-89-6	27500	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lead	7439-92-1	8.96	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lithium	7439-93-2	9.5	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
magnesium	7439-95-4	7050	20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
manganese	7439-96-5	726	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
mercury	7439-97-6	0.0507	0.0050	mg/kg	E510	26-Oct-2022	26-Oct-2022	715626
molybdenum	7439-98-7	3.04	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
nickel	7440-02-0	38.6	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
phosphorus	7723-14-0	810	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
potassium	7440-09-7	1130	100	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
selenium	7782-49-2	0.64	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
silver	7440-22-4	0.12	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sodium	7440-23-5	119	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
strontium	7440-24-6	59.1	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sulfur	7704-34-9	<1000	1000	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
thallium	7440-28-0	0.160	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tin	7440-31-5	<2.0	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
titanium	7440-32-6	62.9	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tungsten	7440-33-7	<0.50	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
uranium	7440-61-1	0.912	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
vanadium	7440-62-2	28.1	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zinc	7440-66-6	69.9	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zirconium	7440-67-7	3.4	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
Volatile Organic Compounds [Fuels]								
benzene	71-43-2	<0.0050	0.0050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
ethylbenzene	100-41-4	0.071	0.015	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
methyl-tert-butyl ether [MTBE]	1634-04-4	<0.200	0.200	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901



Analytical Results

YL2201887-004

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-004 (EGT-CS SP-3A)

Client sampling date / time: 18-Oct-2022 09:25

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Volatile Organic Compounds [Fuels]								
styrene	100-42-5	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
toluene	108-88-3	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, m+p-	179601-23-1	0.593	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, o-	95-47-6	1.20	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylenes, total	1330-20-7	1.79	0.05	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
Hydrocarbons								
chromatogram to baseline at nC50	n/a	Yes	-	-	E601.SG	24-Oct-2022	24-Oct-2022	710885
F1 (C6-C10)	----	471	5.0	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F2 (C10-C16)	----	4320	25	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F3 (C16-C34)	----	656	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F4 (C34-C50)	----	<50	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C10-C50)	n/a	4980	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C16-C50)	----	656	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
VHs (C6-C10)	----	471	10	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F1-BTEX	----	469	184	mg/kg	EC580	-	25-Oct-2022	-
Hydrocarbons Surrogates								
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	123	1.0	%	E601.SG	24-Oct-2022	24-Oct-2022	710885
dichlorotoluene, 3,4-	97-75-0	79.4	1.0	%	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
Volatile Organic Compounds Surrogates								
bromofluorobenzene, 4-	460-00-4	94.9	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901
difluorobenzene, 1,4-	540-36-3	81.1	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901

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

Analytical Results

YL2201887-005

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-005 (EGT-CS SP-2B)

Client sampling date / time: 18-Oct-2022 09:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
moisture	----	12.0	0.25	%	E144	-	24-Oct-2022	711175
pH (1:2 soil:water)	----	8.04	0.10	pH units	E108	27-Oct-2022	27-Oct-2022	717418
Particle Size								
sand (>0.075mm)	----	69.2	1.0	%	E178	-	27-Oct-2022	717733
finer (<0.075mm)	----	30.8	1.0	%	E178	-	27-Oct-2022	717733
texture class	----	Coarse	-	-	E178	-	27-Oct-2022	717733
Metals								
aluminum	7429-90-5	6800	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
antimony	7440-36-0	0.52	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
arsenic	7440-38-2	11.5	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
barium	7440-39-3	309	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
beryllium	7440-41-7	0.35	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
bismuth	7440-69-9	<0.20	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
boron	7440-42-8	6.2	5.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627



Analytical Results

YL2201887-005

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-005 (EGT-CS SP-2B)

Client sampling date / time: 18-Oct-2022 09:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Metals								
cadmium	7440-43-9	0.195	0.020	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
calcium	7440-70-2	20400	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
chromium	7440-47-3	50.0	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cobalt	7440-48-4	7.45	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
copper	7440-50-8	13.4	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
iron	7439-89-6	19700	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lead	7439-92-1	7.75	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lithium	7439-93-2	9.6	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
magnesium	7439-95-4	5710	20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
manganese	7439-96-5	473	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
mercury	7439-97-6	0.0329	0.0050	mg/kg	E510	26-Oct-2022	26-Oct-2022	715626
molybdenum	7439-98-7	1.76	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
nickel	7440-02-0	36.0	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
phosphorus	7723-14-0	976	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
potassium	7440-09-7	1090	100	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
selenium	7782-49-2	0.53	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
silver	7440-22-4	<0.10	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sodium	7440-23-5	115	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
strontium	7440-24-6	50.7	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sulfur	7704-34-9	<1000	1000	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
thallium	7440-28-0	0.124	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tin	7440-31-5	<2.0	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
titanium	7440-32-6	79.7	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tungsten	7440-33-7	<0.50	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
uranium	7440-61-1	0.821	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
vanadium	7440-62-2	28.2	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zinc	7440-66-6	57.2	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zirconium	7440-67-7	3.8	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
Volatile Organic Compounds [Fuels]								
benzene	71-43-2	<0.0050	0.0050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
ethylbenzene	100-41-4	0.018	0.015	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
methyl-tert-butyl ether [MTBE]	1634-04-4	<0.200	0.200	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
styrene	100-42-5	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
toluene	108-88-3	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, m+p-	179601-23-1	0.067	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, o-	95-47-6	0.089	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylenes, total	1330-20-7	0.156	0.05	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
Hydrocarbons								
chromatogram to baseline at nC50	n/a	Yes	-	-	E601.SG	24-Oct-2022	24-Oct-2022	710885
F1 (C6-C10)	----	45.9	5.0	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F2 (C10-C16)	----	836	25	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F3 (C16-C34)	----	209	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F4 (C34-C50)	----	<50	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C10-C50)	n/a	1040	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C16-C50)	----	209	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
VHs (C6-C10)	----	46	10	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902



Analytical Results

YL2201887-005

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-005 (EGT-CS SP-2B)

Client sampling date / time: 18-Oct-2022 09:15

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Hydrocarbons								
F1-BTEX	----	45.7	19.5	mg/kg	EC580	-	25-Oct-2022	-
Hydrocarbons Surrogates								
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	95.3	1.0	%	E601.SG	24-Oct-2022	24-Oct-2022	710885
dichlorotoluene, 3,4-	97-75-0	73.3	1.0	%	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
Volatile Organic Compounds Surrogates								
bromofluorobenzene, 4-	460-00-4	94.9	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901
difluorobenzene, 1,4-	540-36-3	71.8	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901

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

Analytical Results

YL2201887-006

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-006 (EGT-CS SP-3B)

Client sampling date / time: 18-Oct-2022 09:30

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Physical Tests								
moisture	----	14.5	0.25	%	E144	-	24-Oct-2022	711175
pH (1:2 soil:water)	----	7.89	0.10	pH units	E108	27-Oct-2022	27-Oct-2022	717418
Particle Size								
sand (>0.075mm)	----	69.6	1.0	%	E178	-	27-Oct-2022	717733
finer (<0.075mm)	----	30.4	1.0	%	E178	-	27-Oct-2022	717733
texture class	----	Coarse	-	-	E178	-	27-Oct-2022	717733
Metals								
aluminum	7429-90-5	6490	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
antimony	7440-36-0	0.67	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
arsenic	7440-38-2	19.9	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
barium	7440-39-3	324	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
beryllium	7440-41-7	0.44	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
bismuth	7440-69-9	<0.20	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
boron	7440-42-8	6.2	5.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cadmium	7440-43-9	0.237	0.020	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
calcium	7440-70-2	26800	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
chromium	7440-47-3	23.2	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
cobalt	7440-48-4	8.17	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
copper	7440-50-8	15.2	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
iron	7439-89-6	32800	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lead	7439-92-1	10.2	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
lithium	7439-93-2	9.2	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
magnesium	7439-95-4	5920	20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
manganese	7439-96-5	529	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
mercury	7439-97-6	0.0621	0.0050	mg/kg	E510	26-Oct-2022	26-Oct-2022	715626
molybdenum	7439-98-7	2.15	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
nickel	7440-02-0	26.0	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
phosphorus	7723-14-0	630	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627



Analytical Results

YL2201887-006

Sub-Matrix: Soil/Solid

(Matrix: Soil/Solid)

Client sample ID: 222168-006 (EGT-CS SP-3B)

Client sampling date / time: 18-Oct-2022 09:30

Analyte	CAS Number	Result	LOR	Unit	Method	Prep Date	Analysis Date	QCLot
Metals								
potassium	7440-09-7	960	100	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
selenium	7782-49-2	0.62	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
silver	7440-22-4	0.14	0.10	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sodium	7440-23-5	100	50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
strontium	7440-24-6	62.0	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
sulfur	7704-34-9	<1000	1000	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
thallium	7440-28-0	0.150	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tin	7440-31-5	<2.0	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
titanium	7440-32-6	71.6	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
tungsten	7440-33-7	<0.50	0.50	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
uranium	7440-61-1	0.977	0.050	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
vanadium	7440-62-2	30.8	0.20	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zinc	7440-66-6	72.9	2.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
zirconium	7440-67-7	3.4	1.0	mg/kg	E440	26-Oct-2022	26-Oct-2022	715627
Volatile Organic Compounds [Fuels]								
benzene	71-43-2	<0.0050	0.0050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
ethylbenzene	100-41-4	0.034	0.015	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
methyl-tert-butyl ether [MTBE]	1634-04-4	<0.200	0.200	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
styrene	100-42-5	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
toluene	108-88-3	<0.050	0.050	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, m+p-	179601-23-1	0.946	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylene, o-	95-47-6	0.756	0.030	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
xylenes, total	1330-20-7	1.70	0.05	mg/kg	E611A	24-Oct-2022	24-Oct-2022	710901
Hydrocarbons								
chromatogram to baseline at nC50	n/a	Yes	-	-	E601.SG	24-Oct-2022	24-Oct-2022	710885
F1 (C6-C10)	----	409	5.0	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F2 (C10-C16)	----	5080	25	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F3 (C16-C34)	----	856	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
F4 (C34-C50)	----	64	50	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C10-C50)	n/a	6000	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
TEH (C16-C50)	----	920	75	mg/kg	E601.SG	24-Oct-2022	24-Oct-2022	710885
VHs (C6-C10)	----	409	10	mg/kg	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
F1-BTEX	----	407	160	mg/kg	EC580	-	25-Oct-2022	-
Hydrocarbons Surrogates								
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	137	1.0	%	E601.SG	24-Oct-2022	24-Oct-2022	710885
dichlorotoluene, 3,4-	97-75-0	96.6	1.0	%	E581.VH+F1	24-Oct-2022	24-Oct-2022	710902
Volatile Organic Compounds Surrogates								
bromofluorobenzene, 4-	460-00-4	98.4	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901
difluorobenzene, 1,4-	540-36-3	86.7	0.10	%	E611A	24-Oct-2022	24-Oct-2022	710901

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: YL2201887	Page	: 1 of 12
Client	: Government of the Northwest Territories	Laboratory	: Yellowknife - Environmental
Contact	: Judy Mah	Account Manager	: Oliver Gregg
Address	: Taiga Environmental Lab 4601 52 Ave Yellowknife NT Canada X1A 2L9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: 867 765 6638	Telephone	: 1 867 446 5593
Project	: ----	Date Samples Received	: 21-Oct-2022 09:44
PO	: 3913	Issue Date	: 27-Oct-2022 16:33
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: YL22-GPNT100-005		
No. of samples received	: 6		
No. of samples analysed	: 6		

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 Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- Duplicate outliers occur - please see following pages for full details.
- 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.



Outliers : Quality Control Samples
Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: Soil/Solid								
Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Duplicate (DUP) RPDs								
Physical Tests	YL2201887-004	222168-004 (EGT-CS SP-3A)	moisture	----	E144	21.9 %	20%	Duplicate RPD does not meet the DQO for this test.



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: Soil/Solid

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

Analyte Group Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap 222168-001 (EGT-CS SP-1A)	E601.SG	18-Oct-2022	24-Oct-2022	14 days	6 days	✓	24-Oct-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap 222168-002 (EGT-CS SP-1A)	E601.SG	18-Oct-2022	24-Oct-2022	14 days	6 days	✓	24-Oct-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap 222168-003 (EGT-CS SP-1B)	E601.SG	18-Oct-2022	24-Oct-2022	14 days	6 days	✓	24-Oct-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap 222168-004 (EGT-CS SP-3A)	E601.SG	18-Oct-2022	24-Oct-2022	14 days	6 days	✓	24-Oct-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap 222168-005 (EGT-CS SP-2B)	E601.SG	18-Oct-2022	24-Oct-2022	14 days	6 days	✓	24-Oct-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap 222168-006 (EGT-CS SP-3B)	E601.SG	18-Oct-2022	24-Oct-2022	14 days	6 days	✓	24-Oct-2022	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap 222168-001 (EGT-CS SP-1A)	E581.VH+F1	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✓



Matrix: Soil/Solid

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

Analyte Group Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap 222168-002 (EGT-CS SP-1A)	E581.VH+F1	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap 222168-003 (EGT-CS SP-1B)	E581.VH+F1	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap 222168-004 (EGT-CS SP-3A)	E581.VH+F1	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap 222168-005 (EGT-CS SP-2B)	E581.VH+F1	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil jar/Teflon lined cap 222168-006 (EGT-CS SP-3B)	E581.VH+F1	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap 222168-001 (EGT-CS SP-1A)	E510	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	28 days	8 days	✔
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap 222168-002 (EGT-CS SP-1A)	E510	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	28 days	8 days	✔
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap 222168-003 (EGT-CS SP-1B)	E510	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	28 days	8 days	✔
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap 222168-004 (EGT-CS SP-3A)	E510	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	28 days	8 days	✔



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap 222168-005 (EGT-CS SP-2B)	E510	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	28 days	8 days	✔
Metals : Mercury in Soil/Solid by CVAAS										
Glass soil jar/Teflon lined cap 222168-006 (EGT-CS SP-3B)	E510	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	28 days	8 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap 222168-001 (EGT-CS SP-1A)	E440	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	180 days	8 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap 222168-002 (EGT-CS SP-1A)	E440	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	180 days	8 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap 222168-003 (EGT-CS SP-1B)	E440	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	180 days	8 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap 222168-004 (EGT-CS SP-3A)	E440	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	180 days	8 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap 222168-005 (EGT-CS SP-2B)	E440	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	180 days	8 days	✔
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap 222168-006 (EGT-CS SP-3B)	E440	18-Oct-2022	26-Oct-2022	----	----		26-Oct-2022	180 days	8 days	✔
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap 222168-001 (EGT-CS SP-1A)	E178	18-Oct-2022	----	----	----		27-Oct-2022	180 days	9 days	✔



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap 222168-002 (EGT-CS SP-1A)	E178	18-Oct-2022	----	----	----		27-Oct-2022	180 days	9 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap 222168-003 (EGT-CS SP-1B)	E178	18-Oct-2022	----	----	----		27-Oct-2022	180 days	9 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap 222168-004 (EGT-CS SP-3A)	E178	18-Oct-2022	----	----	----		27-Oct-2022	180 days	9 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap 222168-005 (EGT-CS SP-2B)	E178	18-Oct-2022	----	----	----		27-Oct-2022	180 days	9 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap 222168-006 (EGT-CS SP-3B)	E178	18-Oct-2022	----	----	----		27-Oct-2022	180 days	9 days	✓
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap 222168-001 (EGT-CS SP-1A)	E144	18-Oct-2022	----	----	----		24-Oct-2022	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap 222168-002 (EGT-CS SP-1A)	E144	18-Oct-2022	----	----	----		24-Oct-2022	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap 222168-003 (EGT-CS SP-1B)	E144	18-Oct-2022	----	----	----		24-Oct-2022	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap 222168-004 (EGT-CS SP-3A)	E144	18-Oct-2022	----	----	----		24-Oct-2022	----	----	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap 222168-005 (EGT-CS SP-2B)	E144	18-Oct-2022	----	----	----		24-Oct-2022	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap 222168-006 (EGT-CS SP-3B)	E144	18-Oct-2022	----	----	----		24-Oct-2022	----	----	
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap 222168-001 (EGT-CS SP-1A)	E108	18-Oct-2022	27-Oct-2022	----	----		27-Oct-2022	30 days	9 days	✔
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap 222168-002 (EGT-CS SP-1A)	E108	18-Oct-2022	27-Oct-2022	----	----		27-Oct-2022	30 days	9 days	✔
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap 222168-003 (EGT-CS SP-1B)	E108	18-Oct-2022	27-Oct-2022	----	----		27-Oct-2022	30 days	9 days	✔
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap 222168-004 (EGT-CS SP-3A)	E108	18-Oct-2022	27-Oct-2022	----	----		27-Oct-2022	30 days	9 days	✔
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap 222168-005 (EGT-CS SP-2B)	E108	18-Oct-2022	27-Oct-2022	----	----		27-Oct-2022	30 days	9 days	✔
Physical Tests : pH by Meter (1:2 Soil:Water Extraction)										
Glass soil jar/Teflon lined cap 222168-006 (EGT-CS SP-3B)	E108	18-Oct-2022	27-Oct-2022	----	----		27-Oct-2022	30 days	9 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil jar/Teflon lined cap 222168-001 (EGT-CS SP-1A)	E611A	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔



Matrix: Soil/Solid

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

Analyte Group Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil jar/Teflon lined cap 222168-002 (EGT-CS SP-1A)	E611A	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil jar/Teflon lined cap 222168-003 (EGT-CS SP-1B)	E611A	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil jar/Teflon lined cap 222168-004 (EGT-CS SP-3A)	E611A	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil jar/Teflon lined cap 222168-005 (EGT-CS SP-2B)	E611A	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil jar/Teflon lined cap 222168-006 (EGT-CS SP-3B)	E611A	18-Oct-2022	24-Oct-2022	0 days	6 days	✖ EHTR-FM	24-Oct-2022	0 days	0 days	✔

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).



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**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	710901	1	6	16.6	5.0	✓
CCME fine/coarse Particle Size Analysis by wet sieve	E178	717733	1	17	5.8	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	710885	1	18	5.5	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	715626	1	8	12.5	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	715627	1	8	12.5	5.0	✓
Moisture Content by Gravimetry	E144	711175	2	23	8.7	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	717418	1	14	7.1	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	710902	1	6	16.6	5.0	✓
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	710901	1	6	16.6	5.0	✓
CCME fine/coarse Particle Size Analysis by wet sieve	E178	717733	1	17	5.8	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	710885	2	18	11.1	10.0	✓
Mercury in Soil/Solid by CVAAS	E510	715626	2	8	25.0	10.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	715627	2	8	25.0	10.0	✓
Moisture Content by Gravimetry	E144	711175	2	23	8.7	5.0	✓
pH by Meter (1:2 Soil:Water Extraction)	E108	717418	2	14	14.2	10.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	710902	1	6	16.6	5.0	✓
Method Blanks (MB)							
BTEX by Headspace GC-MS	E611A	710901	1	6	16.6	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601.SG	710885	1	18	5.5	5.0	✓
Mercury in Soil/Solid by CVAAS	E510	715626	1	8	12.5	5.0	✓
Metals in Soil/Solid by CRC ICPMS	E440	715627	1	8	12.5	5.0	✓
Moisture Content by Gravimetry	E144	711175	2	23	8.7	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	710902	1	6	16.6	5.0	✓
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	710901	1	6	16.6	5.0	✓



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 $20 \pm 5^{\circ}\text{C}$), and is carried out in accordance with procedures described in the BC Lab Manual (prescriptive method). The procedure involves mixing the dried (at $<60^{\circ}\text{C}$) 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 $< 2\text{ mm}$ 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 HNO_3 and HCl . 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 HNO_3 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).



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
F1-BTEX	EC580 Edmonton - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 Edmonton - Environmental	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.
Digestion for Metals and Mercury	EP440 Edmonton - Environmental	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO ₃ and HCl. This method is intended to liberate metals that may be environmentally available.
VOCs Methanol Extraction for Headspace Analysis	EP581 Edmonton - Environmental	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted with methanol. Extracts are then 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.
PHCs and PAHs Hexane-Acetone Tumbler Extraction	EP601 Edmonton - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1 (mod)	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted with 1:1 hexane:acetone using a rotary extractor.
Dry and Grind in Soil/Solid <60°C	EPP442 Edmonton - Environmental	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order	: YL2201887	Page	: 1 of 11
Client	: Government of the Northwest Territories	Laboratory	: Yellowknife - Environmental
Contact	: Judy Mah	Account Manager	: Oliver Gregg
Address	: Taiga Environmental Lab 4601 52 Ave Yellowknife NT Canada X1A 2L9	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	:	Telephone	: 1 867 446 5593
Project	: ----	Date Samples Received	: 21-Oct-2022 09:44
PO	: 3913	Date Analysis Commenced	: 24-Oct-2022
C-O-C number	: ----	Issue Date	: 27-Oct-2022 16:34
Sampler	: ---- 867 765 6638		
Site	: ----		
Quote number	: YL22-GPNT100-005		
No. of samples received	: 6		
No. of samples analysed	: 6		

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Dan Nguyen	Team Leader - Inorganics	Edmonton Metals, Edmonton, Alberta
Fahad Husain	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Geoff Berg	Lab Analyst	Edmonton Organics, Edmonton, Alberta
Joan Wu	Lab Analyst	Edmonton Metals, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Edmonton Organics, Edmonton, Alberta
Krystal During	Lab Assistant	Edmonton Organics, Edmonton, Alberta
Yan Zhang	Lab Analyst	Edmonton Organics, Edmonton, Alberta

Page : 2 of 11
Work Order : YL2201887
Client : Government of the Northwest Territories
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.



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).

					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: 711067)											
EO2209231-001	Anonymous	moisture	----	E144	0.25	%	16.7	17.0	1.36%	20%	----
Physical Tests (QC Lot: 711175)											
YL2201887-004	222168-004 (EGT-CS SP-3A)	moisture	----	E144	0.25	%	16.4	20.5	21.9%	20%	----
Physical Tests (QC Lot: 717418)											
EO2209251-001	Anonymous	pH (1:2 soil:water)	----	E108	0.10	pH units	6.45	6.41	0.04	Diff <2x LOR	----
Particle Size (QC Lot: 717733)											
EO2209212-002	Anonymous	sand (>0.075mm)	----	E178	1.0	%	67.3	68.7	1.95%	10%	----
Metals (QC Lot: 715626)											
EO2209307-001	Anonymous	mercury	7439-97-6	E510	0.0050	mg/kg	0.0322	0.0322	0.0238%	40%	----
Metals (QC Lot: 715627)											
EO2209307-001	Anonymous	aluminum	7429-90-5	E440	50	mg/kg	10900	10600	3.38%	40%	----
		antimony	7440-36-0	E440	0.10	mg/kg	0.43	0.40	0.03	Diff <2x LOR	----
		arsenic	7440-38-2	E440	0.10	mg/kg	7.20	6.92	3.92%	30%	----
		barium	7440-39-3	E440	0.50	mg/kg	198	201	1.39%	40%	----
		beryllium	7440-41-7	E440	0.10	mg/kg	0.53	0.52	0.010	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	7.7	7.4	0.3	Diff <2x LOR	----
		cadmium	7440-43-9	E440	0.020	mg/kg	0.212	0.208	1.84%	30%	----
		calcium	7440-70-2	E440	50	mg/kg	10200	10100	0.790%	30%	----
		chromium	7440-47-3	E440	0.50	mg/kg	19.6	19.5	0.628%	30%	----
		cobalt	7440-48-4	E440	0.10	mg/kg	8.07	7.81	3.24%	30%	----
		copper	7440-50-8	E440	0.50	mg/kg	16.7	16.2	2.77%	30%	----
		iron	7439-89-6	E440	50	mg/kg	16900	16500	2.47%	30%	----
		lead	7439-92-1	E440	0.50	mg/kg	8.41	8.39	0.226%	40%	----
		lithium	7439-93-2	E440	2.0	mg/kg	11.2	10.9	0.3	Diff <2x LOR	----
		magnesium	7439-95-4	E440	20	mg/kg	6500	6600	1.47%	30%	----
		manganese	7439-96-5	E440	1.0	mg/kg	288	280	2.47%	30%	----
		molybdenum	7439-98-7	E440	0.10	mg/kg	0.99	0.95	3.92%	40%	----
		nickel	7440-02-0	E440	0.50	mg/kg	21.8	21.1	3.27%	30%	----
		phosphorus	7723-14-0	E440	50	mg/kg	489	478	2.39%	30%	----



Sub-Matrix: Soil/Solid

Sub-Matrix: Soil/Solid					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
Metals (QC Lot: 715627) - continued											
EO2209307-001	Anonymous	potassium	7440-09-7	E440	100	mg/kg	1700	1590	6.34%	40%	----
		selenium	7782-49-2	E440	0.20	mg/kg	0.76	0.84	0.08	Diff <2x LOR	----
		silver	7440-22-4	E440	0.10	mg/kg	0.11	0.10	0.003	Diff <2x LOR	----
		sodium	7440-23-5	E440	50	mg/kg	192	183	10	Diff <2x LOR	----
		strontium	7440-24-6	E440	0.50	mg/kg	56.9	56.3	0.984%	40%	----
		sulfur	7704-34-9	E440	1000	mg/kg	<1000	<1000	0	Diff <2x LOR	----
		thallium	7440-28-0	E440	0.050	mg/kg	0.226	0.211	0.016	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	116	118	1.56%	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	1.60	1.60	0.0668%	30%	----
		vanadium	7440-62-2	E440	0.20	mg/kg	31.5	30.3	3.92%	30%	----
		zinc	7440-66-6	E440	2.0	mg/kg	53.9	53.1	1.53%	30%	----
		zirconium	7440-67-7	E440	1.0	mg/kg	8.6	8.2	3.60%	30%	----
Volatile Organic Compounds (QC Lot: 710901)											
YL2201887-001	222168-001 (EGT-CS SP-1A)	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	0.025	0.026	0.0005	Diff <2x LOR	----
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.200	mg/kg	<0.200	<0.200	0	Diff <2x LOR	----
		styrene	100-42-5	E611A	0.050	mg/kg	<0.050	<0.050	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	0.030	mg/kg	0.051	0.052	0.002	Diff <2x LOR	----
		xylene, o-	95-47-6	E611A	0.030	mg/kg	0.102	0.100	0.002	Diff <2x LOR	----
Hydrocarbons (QC Lot: 710885)											
EO2209231-001	Anonymous	F2 (C10-C16)	----	E601.SG	25	mg/kg	<25	<25	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: 710902)											
YL2201887-001	222168-001 (EGT-CS SP-1A)	F1 (C6-C10)	----	E581.VH+F1	5.0	mg/kg	140	136	2.64%	40%	----
		VHs (C6-C10)	----	E581.VH+F1	10	mg/kg	140	136	2.64%	40%	----



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: 711067)						
moisture	----	E144	0.25	%	<0.25	----
Physical Tests (QCLot: 711175)						
moisture	----	E144	0.25	%	<0.25	----
Metals (QCLot: 715626)						
mercury	7439-97-6	E510	0.005	mg/kg	<0.0050	----
Metals (QCLot: 715627)						
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	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 715627) - continued						
thallium	7440-28-0	E440	0.05	mg/kg	<0.050	----
tin	7440-31-5	E440	2	mg/kg	<2.0	----
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: 710901)						
benzene	71-43-2	E611A	0.005	mg/kg	<0.0050	----
ethylbenzene	100-41-4	E611A	0.015	mg/kg	<0.015	----
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.04	mg/kg	<0.040	----
styrene	100-42-5	E611A	0.05	mg/kg	<0.050	----
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: 710885)						
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: 710902)						
F1 (C6-C10)	----	E581.VH+F1	5	mg/kg	<5.0	----
VHs (C6-C10)	----	E581.VH+F1	10	mg/kg	<10	----



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: 711067)									
moisture	----	E144	0.25	%	50 %	101	90.0	110	----
Physical Tests (QCLot: 711175)									
moisture	----	E144	0.25	%	50 %	100	90.0	110	----
Physical Tests (QCLot: 717418)									
pH (1:2 soil:water)	----	E108	----	pH units	6 pH units	99.3	97.0	103	----
Metals (QCLot: 715626)									
mercury	7439-97-6	E510	0.005	mg/kg	0.1 mg/kg	95.0	70.0	130	----
Metals (QCLot: 715627)									
aluminum	7429-90-5	E440	50	mg/kg	200 mg/kg	109	80.0	120	----
antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	116	80.0	120	----
arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	106	80.0	120	----
barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	111	80.0	120	----
beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	99.4	80.0	120	----
bismuth	7440-69-9	E440	0.2	mg/kg	100 mg/kg	109	80.0	120	----
boron	7440-42-8	E440	5	mg/kg	100 mg/kg	89.0	80.0	120	----
cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	97.9	80.0	120	----
calcium	7440-70-2	E440	50	mg/kg	5000 mg/kg	102	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	101	80.0	120	----
copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	101	80.0	120	----
iron	7439-89-6	E440	50	mg/kg	100 mg/kg	104	80.0	120	----
lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	108	80.0	120	----
lithium	7439-93-2	E440	2	mg/kg	25 mg/kg	102	80.0	120	----
magnesium	7439-95-4	E440	20	mg/kg	5000 mg/kg	106	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	107	80.0	120	----
nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	102	80.0	120	----
phosphorus	7723-14-0	E440	50	mg/kg	1000 mg/kg	113	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	95.7	80.0	120	----
sodium	7440-23-5	E440	50	mg/kg	5000 mg/kg	101	80.0	120	----



Sub-Matrix: Soil/Solid					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 715627) - continued									
strontium	7440-24-6	E440	0.5	mg/kg	25 mg/kg	106	80.0	120	----
sulfur	7704-34-9	E440	1000	mg/kg	5000 mg/kg	109	80.0	120	----
thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	101	80.0	120	----
tin	7440-31-5	E440	2	mg/kg	50 mg/kg	104	80.0	120	----
titanium	7440-32-6	E440	1	mg/kg	25 mg/kg	106	80.0	120	----
tungsten	7440-33-7	E440	0.5	mg/kg	10 mg/kg	109	80.0	120	----
uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	111	80.0	120	----
vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	103	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	102	80.0	120	----
Volatile Organic Compounds (QCLot: 710901)									
benzene	71-43-2	E611A	0.005	mg/kg	2.5 mg/kg	127	70.0	130	----
ethylbenzene	100-41-4	E611A	0.015	mg/kg	2.5 mg/kg	97.0	70.0	130	----
methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.04	mg/kg	2.5 mg/kg	105	70.0	130	----
styrene	100-42-5	E611A	0.05	mg/kg	2.5 mg/kg	104	70.0	130	----
toluene	108-88-3	E611A	0.05	mg/kg	2.5 mg/kg	118	70.0	130	----
xylene, m+p-	179601-23-1	E611A	0.03	mg/kg	5 mg/kg	107	70.0	130	----
xylene, o-	95-47-6	E611A	0.03	mg/kg	2.5 mg/kg	92.0	70.0	130	----
Hydrocarbons (QCLot: 710885)									
F2 (C10-C16)	----	E601.SG	25	mg/kg	652 mg/kg	117	70.0	130	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	1209 mg/kg	104	70.0	130	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	905 mg/kg	109	70.0	130	----
Hydrocarbons (QCLot: 710902)									
F1 (C6-C10)	----	E581.VH+F1	5	mg/kg	86 mg/kg	97.7	70.0	130	----
VHs (C6-C10)	----	E581.VH+F1	10	mg/kg	86 mg/kg	97.7	70.0	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: Soil/Solid

Sub-Matrix: Soil/Solid					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Volatile Organic Compounds (QCLot: 710901)										
YL2201887-002	222168-002 (EGT-CS SP-1A)	benzene	71-43-2	E611A	1.46 mg/kg	2.5 mg/kg	77.1	60.0	140	----
		ethylbenzene	100-41-4	E611A	1.34 mg/kg	2.5 mg/kg	70.9	60.0	140	----
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	1.44 mg/kg	2.5 mg/kg	76.2	60.0	140	----
		styrene	100-42-5	E611A	1.52 mg/kg	2.5 mg/kg	80.4	60.0	140	----
		toluene	108-88-3	E611A	1.49 mg/kg	2.5 mg/kg	78.8	60.0	140	----
		xylene, m+p-	179601-23-1	E611A	2.49 mg/kg	5 mg/kg	66.0	60.0	140	----
		xylene, o-	95-47-6	E611A	1.17 mg/kg	2.5 mg/kg	61.8	60.0	140	----



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:

Sub-Matrix:					Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method			Low	High	
Physical Tests (QCLot: 717418)									
	RM	pH (1:2 soil:water)	----	E108	8.07 pH units	97.6	96.0	104	----
Particle Size (QCLot: 717733)									
	RM	sand (>0.075mm)	----	E178	36.4 %	102	91.0	109	----
Metals (QCLot: 715626)									
	RM	mercury	7439-97-6	E510	0.059 mg/kg	85.3	70.0	130	----
Metals (QCLot: 715627)									
	RM	aluminum	7429-90-5	E440	9817 mg/kg	121	70.0	130	----
	RM	antimony	7440-36-0	E440	3.99 mg/kg	106	70.0	130	----
	RM	arsenic	7440-38-2	E440	3.73 mg/kg	104	70.0	130	----
	RM	barium	7440-39-3	E440	105 mg/kg	111	70.0	130	----
	RM	beryllium	7440-41-7	E440	0.349 mg/kg	107	70.0	130	----
	RM	boron	7440-42-8	E440	8.5 mg/kg	104	40.0	160	----
	RM	cadmium	7440-43-9	E440	0.91 mg/kg	111	70.0	130	----
	RM	calcium	7440-70-2	E440	31082 mg/kg	108	70.0	130	----
	RM	chromium	7440-47-3	E440	101 mg/kg	110	70.0	130	----
	RM	cobalt	7440-48-4	E440	6.9 mg/kg	107	70.0	130	----
	RM	copper	7440-50-8	E440	123 mg/kg	106	70.0	130	----
	RM	iron	7439-89-6	E440	23558 mg/kg	104	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	110	70.0	130	----
	RM	magnesium	7439-95-4	E440	5509 mg/kg	110	70.0	130	----
	RM	manganese	7439-96-5	E440	269 mg/kg	106	70.0	130	----
	RM	molybdenum	7439-98-7	E440	1.03 mg/kg	106	70.0	130	----
	RM	nickel	7440-02-0	E440	26.7 mg/kg	106	70.0	130	----
	RM	phosphorus	7723-14-0	E440	752 mg/kg	111	70.0	130	----
	RM	potassium	7440-09-7	E440	1587 mg/kg	101	70.0	130	----
	RM	silver	7440-22-4	E440	4.06 mg/kg	87.5	50.0	150	----
	RM	sodium	7440-23-5	E440	797 mg/kg	116	70.0	130	----



Sub-Matrix:					Reference Material (RM) Report			
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)	
							Low	High
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method				Qualifier
Metals (QCLot: 715627) - continued								
	RM	strontium	7440-24-6	E440	86.1 mg/kg	113	70.0	130
	RM	thallium	7440-28-0	E440	0.0786 mg/kg	111	40.0	160
	RM	tin	7440-31-5	E440	10.6 mg/kg	99.6	70.0	130
	RM	titanium	7440-32-6	E440	839 mg/kg	116	70.0	130
	RM	uranium	7440-61-1	E440	0.52 mg/kg	125	70.0	130
	RM	vanadium	7440-62-2	E440	32.7 mg/kg	110	70.0	130
	RM	zinc	7440-66-6	E440	297 mg/kg	103	70.0	130
	RM	zirconium	7440-67-7	E440	5.73 mg/kg	99.4	70.0	130
Hydrocarbons (QCLot: 710885)								
	RM	F2 (C10-C16)	----	E601.SG	4316 mg/kg	108	70.0	130
	RM	F3 (C16-C34)	----	E601.SG	12844 mg/kg	115	70.0	130
	RM	F4 (C34-C50)	----	E601.SG	1156 mg/kg	119	70.0	130



COC Number: 21 -

Page 1 of

Canada Toll Free: 1 800 668 9878

AUG 2020 FROM

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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

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

APPENDIX B

Appendix B: Outgoing Soil and Water Analytical

George Jordan

From: Katie Oliver
Sent: June 29, 2023 12:20 PM
To: Lloyd Gruben
Subject: Outbound Soil - Inuvik STF
Attachments: YL2300585_0_COA - Merged.pdf; 20230629 - 4200IVSTF Soil Sampling results.pdf; 20230615 Soil Sampling Map.pdf; NTPC Particle Size Analytical.pdf

Hi Llyod,

We have confirmed that approximately 822m3 of soil at the Inuvik STF has been remediated to meet soil reuse criteria at the Inuvik landfill. We have confirmation from the City of Inuvik to accept the soil and as per our water license, we are now notifying ENR of that. The work is currently schedule for July 11, 2023.

The attached is the tabulated analytical, laboratory report and a figure of the soil piles that are to be removed. I have also attached the sample results for the Aklavik soil that show it is fine grained.

We will not be removing the soil that exceeds, only the soil that meets criteria. A table outlining the soil to be removed is included below.

Soil Pile Number	Volume to be removed (m3)	Sample ID
P5 - Tuk Pingo Site	22	230615-01
Eastern portion of P6 - Tuk Garage	Approximately 100 (233 m3 for entire pile)	230615-02
Eastern potion of P3 - NTPC Aklavik	Approximately 700 (4439 m3 for entire pile)	230615-09

While sample ID 230615-05 also passed, we will not be removing the soil at this time. The entire pile will be treated and resampled in August.

Thank you;

Thank you | Merci | Mársı | Kinanāskomitin | Hąj' | Quana | Qujannamiik | Quyanainni | Máhsı | Máhsı | Mahsi



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

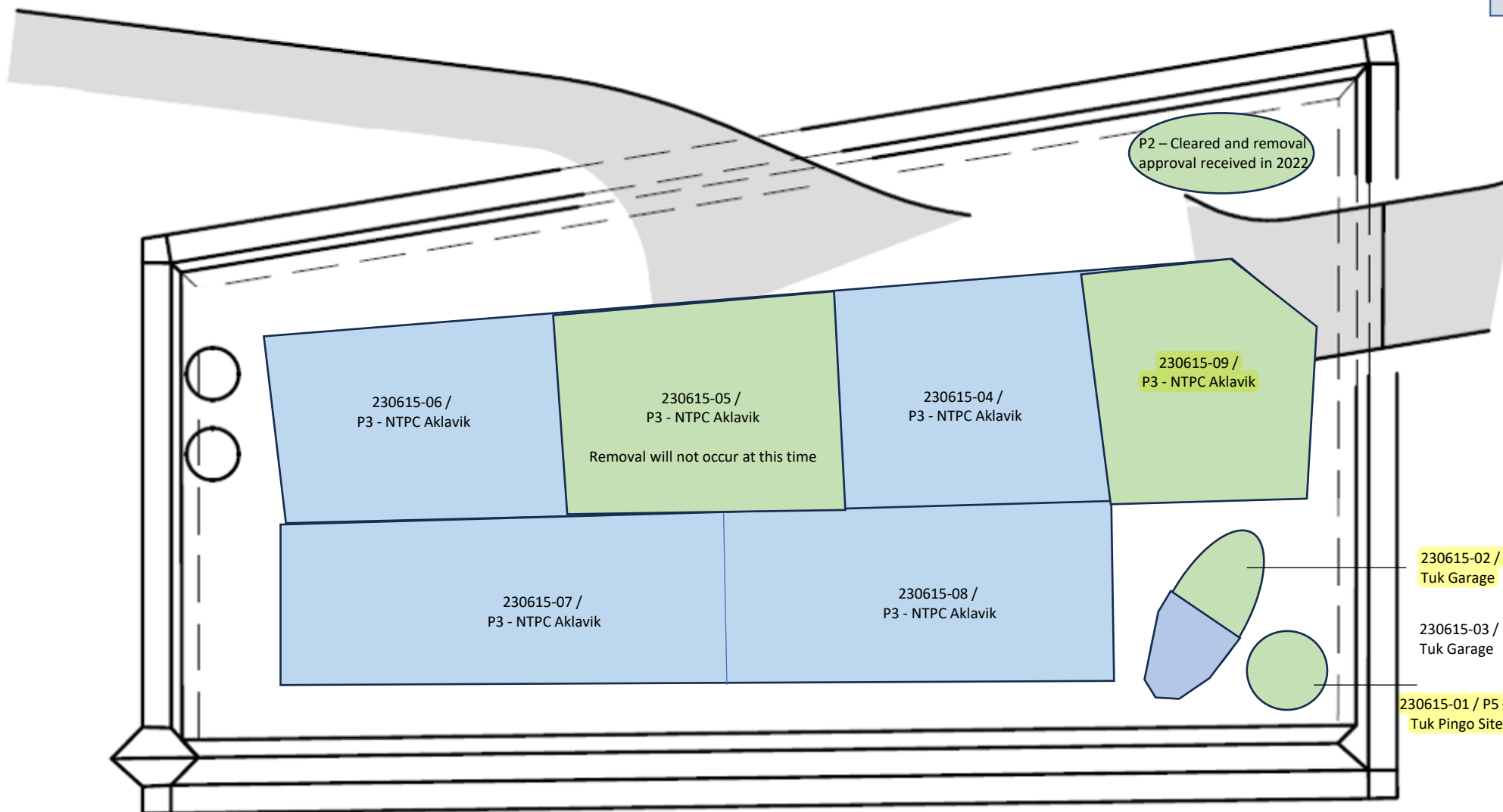
kblenv.com

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.



Legend

-  Soil Passes reuse criteria
-  Soil requires remediation



PROJECT
INUVIK
SOIL TREATMENT FACILITY

TITLE
SOIL TREATMENT PAD

DRAWING NUMBER
3924-00-102

REV. NO.
0

				General	PHCs				BTEX				
				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 - ADC Coarse Grained Soil (mg/kg)				-	310	760	1,700	3,300	5	0.8	20	20	-
Sample Code	Date	Field ID	Soil Pile Description										
5083894	06/15/2023	230615-01	P5 - Tuk Pingo Site	COARSE	<10	<10	539	67	0.104	0.44	0.066	0.29	3.4
5083898	06/15/2023	230615-02	P6 - Tuk Garage	COARSE	<10	173	363	114	<0.005	<0.05	<0.010	<0.05	11
5083899	06/15/2023	230615-03	P6 - Tuk Garage	COARSE	<10	465	3460	514	<0.005	<0.05	0.019	0.05	2.1

				General	PHCs				BTEX				
				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 - ADC Fine Grained Soil (mg/kg)				-	660	1,500	2,500	6,600	5	0.8	20	20	-
5083900	06/15/2023	230615-04	P3 - NTPC Aklavik	FINE	14	2590	3410	404	0.022	<0.05	0.212	0.42	20
5083901	06/15/2023	230615-05	P3 - NTPC Aklavik	FINE	113	873	1150	208	0.051	<0.05	0.696	1.17	24
5083902	06/15/2023	230615-06	P3 - NTPC Aklavik	FINE	57	2450	3380	478	0.021	<0.05	0.264	0.56	23
5083903	06/15/2023	230615-07	P3 - NTPC Aklavik	FINE	<10	1920	4350	321	0.037	<0.05	0.124	0.07	15
5083904	06/15/2023	230615-08	P3 - NTPC Aklavik	FINE	<10	3930	7160	1810	0.017	<0.05	0.170	0.28	22
5083905	06/15/2023	230615-09	P3 - NTPC Aklavik	FINE	40	689	1160	217	0.034	0.05	0.220	0.47	13

Exceeding only Fine Grained

Exceeding only Coarse Grained

Soil Particle Size from Acceptance analytical reports

CERTIFICATE OF ANALYSIS

Work Order	: YL2300585	Page	: 1 of 7
Client	: KBL Environmental Ltd.	Laboratory	: Yellowknife - Environmental
Contact	: Katie Oliver	Account Manager	: Oliver Gregg
Address	: 17 Cameron Road PO Box 1895 Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife NT Canada X1A 3T3
Telephone	: 780 893 3305	Telephone	: 1 867 446 5593
Project	: 4200IVSTF	Date Samples Received	: 12-Jun-2023 11:40
PO	: ----	Date Analysis Commenced	: 15-Jun-2023
C-O-C number	: ----	Issue Date	: 23-Jun-2023 10:14
Sampler	: ----		
Site	: ----		
Quote number	: YL22-KBLE100-001		
No. of samples received	: 1		
No. of samples analysed	: 1		

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia



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.

Sample Comments

Sample	Client Id	Comment
YL2300585-001	Inuvik-STF-Totes	RRR: Recoveries are outside ALS control limits. Detection limits for associated analytes have been raised accordingly.

Qualifiers

Qualifier	Description
DLCI	Detection Limit Raised: Chromatographic interference due to co-elution.
DLQ	Detection Limit raised due to co-eluting interference. Mass Spectrometry qualifier ion ratio did not meet acceptance criteria.
RRR	Refer to report comments for issues regarding this analysis.



Analytical Results

Sub-Matrix: Water			Client sample ID		Inuvik-STF-Totes	----	----	----	----
(Matrix: Water)			Client sampling date / time		08-Jun-2023 13:55	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2300585-001	-----	-----	-----	-----
					Result	----	----	----	----
Physical Tests									
pH	----	E108/VA	0.10	pH units	7.66	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.280	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00017	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00793	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0531	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000020	mg/L	0.000022	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.143	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.000122	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	40.3	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000218	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.00188	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00151	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00367	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	2.81	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000936	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0092	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	49.3	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.225	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.000880	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.00722	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	5.59	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	24.4	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0314	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000563	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	2.86	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000027	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	41.8	----	----	----	----



Analytical Results

Sub-Matrix: Water					Client sample ID	Inuvik-STF-Totes	----	----	----	----
(Matrix: Water)										
					Client sampling date / time	08-Jun-2023 13:55	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2300585-001	-----	-----	-----	-----	-----
					Result	----	----	----	----	----
Total Metals										
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.138	----	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	42.5	----	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	----	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000027	----	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	0.00011	----	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00277	----	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000849	----	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00574	----	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0261	----	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00032	----	----	----	----	----
Aggregate Organics										
Phenols, total (4AAP)	---	E562/EO	0.0010	mg/L	0.0894	----	----	----	----	----
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611A/VA	0.50	µg/L	<0.50	----	----	----	----	----
Ethylbenzene	100-41-4	E611A/VA	0.50	µg/L	<0.50	----	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A/VA	0.50	µg/L	<0.50	----	----	----	----	----
Styrene	100-42-5	E611A/VA	0.50	µg/L	<0.50	----	----	----	----	----
Toluene	108-88-3	E611A/VA	0.50	µg/L	0.84	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611A/VA	0.40	µg/L	<0.40	----	----	----	----	----
Xylene, o-	95-47-6	E611A/VA	0.30	µg/L	<0.30	----	----	----	----	----
Xylenes, total	1330-20-7	E611A/VA	0.50	µg/L	<0.50	----	----	----	----	----
Hydrocarbons										
F1 (C6-C10)	---	E581.VH+F1/ VA	100	µg/L	<100	----	----	----	----	----
F2 (C10-C16)	---	E601/VA	300	µg/L	410	----	----	----	----	----
F3 (C16-C34)	---	E601/VA	300	µg/L	9980	----	----	----	----	----
F4 (C34-C50)	---	E601/VA	300	µg/L	<300	----	----	----	----	----



Analytical Results

Sub-Matrix: Water					Client sample ID	Inuvik-STF-Totes	----	----	----	----
(Matrix: Water)					Client sampling date / time	08-Jun-2023 13:55	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2300585-001	Result	----	----	----	----
Hydrocarbons										
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L	<100	----	----	----	----	----
F1-BTEX	----	EC580/VA	100	µg/L	<100	----	----	----	----	----
VPW	----	EC580A/VA	100	µg/L	<100	----	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	90.5	----	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	82.6	----	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/VA	1.0	%	93.0	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611A/VA	1.0	%	95.5	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.153 ^{DLO}	----	----	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	----	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	----	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	----	----	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.017 ^{DLO}	----	----	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.022 ^{DLO}	----	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	0.235	----	----	----	----	----
Methylnaphthalene, 1+2-	----	E641A/VA	0.015	µg/L	0.447	----	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	0.212	----	----	----	----	----



Analytical Results

Sub-Matrix: Water					Client sample ID	Inuvik-STF-Totes	----	----	----	----
(Matrix: Water)										
Client sampling date / time					08-Jun-2023 13:55	----	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	YL2300585-001	-----	-----	-----	-----	-----
					Result	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	0.352	----	----	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	----	----	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.062 ^{DLCI}	----	----	----	----	----
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
PAHs, high molecular weight (BC AWQ)	n/a	E641A/VA	0.030	µg/L	<0.032	----	----	----	----	----
PAHs, low molecular weight (BC AWQ)	n/a	E641A/VA	0.060	µg/L	0.352	----	----	----	----	----
PAHs, total (CCME sewer 18)	n/a	E641A/VA	0.070	µg/L	0.799	----	----	----	----	----
PAHs, total (EPA 16)	n/a	E641A/VA	0.065	µg/L	0.352	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	74.7	----	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	112	----	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	95.9	----	----	----	----	----
Polychlorinated Biphenyls										
Aroclor 1016	12674-11-2	E687/WT	0.020	µg/L	<0.020	----	----	----	----	----
Aroclor 1221	11104-28-2	E687/WT	0.020	µg/L	<0.020	----	----	----	----	----
Aroclor 1232	11141-16-5	E687/WT	0.020	µg/L	<0.020	----	----	----	----	----
Aroclor 1242	53469-21-9	E687/WT	0.020	µg/L	<0.020	----	----	----	----	----
Aroclor 1248	12672-29-6	E687/WT	0.020	µg/L	<0.020	----	----	----	----	----
Aroclor 1254	11097-69-1	E687/WT	0.020	µg/L	<0.020	----	----	----	----	----
Aroclor 1260	11096-82-5	E687/WT	0.020	µg/L	<0.060 ^{RRR}	----	----	----	----	----
Aroclor 1262	37324-23-5	E687/WT	0.020	µg/L	<0.060 ^{RRR}	----	----	----	----	----
Aroclor 1268	11100-14-4	E687/WT	0.020	µg/L	<0.060 ^{RRR}	----	----	----	----	----
Polychlorinated biphenyls [PCBs], total	----	E687/WT	0.060	µg/L	<0.115 ^{RRR}	----	----	----	----	----
Polychlorinated Biphenyls Surrogates										
Decachlorobiphenyl	2051-24-3	E687/WT	0.1	%	34.2 ^{RRR}	----	----	----	----	----
Tetrachloro-m-xylene	877-09-8	E687/WT	0.1	%	102	----	----	----	----	----

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

Please refer to the Accreditation section for an explanation of analyte accreditations.

Page : 7 of 7
Work Order : YL2300585
Client : KBL Environmental Ltd.
Project : 4200IVSTF



QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: YL2300585	Page	: 1 of 8
Client	: KBL Environmental Ltd.	Laboratory	: Yellowknife - Environmental
Contact	: Katie Oliver	Account Manager	: Oliver Gregg
Address	: 17 Cameron Road PO Box 1895 Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: 780 893 3305	Telephone	: 1 867 446 5593
Project	: 4200IVSTF	Date Samples Received	: 12-Jun-2023 11:40
PO	: ----	Issue Date	: 23-Jun-2023 10:15
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.
- 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)

- 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 8
Work Order : YL2300585
Client : KBL Environmental Ltd.
Project : 4200IVSTF



Regular Sample Surrogates

Sub-Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Result	Limits	Comment
Samples Submitted							
Polychlorinated Biphenyls Surrogates	YL2300585-001	Inuvik-STF-Totes	Decachlorobiphenyl	2051-24-3	34.2 %	50.0-140 %	Recovery less than lower data quality objective



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

Analyte Group	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid) Inuvik-STF-Totes	E562	08-Jun-2023	16-Jun-2023	----	----		16-Jun-2023	28 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) Inuvik-STF-Totes	E601	08-Jun-2023	15-Jun-2023	14 days	6 days	✓	17-Jun-2023	40 days	2 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) Inuvik-STF-Totes	E581.VH+F1	08-Jun-2023	16-Jun-2023	----	----		16-Jun-2023	14 days	8 days	✓
Physical Tests : pH by Meter										
HDPE Inuvik-STF-Totes	E108	08-Jun-2023	19-Jun-2023	----	----		19-Jun-2023	0.25 hrs	3.25 hrs	✖ EHTR-FM
Polychlorinated Biphenyls : PCB Aroclors by GC-MS										
Amber glass/Teflon lined cap Inuvik-STF-Totes	E687	08-Jun-2023	19-Jun-2023	14 days	11 days	✓	20-Jun-2023	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) Inuvik-STF-Totes	E641A	08-Jun-2023	15-Jun-2023	14 days	6 days	✓	15-Jun-2023	40 days	0 days	✓
Total Metals : Total metals in Water by CRC ICPMS										
HDPE total (nitric acid) Inuvik-STF-Totes	E420	08-Jun-2023	16-Jun-2023	----	----		16-Jun-2023	180 days	9 days	✓

Page : 5 of 8
 Work Order : YL2300585
 Client : KBL Environmental Ltd.
 Project : 4200IVSTF



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate) Inuvik-STF-Totes	E611A	08-Jun-2023	16-Jun-2023	----	----		16-Jun-2023	14 days	8 days	✓

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).



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: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	992862	1	19	5.2	5.0	✓
pH by Meter	E108	996321	1	16	6.2	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	992883	1	20	5.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	989684	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	992861	1	19	5.2	5.0	✓
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	992862	1	19	5.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	989651	1	1	100.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	989648	1	14	7.1	5.0	✓
PCB Aroclors by GC-MS	E687	997316	1	18	5.5	4.7	✓
pH by Meter	E108	996321	1	16	6.2	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	992883	1	20	5.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	989684	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	992861	1	19	5.2	5.0	✓
Method Blanks (MB)							
BTEX by Headspace GC-MS	E611A	992862	1	19	5.2	5.0	✓
CCME PHCs - F2-F4 by GC-FID	E601	989651	1	1	100.0	5.0	✓
PAHs by Hexane LVI GC-MS	E641A	989648	1	14	7.1	5.0	✓
PCB Aroclors by GC-MS	E687	997316	1	18	5.5	4.7	✓
Phenols (4AAP) in Water by Colorimetry	E562	992883	1	20	5.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	989684	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	992861	1	19	5.2	5.0	✓
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	992862	1	19	5.2	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	992883	1	20	5.0	5.0	✓
Total metals in Water by CRC ICPMS	E420	989684	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	992861	1	19	5.2	5.0	✓



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 Vancouver - Environmental	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally $20 \pm 5^{\circ}\text{C}$). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Total metals in Water by CRC ICPMS	E420 Vancouver - Environmental	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Phenols (4AAP) in Water by Colorimetry	E562 Edmonton - Environmental	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide ($\text{K}_3\text{Fe}(\text{CN})_6$) and 4-amino-antipyrine (4-AAP) to form a red complex which is measured colorimetrically.
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.
PCB Aroclors by GC-MS	E687 Waterloo - Environmental	Water	EPA 8270E (mod)	PCB Aroclors are analyzed by GC-MS
F1-BTEX	EC580 Vancouver - Environmental	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: $\text{F1-BTEX} = \text{F1 (C6-C10)} - \text{benzene, toluene, ethylbenzene and xylenes (BTEX)}$.



<i>Analytical Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
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.
<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
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.
Pesticides, PCB, and Neutral Extractable Chlorinated Hydrocarbons Extraction	EP660 Waterloo - Environmental	Water	EPA 3511 (mod)	Samples are extracted from aqueous sample using an organic solvent liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: YL2300585	Page	: 1 of 12
Client	: KBL Environmental Ltd.	Laboratory	: Yellowknife - Environmental
Contact	: Katie Oliver	Account Manager	: Oliver Gregg
Address	: 17 Cameron Road PO Box 1895 Yellowknife NT Canada X1A 2P4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	:	Telephone	: 1 867 446 5593
Project	: 4200IVSTF	Date Samples Received	: 12-Jun-2023 11:40
PO	: ----	Date Analysis Commenced	: 15-Jun-2023
C-O-C number	: ----	Issue Date	: 23-Jun-2023 10:14
Sampler	: ---- 780 893 3305		
Site	: ----		
Quote number	: YL22-KBLE100-001		
No. of samples received	: 1		
No. of samples analysed	: 1		

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
Angela Ren	Team Leader - Metals	Vancouver Metals, Burnaby, British Columbia
Brooke Miller	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Miles Gropen	Department Manager - Inorganics	Vancouver Inorganics, Burnaby, British Columbia

Page : 2 of 12
Work Order : YL2300585
Client : KBL Environmental Ltd.
Project : 4200IVSTF



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).

					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: 996321)											
VA23B3171-001	Anonymous	pH	----	E108	0.10	pH units	7.89	7.89	0.00%	4%	----
Total Metals (QC Lot: 989684)											
VA23B3375-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0076	0.0095	0.0018	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00034	0.00035	0.000003	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00091	0.00084	0.00007	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0652	0.0638	2.30%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.010	<0.010	0.00003	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000135	0.0000119	0.0000016	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	258	250	2.82%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000019	0.000020	0.0000009	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00431	0.00454	0.00022	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	<0.010	0.010	0.0005	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0104	0.0100	4.23%	20%	----
		Magnesium, total	7439-95-4	E420	0.100	mg/L	68.2	67.1	1.70%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00046	0.00040	0.00006	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0146	0.0146	0.184%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.300	mg/L	<0.300	<0.300	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	5.34	5.42	1.58%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00233	0.00226	2.94%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.00815	0.00817	0.170%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	12.2	11.8	2.97%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	20.5	20.5	0.108%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	1.25	1.30	4.20%	20%	----



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
Total Metals (QC Lot: 989684) - continued											
VA23B3375-001	Anonymous	Sulfur, total	7704-34-9	E420	0.50	mg/L	241	236	1.96%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00754	0.00778	3.21%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00130	0.00127	0.00003	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	----
Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----		
Aggregate Organics (QC Lot: 992883)											
CG2307739-001	Anonymous	Phenols, total (4AAP)	----	E562	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 992862)											
VA23B3201-001	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	1.03	0.82	0.21	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611A	0.30	µg/L	0.58	0.48	0.10	Diff <2x LOR	----
Hydrocarbons (QC Lot: 992861)											
VA23B3201-001	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%	----



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: 989684)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
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	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 989684) - continued						
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Aggregate Organics (QCLot: 992883)						
Phenols, total (4AAP)	----	E562	0.001	mg/L	<0.0010	----
Volatile Organic Compounds (QCLot: 992862)						
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: 989651)						
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: 992861)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Polycyclic Aromatic Hydrocarbons (QCLot: 989648)						
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	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 989648) - continued						
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	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----
Polychlorinated Biphenyls (QCLot: 997316)						
Aroclor 1016	12674-11-2	E687	0.02	µg/L	<0.020	----
Aroclor 1221	11104-28-2	E687	0.02	µg/L	<0.020	----
Aroclor 1232	11141-16-5	E687	0.02	µg/L	<0.020	----
Aroclor 1242	53469-21-9	E687	0.02	µg/L	<0.020	----
Aroclor 1248	12672-29-6	E687	0.02	µg/L	<0.020	----
Aroclor 1254	11097-69-1	E687	0.02	µg/L	<0.020	----
Aroclor 1260	11096-82-5	E687	0.02	µg/L	<0.020	----
Aroclor 1262	37324-23-5	E687	0.02	µg/L	<0.020	----
Aroclor 1268	11100-14-4	E687	0.02	µg/L	<0.020	----



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: 996321)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Total Metals (QCLot: 989684)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	106	80.0	120	----
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	110	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.2	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	103	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	96.6	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	106	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	109	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	104	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	103	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	112	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	108	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	99.6	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	105	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	108	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	108	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	110	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	112	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	108	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	110	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	107	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	112	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	101	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	108	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	109	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	105	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	108	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 989684) - continued									
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	109	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	98.8	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	102	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	100	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	108	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	107	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	105	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Aggregate Organics (QCLot: 992883)									
Phenols, total (4AAP)	----	E562	0.001	mg/L	0.02 mg/L	97.2	85.0	115	----
Volatile Organic Compounds (QCLot: 992862)									
Benzene	71-43-2	E611A	0.5	µg/L	100 µg/L	124	70.0	130	----
Ethylbenzene	100-41-4	E611A	0.5	µg/L	100 µg/L	128	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	100 µg/L	114	70.0	130	----
Styrene	100-42-5	E611A	0.5	µg/L	100 µg/L	119	70.0	130	----
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	122	70.0	130	----
Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	130	70.0	130	----
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	124	70.0	130	----
Hydrocarbons (QCLot: 989651)									
F2 (C10-C16)	----	E601	100	µg/L	3538 µg/L	111	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7053 µg/L	95.6	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5051 µg/L	103	70.0	130	----
Hydrocarbons (QCLot: 992861)									
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	86.0	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 989648)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	111	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	119	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	99.0	60.0	130	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 989648) - continued									
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	103	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	99.2	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	111	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	107	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	117	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	108	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	101	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	105	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	122	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	111	60.0	130	----
Polychlorinated Biphenyls (QCLot: 997316)									
Aroclor 1016	12674-11-2	E687	0.02	µg/L	0.2 µg/L	116	60.0	140	----
Aroclor 1221	11104-28-2	E687	0.02	µg/L	0.2 µg/L	116	60.0	140	----
Aroclor 1232	11141-16-5	E687	0.02	µg/L	0.2 µg/L	116	60.0	140	----
Aroclor 1242	53469-21-9	E687	0.02	µg/L	0.2 µg/L	116	60.0	140	----
Aroclor 1248	12672-29-6	E687	0.02	µg/L	0.2 µg/L	102	60.0	140	----
Aroclor 1254	11097-69-1	E687	0.02	µg/L	0.2 µg/L	108	60.0	140	----
Aroclor 1260	11096-82-5	E687	0.02	µg/L	0.2 µg/L	129	60.0	140	----
Aroclor 1262	37324-23-5	E687	0.02	µg/L	0.2 µg/L	129	60.0	140	----
Aroclor 1268	11100-14-4	E687	0.02	µg/L	0.2 µg/L	129	60.0	140	----



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.

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 989684)										
VA23B3375-002	Anonymous	Aluminum, total	7429-90-5	E420	0.206 mg/L	0.2 mg/L	103	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0214 mg/L	0.02 mg/L	107	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0365 mg/L	0.04 mg/L	91.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00920 mg/L	0.01 mg/L	92.0	70.0	130	----
		Boron, total	7440-42-8	E420	0.088 mg/L	0.1 mg/L	88.3	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00407 mg/L	0.004 mg/L	102	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0100 mg/L	0.01 mg/L	100	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0403 mg/L	0.04 mg/L	101	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0195 mg/L	0.02 mg/L	97.3	70.0	130	----
		Copper, total	7440-50-8	E420	0.0188 mg/L	0.02 mg/L	94.3	70.0	130	----
		Iron, total	7439-89-6	E420	2.10 mg/L	2 mg/L	105	70.0	130	----
		Lead, total	7439-92-1	E420	0.0190 mg/L	0.02 mg/L	95.0	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0938 mg/L	0.1 mg/L	93.8	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0213 mg/L	0.02 mg/L	106	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.6 mg/L	10 mg/L	106	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0207 mg/L	0.02 mg/L	103	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0474 mg/L	0.04 mg/L	118	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	10 mg/L	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00392 mg/L	0.004 mg/L	98.0	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	20 mg/L	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0446 mg/L	0.04 mg/L	112	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00384 mg/L	0.004 mg/L	96.0	70.0	130	----

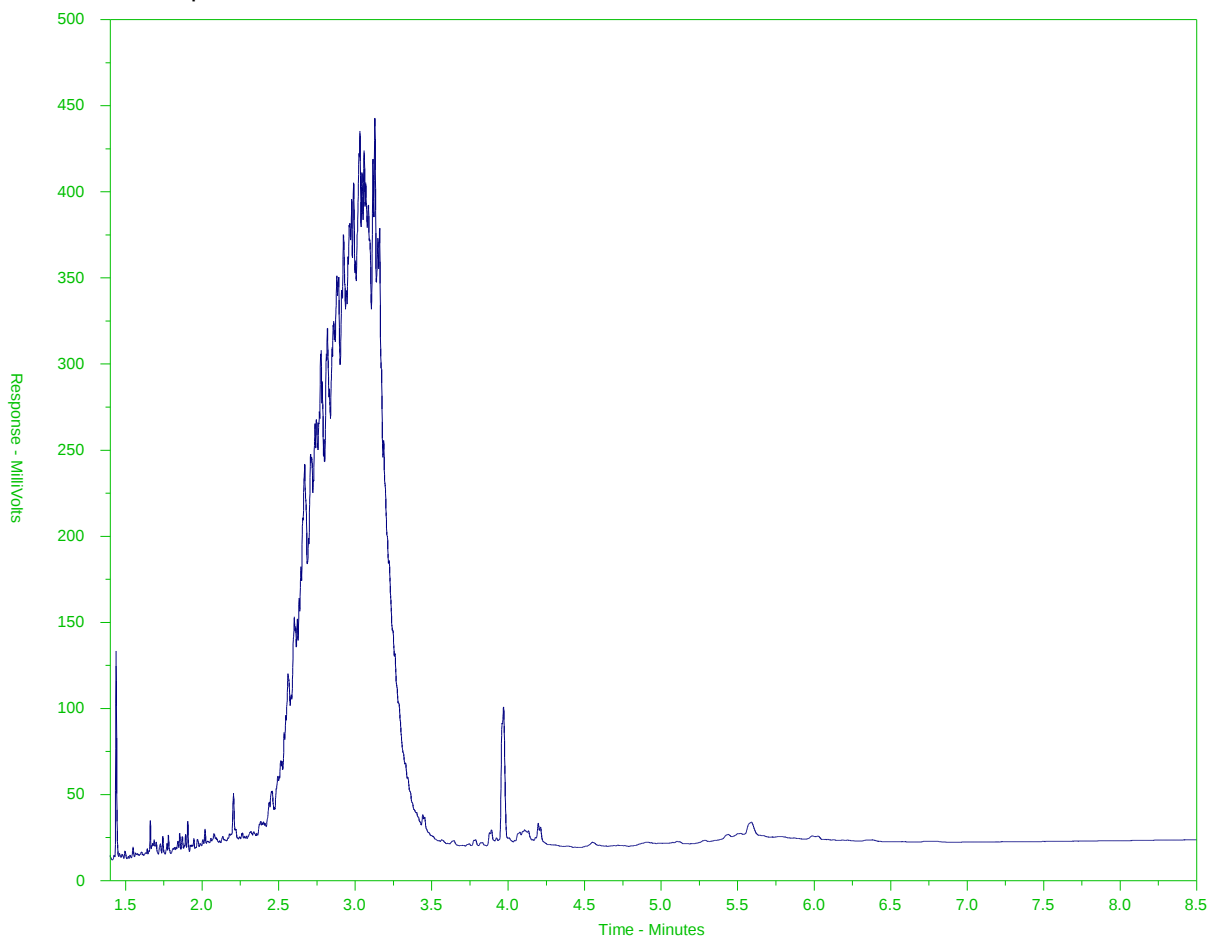


Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 989684) - continued										
VA23B3375-002	Anonymous	Thorium, total	7440-29-1	E420	0.0223 mg/L	0.02 mg/L	111	70.0	130	----
		Tin, total	7440-31-5	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0397 mg/L	0.04 mg/L	99.3	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0192 mg/L	0.02 mg/L	96.1	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	0.004 mg/L	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.106 mg/L	0.1 mg/L	106	70.0	130	----
		Zinc, total	7440-66-6	E420	0.372 mg/L	0.4 mg/L	92.9	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0423 mg/L	0.04 mg/L	106	70.0	130	----
Aggregate Organics (QCLot: 992883)										
CG2307739-001	Anonymous	Phenols, total (4AAP)	----	E562	0.0197 mg/L	0.02 mg/L	98.4	75.0	125	----
Volatile Organic Compounds (QCLot: 992862)										
VA23B3225-001	Anonymous	Benzene	71-43-2	E611A	110 µg/L	100 µg/L	110	60.0	140	----
		Ethylbenzene	100-41-4	E611A	117 µg/L	100 µg/L	117	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	112 µg/L	100 µg/L	112	60.0	140	----
		Styrene	100-42-5	E611A	114 µg/L	100 µg/L	114	60.0	140	----
		Toluene	108-88-3	E611A	113 µg/L	100 µg/L	113	60.0	140	----
		Xylene, m+p-	179601-23-1	E611A	239 µg/L	200 µg/L	120	60.0	140	----
		Xylene, o-	95-47-6	E611A	115 µg/L	100 µg/L	115	60.0	140	----
		Hydrocarbons (QCLot: 992861)								
VA23B3278-001	Anonymous	F1 (C6-C10)	----	E581.VH+F1	4990 µg/L	6310 µg/L	79.1	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	5020 µg/L	6310 µg/L	79.6	60.0	140	----

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: YL2300585-001-E601
 Client Sample ID: Inuvik-STF-Totes



← F2 →		← F3 →		← F4 →	
nC10	nC16		nC34		nC50
174°C	287°C		481°C		575°C
346°F	549°F		898°F		1067°F
← Gasoline →		← Motor Oils/ Lube Oils/ Grease →			
← Diesel/ Jet Fuels →					

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.

Report To Contact and company name below will appear on the final report		Reports / Recipients		Turnaround Time (TAT) Requested		AFFIX ALS BARCODE LABEL HERE (ALS use only)
Company: KBL Environmental Ltd		Select Report Format: ☒ PDF ☒ EXCEL ☒ EDD (DIGITAL)		☐ Routine [R] if received by 3pm M-F - no surcharges apply		
Contact: Katie Oliver		Merge QC/QCI Reports with COA ☐ YES ☐ NO ☒ N/A		☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum		
Phone: 780-893-3305		☐ Compare Results to Criteria on Report - provide details below if box checked		☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum		
Company address below will appear on the final report		Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX		☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum		
Street: 3909, 68 Avenue		Email 1 or Fax: koliver@kblenvy.com		☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum		
City/Province: Leduc, Alberta		Email 2: skraus@kblenvy.com		☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.		
Postal Code: T9E 0Z4		Email 3:		Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.		
Invoice To: Same as Report To ☒ YES ☐ NO		Invoice Recipients		Date and Time Required for all EAP TATs: 03-june-23 11:40am		
Copy of Invoice with Report ☒ YES ☐ NO		Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX		For all tests with rush TATs requested, please contact your AAL to confirm availability.		
Company: KBL Environmental		Email 1 or Fax:		Analysis Request		
Contact: Katie Oliver		Email 2:		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below		
Project Information		Oil and Gas Required Fields (client use)				
ALS Account # / Quote #: AFE/Cost Center:		PO#				
Job #: 4200VSTF		Major/Minor Code:				
PO / AFE:		Requisitioner:				
LSD:		Location:				
ALS Lab Work Order # (ALS use only):		ALS Contact:		SAMPLES ON HOLD		
Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mm-yy)		Time (hh:mm)		
ALS Sample # (ALS use only)		Date		Time		
Invuk-STF-Totes		08-06-2023		13:55		
Environmental Division						
Work Order Reference						
YL2300585						
						
Telephone : + 1 867 873 5593						
Drinking Water (DW) Samples¹ (client use)		Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)		SAMPLE RECEIPT DETAILS (ALS use only)		
Are samples taken from a Regulated DW System?				Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED		
☐ YES ☐ NO				Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO		
Are samples for human consumption/ use?				Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A		
☐ YES ☐ NO				INITIAL COOLER TEMPERATURES °C: 4.3 FINAL COOLER TEMPERATURES °C:		
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (ALS use only)		FINAL SHIPMENT RECEPTION (ALS use only)		
Released by:  Date: 12-june-23 Time: 12:44		Received by:  Date: 12/03 Time: 11:40		Date: 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

ALS 2020 PROMT

CERTIFICATE OF ANALYSIS

Work Order : **YL2201261**

Page : 1 of 4

Amendment : **1**

Client : **KBL Environmental Ltd.**

Laboratory : Yellowknife - Environmental

Contact : Katie Oliver

Account Manager : Oliver Gregg

Address : 3909 68 Avenue
Leduc AB Canada T9E 0Z4

Address : 314 Old Airport Road, Unit 116
Yellowknife NT Canada X1A 3T3

Telephone : 780 893 3305

Telephone : 1 867 446 5593

Project : 4200ISTF

Date Samples Received : 17-Aug-2022 14:15

PO : ----

Date Analysis Commenced : 20-Aug-2022

C-O-C number : ----

Issue Date : 31-Aug-2022 17:36

Sampler : ----

Site : ----

Quote number : YL22-KBLE100-001

No. of samples received : 6

No. of samples analysed : 6

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Christian Murera	Lab Analyst	Organics, Edmonton, Alberta
Fahad Husain	Lab Assistant	Inorganics, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Organics, Edmonton, Alberta
Krystal During	Lab Assistant	Organics, Edmonton, Alberta
Yan Zhang	Lab Analyst	Organics, Edmonton, Alberta



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

<: 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
YL2201261-003	P3b - Aklavik Soils	Sample(s) XXX: Low methanol volume found on submitted VOC soil sample. Soil weight and methanol volume were directly measured to permit analysis.
YL2201261-003	P3b - Aklavik Soils	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).

Qualifiers

Qualifier	Description
SHMI	Surrogate recovery was outside ALS DQO (High) due to Matrix Interference



Analytical Results

Sub-Matrix: Soil					Client sample ID	P4 - NTPC Soils	P3a - Aklavik Soils	P3b - Aklavik Soils	P3c - Aklavik Soils	P3d - Aklavik Soils
(Matrix: Soil/Solid)										
Client sampling date / time										
Analyte	CAS Number	Method	LOR	Unit	YL2201261-001	YL2201261-002	YL2201261-003	YL2201261-004	YL2201261-005	
					Result	Result	Result	Result	Result	
Physical Tests										
moisture	----	E144	0.25	%	15.9	22.5	27.3	24.6	24.1	
Particle Size										
sand (>0.075mm)	----	E178	1.0	%	44.2	28.3	8.4	21.1	30.7	
finer (<0.075mm)	----	E178	1.0	%	55.8	71.7	91.6	78.9	69.3	
texture class	----	E178	-	-	Fine	Fine	Fine	Fine	Fine	
Volatile Organic Compounds [Fuels]										
benzene	71-43-2	E611A	0.0050	mg/kg	0.0179	0.0735	0.0074	0.0303	0.0194	
ethylbenzene	100-41-4	E611A	0.015	mg/kg	0.070	4.18	0.057	0.934	0.460	
toluene	108-88-3	E611A	0.050	mg/kg	0.120	0.208	<0.050	<0.050	0.065	
xylene, m+p-	179601-23-1	E611A	0.050	mg/kg	0.270	11.3	0.263	0.892	0.740	
xylene, o-	95-47-6	E611A	0.050	mg/kg	0.167	6.10	0.542	0.349	0.388	
xylenes, total	1330-20-7	E611A	0.075	mg/kg	0.437	17.4	0.805	1.24	1.13	
Volatile Organic Compounds Surrogates										
bromofluorobenzene, 4-	460-00-4	E611A	0.10	%	118	96.5	154 ^{SHMI}	106	98.3	
difluorobenzene, 1,4-	540-36-3	E611A	0.10	%	113	93.1	102	88.4	93.3	
Hydrocarbons										
F1 (C6-C10)	----	E581.VH+F1	5.0	mg/kg	21.9	943	103	114	142	
F1-BTEX	----	EC580	5.0	mg/kg	21.3	921	102	112	140	
F2 (C10-C16)	----	E601.SG	30	mg/kg	1530	1920	827	1870	1360	
F3 (C16-C34)	----	E601.SG	50	mg/kg	1790	2200	987	2710	1940	
F4 (C34-C50)	----	E601.SG	50	mg/kg	1140	80	58	107	149	
F4G-sg	----	E601.F4G	500	mg/kg	2590	----	----	----	----	
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	%	94.9	104	88.2	95.0	94.0	
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	75.9	74.4	70.3	70.2	71.4	

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



Analytical Results

Sub-Matrix: Soil					Client sample ID	P3f - Aklavik Soils	----	----	----	----
(Matrix: Soil/Solid)										
					Client sampling date / time	12-Aug-2022	----	----	----	----
Analyte	CAS Number	Method	LOR	Unit	YL2201261-007	-----	-----	-----	-----	-----
					Result	----	----	----	----	----
Physical Tests										
moisture	----	E144	0.25	%	22.6	----	----	----	----	----
Particle Size										
sand (>0.075mm)	----	E178	1.0	%	24.6	----	----	----	----	----
finer (<0.075mm)	----	E178	1.0	%	75.4	----	----	----	----	----
texture class	----	E178	-	-	Fine	----	----	----	----	----
Volatile Organic Compounds [Fuels]										
benzene	71-43-2	E611A	0.0050	mg/kg	0.0176	----	----	----	----	----
ethylbenzene	100-41-4	E611A	0.015	mg/kg	0.436	----	----	----	----	----
toluene	108-88-3	E611A	0.050	mg/kg	<0.050	----	----	----	----	----
xylene, m+p-	179601-23-1	E611A	0.050	mg/kg	0.662	----	----	----	----	----
xylene, o-	95-47-6	E611A	0.050	mg/kg	0.395	----	----	----	----	----
xylenes, total	1330-20-7	E611A	0.075	mg/kg	1.06	----	----	----	----	----
Volatile Organic Compounds Surrogates										
bromofluorobenzene, 4-	460-00-4	E611A	0.10	%	106	----	----	----	----	----
difluorobenzene, 1,4-	540-36-3	E611A	0.10	%	94.2	----	----	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.VH+F1	5.0	mg/kg	159	----	----	----	----	----
F1-BTEX	----	EC580	5.0	mg/kg	157	----	----	----	----	----
F2 (C10-C16)	----	E601.SG	30	mg/kg	1340	----	----	----	----	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	1940	----	----	----	----	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	90	----	----	----	----	----
chromatogram to baseline at nC50	n/a	E601.SG	-	-	Yes	----	----	----	----	----
Hydrocarbons Surrogates										
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601.SG	1.0	%	91.3	----	----	----	----	----
dichlorotoluene, 3,4-	97-75-0	E581.VH+F1	1.0	%	70.5	----	----	----	----	----

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: YL2201261	Page	: 1 of 10
Amendment	: 1		
Client	: KBL Environmental Ltd.	Laboratory	: Yellowknife - Environmental
Contact	: Katie Oliver	Account Manager	: Oliver Gregg
Address	: 3909 68 Avenue Leduc AB Canada T9E 0Z4	Address	: 314 Old Airport Road, Unit 116 Yellowknife, Northwest Territories Canada X1A 3T3
Telephone	: 780 893 3305	Telephone	: 1 867 446 5593
Project	: 4200ISTF	Date Samples Received	: 17-Aug-2022 14:15
PO	: ----	Issue Date	: 31-Aug-2022 17:36
C-O-C number	: ----		
Sampler	: ----		
Site	: ----		
Quote number	: YL22-KBLE100-001		
No. of samples received	: 6		
No. of samples analysed	: 6		

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.
- 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 10
Work Order : YL2201261 Amendment 1
Client : KBL Environmental Ltd.
Project : 4200ISTF



Regular Sample Surrogates

Sub-Matrix: **Soil**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Result	Limits	Comment
Samples Submitted							
Volatile Organic Compounds Surrogates	YL2201261-003	P3b - Aklavik Soils	bromofluorobenzene, 4-	460-00-4	154 %	70.0-130 %	Recovery greater than upper data quality objective



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: **Soil/Solid**

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

Analyte Group Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap P3a - Aklavik Soils	E601.SG	12-Aug-2022	20-Aug-2022	14 days	8 days	✓	20-Aug-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap P3b - Aklavik Soils	E601.SG	12-Aug-2022	20-Aug-2022	14 days	8 days	✓	20-Aug-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap P3c - Aklavik Soils	E601.SG	12-Aug-2022	20-Aug-2022	14 days	8 days	✓	20-Aug-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap P3d - Aklavik Soils	E601.SG	12-Aug-2022	20-Aug-2022	14 days	8 days	✓	20-Aug-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap P3f - Aklavik Soils	E601.SG	12-Aug-2022	20-Aug-2022	14 days	8 days	✓	20-Aug-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Glass soil jar/Teflon lined cap P4 - NTPC Soils	E601.SG	12-Aug-2022	20-Aug-2022	14 days	8 days	✓	20-Aug-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F4G by Gravimetry										
Glass soil jar/Teflon lined cap P4 - NTPC Soils	E601.F4G	12-Aug-2022	24-Aug-2022	14 days	12 days	✓	24-Aug-2022	40 days	0 days	✓



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial P3b - Aklavik Soils	E581.VH+F1	12-Aug-2022	22-Aug-2022	----	----		22-Aug-2022	40 days	10 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial P3a - Aklavik Soils	E581.VH+F1	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial P3c - Aklavik Soils	E581.VH+F1	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial P3d - Aklavik Soils	E581.VH+F1	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial P3f - Aklavik Soils	E581.VH+F1	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass soil methanol vial P4 - NTPC Soils	E581.VH+F1	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap P3a - Aklavik Soils	E178	12-Aug-2022	----	----	----		30-Aug-2022	180 days	18 days	✔
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap P3b - Aklavik Soils	E178	12-Aug-2022	----	----	----		30-Aug-2022	180 days	18 days	✔
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap P3c - Aklavik Soils	E178	12-Aug-2022	----	----	----		30-Aug-2022	180 days	18 days	✔



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap P3d - Aklavik Soils	E178	12-Aug-2022	----	----	----		30-Aug-2022	180 days	18 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap P3f - Aklavik Soils	E178	12-Aug-2022	----	----	----		30-Aug-2022	180 days	18 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap P4 - NTPC Soils	E178	12-Aug-2022	----	----	----		30-Aug-2022	180 days	18 days	✓
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap P3a - Aklavik Soils	E144	12-Aug-2022	----	----	----		22-Aug-2022	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap P3b - Aklavik Soils	E144	12-Aug-2022	----	----	----		22-Aug-2022	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap P3c - Aklavik Soils	E144	12-Aug-2022	----	----	----		22-Aug-2022	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap P3d - Aklavik Soils	E144	12-Aug-2022	----	----	----		22-Aug-2022	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap P3f - Aklavik Soils	E144	12-Aug-2022	----	----	----		22-Aug-2022	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap P4 - NTPC Soils	E144	12-Aug-2022	----	----	----		22-Aug-2022	----	----	



Matrix: Soil/Solid

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial P3b - Aklavik Soils	E611A	12-Aug-2022	22-Aug-2022	----	----		22-Aug-2022	40 days	10 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial P3a - Aklavik Soils	E611A	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial P3c - Aklavik Soils	E611A	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial P3d - Aklavik Soils	E611A	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial P3f - Aklavik Soils	E611A	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔
Volatile Organic Compounds [Fuels] : BTEX by Headspace GC-MS										
Glass soil methanol vial P4 - NTPC Soils	E611A	12-Aug-2022	20-Aug-2022	----	----		21-Aug-2022	40 days	9 days	✔

Legend & Qualifier Definitions

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



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**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
BTEX by Headspace GC-MS	E611A	613397	2	7	28.5	5.0	✔
CCME fine/coarse Particle Size Analysis by wet sieve	E178	624423	1	13	7.6	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601.SG	611222	1	20	5.0	5.0	✔
CCME PHCs - F4G by Gravimetry	E601.F4G	616894	0	2	0.0	5.0	✖
Moisture Content by Gravimetry	E144	613412	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	613398	2	6	33.3	5.0	✔
Laboratory Control Samples (LCS)							
BTEX by Headspace GC-MS	E611A	613397	2	7	28.5	5.0	✔
CCME fine/coarse Particle Size Analysis by wet sieve	E178	624423	1	13	7.6	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601.SG	611222	2	20	10.0	10.0	✔
CCME PHCs - F4G by Gravimetry	E601.F4G	616894	2	2	100.0	10.0	✔
Moisture Content by Gravimetry	E144	613412	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	613398	2	6	33.3	5.0	✔
Method Blanks (MB)							
BTEX by Headspace GC-MS	E611A	613397	2	7	28.5	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601.SG	611222	1	20	5.0	5.0	✔
CCME PHCs - F4G by Gravimetry	E601.F4G	616894	1	2	50.0	5.0	✔
Moisture Content by Gravimetry	E144	613412	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	613398	2	6	33.3	5.0	✔
Matrix Spikes (MS)							
BTEX by Headspace GC-MS	E611A	613397	2	7	28.5	5.0	✔



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
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.
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 - F4G by Gravimetry	E601.F4G Edmonton - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	A portion of the silica gel treated sample extract is filtered and dried at 105°C and the mass of the residual gravimetric heavy hydrocarbons (F4G) is determined gravimetrically.
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.
F1-BTEX	EC580 Edmonton - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs Methanol Extraction for Headspace Analysis	EP581 Edmonton - Environmental	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted with methanol. Extracts are then 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.
PHCs and PAHs Hexane-Acetone Tumbler Extraction	EP601 Edmonton - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1 (mod)	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted with 1:1 hexane:acetone using a rotary extractor.

Page : 10 of 10
Work Order : YL2201261 Amendment 1
Client : KBL Environmental Ltd.
Project : 4200ISTF



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dry and Grind	EPP442 Edmonton - Environmental	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

QUALITY CONTROL REPORT

Work Order : YL2201261

Page : 1 of 7

Amendment : 1

Client : KBL Environmental Ltd.

Contact : Katie Oliver

Address : 3909 68 Avenue
Leduc AB Canada T9E 0Z4

Telephone : 780 893 3305

Project : 4200ISTF

PO : ----

C-O-C number : ----

Sampler : ----

Site : ----

Quote number : YL22-KBLE100-001

No. of samples received : 6

No. of samples analysed : 6

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-Aug-2022 14:15

Date Analysis Commenced : 20-Aug-2022

Issue Date : 31-Aug-2022 17:36

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Christian Murera	Lab Analyst	Edmonton Organics, Edmonton, Alberta
Fahad Husain	Lab Assistant	Edmonton Inorganics, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Edmonton Organics, Edmonton, Alberta
Krystal During	Lab Assistant	Edmonton Organics, Edmonton, Alberta
Yan Zhang	Lab Analyst	Edmonton Organics, Edmonton, Alberta



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: **Soil/Solid**

Sub-Matrix: Soil/Solid					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: 613412)											
EO2206621-008	Anonymous	moisture	----	E144	0.25	%	14.4	14.2	0.778%	20%	----
Particle Size (QC Lot: 624423)											
EO2206761-066	Anonymous	sand (>0.075mm)	----	E178	1.0	%	<1.0	<1.0	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 611240)											
YL2201261-001	P4 - NTPC Soils	benzene	71-43-2	E611A	0.0050	mg/kg	0.0179	0.0183	0.0004	Diff <2x LOR	----
		ethylbenzene	100-41-4	E611A	0.015	mg/kg	0.070	0.084	19.1%	40%	----
		toluene	108-88-3	E611A	0.050	mg/kg	0.120	0.120	0.0003	Diff <2x LOR	----
		xylene, m+p-	179601-23-1	E611A	0.050	mg/kg	0.270	0.300	10.3%	40%	----
		xylene, o-	95-47-6	E611A	0.050	mg/kg	0.167	0.210	0.043	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 613397)											
EO2206804-001	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: 611222)											
EO2206695-028	Anonymous	F2 (C10-C16)	----	E601.SG	25	mg/kg	<25	<25	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: 611241)											
YL2201261-001	P4 - NTPC Soils	F1 (C6-C10)	----	E581.VH+F1	5.0	mg/kg	21.9	27.8	5.9	Diff <2x LOR	----
Hydrocarbons (QC Lot: 613398)											
YL2201261-003	P3b - Aklavik Soils	F1 (C6-C10)	----	E581.VH+F1	5.0	mg/kg	103	102	0.571%	40%	----



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: 613412)						
moisture	----	E144	0.25	%	<0.25	----
Volatile Organic Compounds (QCLot: 611240)						
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	----
Volatile Organic Compounds (QCLot: 613397)						
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: 611222)						
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: 611241)						
F1 (C6-C10)	----	E581.VH+F1	5	mg/kg	<5.0	----
Hydrocarbons (QCLot: 613398)						
F1 (C6-C10)	----	E581.VH+F1	5	mg/kg	<5.0	----
Hydrocarbons (QCLot: 616894)						
F4G-sg	----	E601.F4G	500	mg/kg	<500	----



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: 613412)									
moisture	----	E144	0.25	%	50 %	100.0	90.0	110	----
Volatile Organic Compounds (QCLot: 611240)									
benzene	71-43-2	E611A	0.005	mg/kg	2.5 mg/kg	118	70.0	130	----
ethylbenzene	100-41-4	E611A	0.015	mg/kg	2.5 mg/kg	105	70.0	130	----
toluene	108-88-3	E611A	0.05	mg/kg	2.5 mg/kg	108	70.0	130	----
xylene, m+p-	179601-23-1	E611A	0.03	mg/kg	5 mg/kg	120	70.0	130	----
xylene, o-	95-47-6	E611A	0.03	mg/kg	2.5 mg/kg	122	70.0	130	----
Volatile Organic Compounds (QCLot: 613397)									
benzene	71-43-2	E611A	0.005	mg/kg	2.5 mg/kg	119	70.0	130	----
ethylbenzene	100-41-4	E611A	0.015	mg/kg	2.5 mg/kg	86.7	70.0	130	----
toluene	108-88-3	E611A	0.05	mg/kg	2.5 mg/kg	96.3	70.0	130	----
xylene, m+p-	179601-23-1	E611A	0.03	mg/kg	5 mg/kg	90.6	70.0	130	----
xylene, o-	95-47-6	E611A	0.03	mg/kg	2.5 mg/kg	99.1	70.0	130	----
Hydrocarbons (QCLot: 611222)									
F2 (C10-C16)	----	E601.SG	25	mg/kg	576 mg/kg	107	70.0	130	----
F3 (C16-C34)	----	E601.SG	50	mg/kg	1184 mg/kg	108	70.0	130	----
F4 (C34-C50)	----	E601.SG	50	mg/kg	904 mg/kg	106	70.0	130	----
Hydrocarbons (QCLot: 611241)									
F1 (C6-C10)	----	E581.VH+F1	5	mg/kg	86 mg/kg	90.2	70.0	130	----
Hydrocarbons (QCLot: 613398)									
F1 (C6-C10)	----	E581.VH+F1	5	mg/kg	86 mg/kg	75.3	70.0	130	----
Hydrocarbons (QCLot: 616894)									
F4G-sg	----	E601.F4G	500	mg/kg	1540 mg/kg	87.7	70.0	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: Soil/Solid

Sub-Matrix: Soil/Solid					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 611240)										
YL2201261-002	P3a - Aklavik Soils	benzene	71-43-2	E611A	1.25 mg/kg	2.5 mg/kg	135	60.0	140	----
		ethylbenzene	100-41-4	E611A	ND mg/kg	2.5 mg/kg	ND	60.0	140	MS-B
		toluene	108-88-3	E611A	1.19 mg/kg	2.5 mg/kg	128	60.0	140	----
		xylene, m+p-	179601-23-1	E611A	ND mg/kg	5 mg/kg	ND	60.0	140	MS-B
		xylene, o-	95-47-6	E611A	ND mg/kg	2.5 mg/kg	ND	60.0	140	----
Volatile Organic Compounds (QCLot: 613397)										
YL2201261-003	P3b - Aklavik Soils	benzene	71-43-2	E611A	2.23 mg/kg	2.5 mg/kg	115	60.0	140	----
		ethylbenzene	100-41-4	E611A	2.60 mg/kg	2.5 mg/kg	134	60.0	140	----
		toluene	108-88-3	E611A	2.54 mg/kg	2.5 mg/kg	131	60.0	140	----
		xylene, m+p-	179601-23-1	E611A	4.48 mg/kg	5 mg/kg	116	60.0	140	----
		xylene, o-	95-47-6	E611A	2.59 mg/kg	2.5 mg/kg	134	60.0	140	----

Qualifiers

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.



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:

Sub-Matrix:					Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%)		Qualifier
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method			Low	High	
Particle Size (QCLot: 624423)									
	RM	sand (>0.075mm)	----	E178	36.4 %	103	91.0	109	----
Hydrocarbons (QCLot: 611222)									
	RM	F2 (C10-C16)	----	E601.SG	4316 mg/kg	119	70.0	130	----
	RM	F3 (C16-C34)	----	E601.SG	12844 mg/kg	113	70.0	130	----
	RM	F4 (C34-C50)	----	E601.SG	1156 mg/kg	101	70.0	130	----
Hydrocarbons (QCLot: 616894)									
	RM	F4G-sg	----	E601.F4G	8598 mg/kg	92.0	70.0	130	----



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 -

Page of

Environmental Division
Yel. owknife
W. rk Order Reference
YL2201261

Report To		Contact and company name below will appear on the final report	
Company: KBL		Reports / Recipients	
Contact: Katie Oliver		Select Report Format: ☒ PDF ☒ EXCEL ☒ EDD (DIGITAL)	
Phone: 780-893-3305		☐ Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A	
Street: 3009 66 Ave		☐ Compare Results to Criteria on Report - provide details below if box checked	
City/Province: Leduc, AB		Select Distribution: ☒ EMAIL ☐ MAIL ☐ FAX	
Postal Code: T9E0Z4		Email 1 or Fax: koliver@kblenv.com	
Invoice To: Same as Report To		Email 2: npfrice@kblenv.com	
Company: Copy of Invoice with Report ☐ YES ☐ NO		Email 3: kb@esdat.net	
Contact:		Invoice Recipients	
Project Information		Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX	
ALS Account # / Quote #:		Email 1 or Fax: accounting@kblenv.com	
Job #: 4200ISTF		Email 2: koliver@kblenv.com	
PO / AFE:		Oil and Gas Required Fields (client use)	
LSD:		AFE/Cost Center:	
ALS Lab Work Order # (ALS use only): YL2201261		Major/Minor Code:	
ALS Sample # (ALS use only)		Requisitioner:	
Sample Identification and/or Coordinates (This description will appear on the report)		Routing Code:	
ALS Contact:		Location:	
Sample Identification and/or Coordinates (This description will appear on the report)		Sampler:	
Date (dd-mm-yy)		Time (hh:mm)	
Sample Type		NUMBER OF CONTAINERS	
Drinking Water (DW) Samples (client use)		BTX F1-F4	
Are samples taken from a Regulated DW System?		Turnaround Time (TAT) Requested	
☐ YES ☐ NO		☒ Routine (R) if received by 3pm M-F - no surcharges apply	
Are samples for human consumption use?		☐ 4 day (P4) if received by 3pm M-F - 20% rush surcharge	
☐ YES ☐ NO		☐ 3 day (P3) if received by 3pm M-F - 25% rush surcharge	
SHIPMENT RELEASE (client use)		☐ 2 day (P2) if received by 3pm M-F - 50% rush surcharge	
Date: 03/12/22		☐ 1 day (E1) if received by 3pm M-F - 100% rush surcharge	
Time: 8:00		☐ Same day (E2) if received by 10am M-F - 200% rush surcharge	
Received by: ME		Additional fees may apply to rush requests on week	
INITIAL SHIPMENT RECEPTION (ALS use only)		Date and Time Required for all E&P TATs:	
Date: 11/8/22		For all tests with rush TATs requested, please	
Time: 2:15		Analysis	
Received by:		Indicate Filtered (F), Preserved (P) or Filtrate:	
WHITE - LABORATORY COPY		SAMPLES ON HOLD	
YELLOW - CLIENT COPY		EXTENDED STORAGE REQUIRED	
COOLING METHOD: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED		SUSPECTED HAZARD (see notes)	
Submission Comments Identified on Sample Receipt Notification: ☐ YES ☐ NO			
Cooler Custody Seals Intact: ☐ YES ☐ N/A			
INITIAL COOLER TEMPERATURES °C			
Sample Custody Seals Intact: ☐ YES ☐ N/A			
FINAL COOLER TEMPERATURES °C			

APPENDIX C

Appendix C: SDS for Amendments

SAFETY DATA SHEET

SDS # 190708-04

Ivey-sol® Surfactant Remediation Technology

Ivey-sol® 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:

- Serious Eye Damage/Irritation Category 2
- 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%	<i>Not applicable</i>
Biodegradable Non-ionic Surfactant 2	Proprietary	1-10%	<i>Not applicable</i>
Biodegradable Non-ionic Surfactant 3	Proprietary	1-10%	<i>Not applicable</i>
Biodegradable Non-ionic Surfactant 4	Proprietary	1-10%	<i>Not applicable</i>
Biodegradable Non-ionic Surfactant 5	Proprietary	1-10%	<i>Not applicable</i>
Biodegradable Non-ionic Surfactant 6	Proprietary	1-10%	<i>Not applicable</i>
Preservative	4080-31-3	<5%	Food Grade (Optional)
Scent	8016	<1%	<i>Optional</i>
Water	7732-18-5	<90%	<i>Not applicable</i>

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 persists, 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 $>0^{\circ}\text{C}$.

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: $\sim 0^{\circ}\text{C}$

Freezing point: $\sim 0^{\circ}\text{C}$

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	Method	Evaluation	Remarks
LC/50 = 0.07695%	96h	Rainbow trout	OECD 203	Not applicable	Not applicable
LC/50 = 0.11%	48h	Daphnia magna	OECD 202	Not applicable	Not applicable
EC/50 = Not applicable	72h	Algae	OECD 201	Not applicable	Not 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



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 hazards	Corrosive to metals	Category 1
Health hazards	Serious eye damage/eye irritation	Category 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	
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.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.
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.
Eye 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	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
Fire fighting equipment/instructions	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.
Specific methods	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.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

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.
--------------------------------------	--

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****US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
Aluminium chlorhydroxide (CAS 12042-91-0)	TWA	1 mg/m3	Respirable fraction.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Aluminium chlorhydroxide (CAS 12042-91-0)	TWA	2 mg/m3

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Aluminium chlorhydroxide (CAS 12042-91-0)	TWA	1 mg/m3	Respirable.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Aluminium chlorhydroxide (CAS 12042-91-0)	TWA	1 mg/m3	Respirable fraction.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Aluminium chlorhydroxide (CAS 12042-91-0)	TWA	1 mg/m3	Respirable fraction.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Aluminium chlorhydroxide (CAS 12042-91-0)	TWA	2 mg/m3

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**Eye/face protection**

Splash proof chemical goggles.

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only 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

Odor

Mild

Odor threshold

Not available.

pH (concentrated product)

3.7

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)
Flash point	> 200 °F (> 93 °C) P-M(CC)
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.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure	18 mm Hg
Vapor pressure temp.	70 °F (21 °C)
Vapor density	< 1 (Air = 1)
Relative density	1.31
Relative density temperature	70 °F (21 °C)
Solubility(ies)	
Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	42 cps
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

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
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

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye irritation.
Ingestion	Expected to be a low ingestion hazard.
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.

Information on toxicological effects

Acute toxicity May cause respiratory irritation.

Product	Species	Test Results
KLARAID CDP1311 (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)
Components	Species	Test Results
Aluminium chlorhydroxide (CAS 12042-91-0)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg
Epichlorohydrin-dimethylamine copolymer (CAS 25988-97-0)		
Acute		
<i>Dermal</i>		
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 eye 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

Product		Species	Test Results
Aquatic Crustacea	NOEL	Fathead Minnow	3.1 mg/L, Static Renewal Bioassay, 96 hour
	LC50	Daphnia magna	6.3 mg/L, Static Renewal Bioassay, 48 hour
	NOEL	Daphnia magna	3.1 mg/L, Static Renewal Bioassay, 48 hour
	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-dimethylamine copolymer (CAS 25988-97-0)			
	EC50	Daphnia Magna	> 10 mg/l, 48 hour
	LC50	Zebra fish (Brachydanio rerio)	> 10 mg/l, 96 hour

Bioaccumulative potential No data available.

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)
- BOD 28 (mgO₂/g) 1 (calculated data)
- Closed Bottle Test (% Degradation in 28 days) 6 (calculated data)
- Zahn-Wellens Test (% Degradation in 28 days) 1 (calculated data)
- TOC (mg C/g) 15 (calculated data)

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 Dispose in accordance with all applicable regulations.

Waste from residues / unused products 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).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG	
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	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.

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.
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

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	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 region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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

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%
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.

* Trademark of SUEZ. May be registered in one or more countries.

APPENDIX D

Appendix D: Tabular Summaries of SNP Sampling

Project: Groundwater Monitoring Program
KBL File #: Inuvik STF GW Monitoring

Sampling Information				Volatiles				Hydrocarbon							Free Product	General Chemistry			
Monitoring Location	Sample ID	Lab ID	Date	Benzene	Toluene	Ethylbenzene	Xylene (Total)	F1 - BTEX (C6-C10)	F2 (C10-C16 Hydrocarbons)	F3 (C16-C34 Hydrocarbons)	F4 (C34-C50 Hydrocarbons)	Extractable Petroleum Hydrocarbons (10-19)	Extractable Petroleum Hydrocarbons (19-32)	Oil and Grease	LNAPL Thickness	Total Suspended Solids	Chemical Oxygen Demand	pH	Hardness (as CaCO3), from total Ca/Mg
-	-	-	dd-mm-yy	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mm	ug/L	ug/L	pH	ug/L
G17L1-002 Type "B" Licence Environmental Monitoring Plan Action Level				88	83	3,200	3,900	810	1,300	538	775	5,313	1,638	13,250	None	3,000	547,500	4.0 – 10.3	-
Groundwater Monitoring Locations																			
MW-1	23MW1	WR2301406-001	28-Oct-23	<0.50	<0.40	<0.50	<0.50	<100	<300	<300	<300	<250	<250	<5.0	None	-	-	7.11	2,600,000
MW-3	23MW2	WR2301406-002	28-Oct-23	6.71	2.04	5.91	4.04	120	<300	<300	<300	290	<250	<5.0	None	-	-	7.40	1,440,000

Legend

µg/L micrograms per litre
RPD relative percent difference (-- indicates incalculable as below detection limits)

Applicable Guidelines

G17L1-002 Type "B" Licence Environmental Monitoring Plan Action Level

Notes

- Parameters not measured and absence of applicable guideline indicated by "-"
- Analytical data reported by ALS Environmental (Work Order #:WR2301406),
- Exceedance of applicable guidelines or background conditions indicated by shading; where multiple guidelines apply, the most stringent guideline was used

Project: Groundwater Monitoring Program
KBL File #: Inuvik STF GW Monitoring

Sampling Information																																					
Monitoring Location	Sample ID	Well ID	Date	dd-mm-yy	Aluminum (Al)	Antimony	Arsenic (As)	Barium	Beryllium (Be)	Boron (B)	Cadmium (Cd)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Iron (Fe)	Lead (Pb)	Lithium (Li)	Magnesium (Mg)	Manganese (Mn)	Mercury (Hg)	Molybdenum (Mo)	Nickel (Ni)	Phosphorous (P)	Potassium	Selenium (Se)	Silicon (Si)	Silver (Ag)	Sodium (Na)	Strontium (Sr)	Sulphur (S)	Thallium (Tl)	Tin (Sn)	Titanium (Ti)	Uranium (U)	Vanadium (V)	Zinc (Zn)	
G7/L1-002 Type "B" Licence Environmental Monitoring Plan Action Level					ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
					8,843	3,000	36	598	5.5	5,300	0.15	30	30	39	150,000	36	288	1,603,750	7,263	0.38	73	47	3,700	50,425	9	39,435	8.39	473,500	3,450	1,887,500	1.33	4.79	100	30	100	330	
Groundwater Monitoring Locations																																					
MW-1	23MW1	W82305406-001	28-Oct-23		11,380	0.74	29.5	388	0.639	2,030	0.451	27.6	14.4	38.5	36,400	13.7	61.6	321,000	1,320	0.106	2.12	43	1,850	11,500	1.57	22,380	0.286	93,400	2,590	812,000	0.21	<0.50	66.3	4.44	57.5	152	
MW-3	23MW2	W82305406-002	28-Oct-23		170	0.39	6.66	252	<0.1	1,180	0.018	2.14	0.99	1.01	1,030	1.58	30.5	272,000	751	0.033	0.251	5.51	936	27,300	0.413	6,670	<0.01	277,000	704	170,000	<0.010	0.6	9.08	0.134	5.39	28.9	

Legend
µg/L micrograms per litre
mg/L milligrams per litre
RPD relative percent difference (– indicates incalculable as below detection limits)

Applicable Guidelines
G7/L1-002 Type "B" Licence Environmental Monitoring Plan Action Level

Notes
- Parameters not measured and absence of applicable guideline indicated by "-"
- Analytical data reported by ALS Environmental (Work Order #W82305406)
- Exceedance of applicable guidelines or background conditions indicated by shading, where multiple guidelines apply, the most stringent guideline was used

APPENDIX E

Appendix E: Laboratory Analytical of SNP Sampling

CERTIFICATE OF ANALYSIS

Work Order	: WR2301406	Page	: 1 of 7
Client	: KBL Environmental Ltd.	Laboratory	: ALS Environmental - Whitehorse
Contact	: Rola Hogan	Account Manager	: Oliver Gregg
Address	: 17 Cameron Road PO Box 1895 Yellowknife NT Canada X1A 2P4	Address	: #12 151 Industrial Road Whitehorse YT Canada Y1A 2V3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 4200 IVSTF	Date Samples Received	: 30-Oct-2023 12:00
PO	: ----	Date Analysis Commenced	: 02-Nov-2023
C-O-C number	: 17774035	Issue Date	: 08-Nov-2023 10:50
Sampler	: Holeary Baiki		
Site	: ----		
Quote number	: YL22-KBLE100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Brooke Miller	Laboratory Analyst	Inorganics, Edmonton, Alberta
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Rebecca Sit	Supervisor - Organics Extractions	Organics, Burnaby, British Columbia



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.
DLQ	Detection Limit raised due to co-eluting interference. Mass Spectrometry qualifier ion ratio did not meet acceptance criteria.



Analytical Results

Sub-Matrix: Water					Client sample ID	23MW1	23MW3	----	----	----
(Matrix: Water)										
					Client sampling date / time	28-Oct-2023 12:00	28-Oct-2023 13:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WR2301406-001	WR2301406-002	-----	-----	-----	
					Result	Result	----	----	----	
Physical Tests										
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	2600	1440	----	----	----	
pH	----	E108/VA	0.10	pH units	7.11	7.40	----	----	----	
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	11.3	0.370	----	----	----	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00074	0.00039	----	----	----	
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0295	0.00666	----	----	----	
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.288	0.252	----	----	----	
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	0.000639	<0.000100	----	----	----	
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000250 ^{DLA}	<0.000050	----	----	----	
Boron, total	7440-42-8	E420/VA	0.010	mg/L	2.03	1.18	----	----	----	
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.000451	0.0000180	----	----	----	
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	513	127	----	----	----	
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.00254	0.000064	----	----	----	
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.0276	0.00214	----	----	----	
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.0144	0.00099	----	----	----	
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.0385	0.00101	----	----	----	
Iron, total	7439-89-6	E420/VA	0.010	mg/L	36.4	3.03	----	----	----	
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.0137	0.00158	----	----	----	
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0616	0.0305	----	----	----	
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	321	272	----	----	----	
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	1.32	0.751	----	----	----	
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	0.000106	0.0000330	----	----	----	
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.00212	0.000251	----	----	----	
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0430	0.00551	----	----	----	
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	1.92	0.936	----	----	----	
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	11.1	27.3	----	----	----	
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0198	0.00921	----	----	----	
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.00157	0.000413	----	----	----	
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	22.2	6.67	----	----	----	



Analytical Results

Sub-Matrix: Water					Client sample ID	23MW1	23MW3	----	----	----
(Matrix: Water)										
Client sampling date / time					28-Oct-2023 12:00	28-Oct-2023 13:00	----	----	----	
Analyte	CAS Number	Method/Lab	LOR	Unit	WR2301406-001	WR2301406-002	-----	-----	-----	
					Result	Result	----	----	----	
Total Metals										
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000286	<0.000010	----	----	----	
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	93.4	277	----	----	----	
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	2.59	0.704	----	----	----	
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	812	170	----	----	----	
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00100 ^{DLA}	<0.00020	----	----	----	
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000210	<0.000010	----	----	----	
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	0.00430	<0.00010	----	----	----	
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00050 ^{DLA}	0.00060	----	----	----	
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.0693	0.00908	----	----	----	
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00050 ^{DLA}	<0.00010	----	----	----	
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00444	0.000134	----	----	----	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.0575	0.00539	----	----	----	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.152	0.0289	----	----	----	
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00200	0.00125	----	----	----	
Aggregate Organics										
Oil & grease (gravimetric)	----	E567/VA	5.0	mg/L	<5.0	<5.0	----	----	----	
Phenols, total (4AAP)	----	E562/EO	0.0010	mg/L	<0.0010	0.0084	----	----	----	
Volatile Organic Compounds										
Benzene	71-43-2	E611C/VA	0.50	µg/L	<0.50	6.71	----	----	----	
Bromodichloromethane	75-27-4	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	
Bromoform	75-25-2	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	
Carbon tetrachloride	56-23-5	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----	
Chlorobenzene	108-90-7	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	
Chloroethane	75-00-3	E611C/VA	1.00	µg/L	<1.00	9.03	----	----	----	
Chloroform	67-66-3	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	
Chloromethane	74-87-3	E611C/VA	5.0	µg/L	<5.0	<5.0	----	----	----	
Dibromochloromethane	124-48-1	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	



Analytical Results

Sub-Matrix: Water					Client sample ID	23MW1	23MW3	----	----	----
(Matrix: Water)										
Client sampling date / time					28-Oct-2023 12:00	28-Oct-2023 13:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	WR2301406-001	WR2301406-002	-----	-----	-----	-----
					Result	Result	----	----	----	----
Volatile Organic Compounds										
Dichloroethane, 1,1-	75-34-3	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611C/VA	0.50	µg/L	<0.50	7.18	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	----
Dichloromethane	75-09-2	E611C/VA	5.0	µg/L	<5.0	16.8	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----	----
Ethylbenzene	100-41-4	E611C/VA	0.50	µg/L	<0.50	5.91	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----	----
Styrene	100-42-5	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C/VA	0.20	µg/L	<0.20	<0.20	----	----	----	----
Tetrachloroethylene	127-18-4	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	----
Toluene	108-88-3	E611C/VA	0.40	µg/L	<0.40	2.04	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----	----
Trichloroethylene	79-01-6	E611C/VA	1.00	µg/L	<1.00	1.23	----	----	----	----
Trichlorofluoromethane	75-69-4	E611C/VA	1.00	µg/L	<1.00	<1.00	----	----	----	----
Vinyl chloride	75-01-4	E611C/VA	0.40	µg/L	<0.40	<0.40	----	----	----	----
Xylene, m+p-	179601-23-1	E611C/VA	0.40	µg/L	<0.40	2.34	----	----	----	----
Xylene, o-	95-47-6	E611C/VA	0.30	µg/L	<0.30	1.70	----	----	----	----
Xylenes, total	1330-20-7	E611C/VA	0.50	µg/L	<0.50	4.04	----	----	----	----
Hydrocarbons										
EPH (C10-C19)	---	E601A/VA	250	µg/L	<250	290	----	----	----	----
EPH (C19-C32)	---	E601A/VA	250	µg/L	<250	<250	----	----	----	----
F2 (C10-C16)	---	E601/VA	300	µg/L	<300	<300	----	----	----	----
F3 (C16-C34)	---	E601/VA	300	µg/L	<300	<300	----	----	----	----



Analytical Results

Sub-Matrix: Water					Client sample ID	23MW1	23MW3	----	----	----
(Matrix: Water)										
					Client sampling date / time	28-Oct-2023 12:00	28-Oct-2023 13:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WR2301406-001	WR2301406-002	-----	-----	-----	
					Result	Result	----	----	----	
Hydrocarbons										
F4 (C34-C50)	----	E601/VA	300	µg/L	<300	<300	----	----	----	
F1 (C6-C10)	----	E581.VH+F1/ VA	100	µg/L	<100	120	----	----	----	
F1-BTEX	----	EC580/VA	100	µg/L	<100	101	----	----	----	
HEPHw	----	EC600A/VA	250	µg/L	<250	<250	----	----	----	
LEPHw	----	EC600A/VA	250	µg/L	<250	290	----	----	----	
VHw (C6-C10)	----	E581.VH+F1/ VA	100	µg/L	<100	120	----	----	----	
VPHw	----	EC580A/VA	100	µg/L	<100	100	----	----	----	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	86.9	93.5	----	----	----	
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/VA	1.0	%	86.6	94.0	----	----	----	
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/ VA	1.0	%	86.4	74.7	----	----	----	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611C/VA	1.0	%	82.7	90.0	----	----	----	
Difluorobenzene, 1,4-	540-36-3	E611C/VA	1.0	%	95.1	95.9	----	----	----	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.010	0.058	----	----	----	
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	<0.015 ^{DLQ}	----	----	----	
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	<0.018 ^{DLQ}	----	----	----	
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	----	
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	<0.015	----	----	----	
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	<0.0050	----	----	----	
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	



Analytical Results

Sub-Matrix: Water					Client sample ID	23MW1	23MW3	----	----	----
(Matrix: Water)										
					Client sampling date / time	28-Oct-2023 12:00	28-Oct-2023 13:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WR2301406-001	WR2301406-002	-----	-----	-----	
					Result	Result	----	----	----	
Polycyclic Aromatic Hydrocarbons										
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.010	0.043	----	----	----	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	0.437	----	----	----	
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	<0.010	0.420	----	----	----	
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	1.31	----	----	----	
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	0.028	----	----	----	
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	<0.010	----	----	----	
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	<0.090 ^{DLO}	----	----	----	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	92.9	78.4	----	----	----	
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	102	103	----	----	----	
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	120	104	----	----	----	

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

Please refer to the Accreditation section for an explanation of analyte accreditations.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: WR2301406	Page	: 1 of 9
Client	: KBL Environmental Ltd.	Laboratory	: ALS Environmental - Whitehorse
Contact	: Rola Hogan	Account Manager	: Oliver Gregg
Address	: 17 Cameron Road PO Box 1895 Yellowknife NT Canada X1A 2P4	Address	: #12 151 Industrial Road Whitehorse, Yukon Canada Y1A 2V3
Telephone	: ----	Telephone	: 1 867 445 7143
Project	: 4200 IVSTF	Date Samples Received	: 30-Oct-2023 12:00
PO	: ----	Issue Date	: 08-Nov-2023 10:50
C-O-C number	: 17774035		
Sampler	: Holeary Baiki		
Site	: ----		
Quote number	: YL22-KBLE100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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 Matrix Spike outliers occur.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- 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.



Outliers : Quality Control Samples
Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Laboratory Control Sample (LCS) Recoveries								
Total Metals	QC-1217526-002	----	Phosphorus, total	7723-14-0	E420	121 % ^{MES}	80.0-120%	Recovery greater than upper control limit

Result Qualifiers

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).



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) 23MW1	E567	28-Oct-2023	04-Nov-2023	28 days	7 days	✓	05-Nov-2023	40 days	1 days	✓
Aggregate Organics : Oil & Grease by Gravimetry										
Amber glass (hydrochloric acid) 23MW3	E567	28-Oct-2023	04-Nov-2023	28 days	7 days	✓	05-Nov-2023	40 days	1 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid) 23MW1	E562	28-Oct-2023	06-Nov-2023	28 days	9 days	✓	06-Nov-2023	28 days	9 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid) 23MW3	E562	28-Oct-2023	06-Nov-2023	28 days	9 days	✓	06-Nov-2023	28 days	9 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) 23MW1	E601A	28-Oct-2023	06-Nov-2023	14 days	9 days	✓	06-Nov-2023	40 days	1 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) 23MW3	E601A	28-Oct-2023	06-Nov-2023	14 days	9 days	✓	06-Nov-2023	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) 23MW1	E601	28-Oct-2023	06-Nov-2023	14 days	9 days	✓	06-Nov-2023	40 days	1 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) 23MW3	E601	28-Oct-2023	06-Nov-2023	14 days	9 days	✔	06-Nov-2023	40 days	1 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) 23MW1	E581.VH+F1	28-Oct-2023	05-Nov-2023	14 days	8 days	✔	06-Nov-2023	14 days	9 days	✔
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) 23MW3	E581.VH+F1	28-Oct-2023	05-Nov-2023	14 days	8 days	✔	06-Nov-2023	14 days	9 days	✔
Physical Tests : pH by Meter										
HDPE 23MW3	E108	28-Oct-2023	02-Nov-2023	0.25 hrs	122 hrs	✖ EHTR-FM	02-Nov-2023	0.25 hrs	125 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE 23MW1	E108	28-Oct-2023	02-Nov-2023	0.25 hrs	123 hrs	✖ EHTR-FM	02-Nov-2023	0.25 hrs	126 hrs	✖ EHTR-FM
Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) 23MW1	E641A	28-Oct-2023	06-Nov-2023	14 days	9 days	✔	06-Nov-2023	40 days	0 days	✔
Polycyclic Aromatic Hydrocarbons : PAHs by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) 23MW3	E641A	28-Oct-2023	06-Nov-2023	14 days	9 days	✔	06-Nov-2023	40 days	0 days	✔
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) 23MW1	E508	28-Oct-2023	07-Nov-2023	28 days	10 days	✔	07-Nov-2023	28 days	10 days	✔
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) 23MW3	E508	28-Oct-2023	07-Nov-2023	28 days	10 days	✔	07-Nov-2023	28 days	10 days	✔

Page : 6 of 9
 Work Order : WR2301406
 Client : KBL Environmental Ltd.
 Project : 4200 IVSTF



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) 23MW1	E420	28-Oct-2023	02-Nov-2023	180 days	5 days	✓	05-Nov-2023	180 days	8 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) 23MW3	E420	28-Oct-2023	02-Nov-2023	180 days	5 days	✓	05-Nov-2023	180 days	8 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass vial (sodium bisulfate) 23MW1	E611C	28-Oct-2023	05-Nov-2023	14 days	8 days	✓	06-Nov-2023	14 days	9 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass vial (sodium bisulfate) 23MW3	E611C	28-Oct-2023	05-Nov-2023	14 days	8 days	✓	06-Nov-2023	14 days	9 days	✓

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).



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: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Duplicates (DUP)							
pH by Meter	E108	1220414	1	20	5.0	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	1225162	1	20	5.0	5.0	✔
Total Mercury in Water by CVAAS	E508	1225786	1	7	14.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1217526	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1223730	1	20	5.0	5.0	✔
VOCs (BC List) by Headspace GC-MS	E611C	1223731	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
BC PHCs - EPH by GC-FID	E601A	1223777	1	16	6.2	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1223779	1	3	33.3	5.0	✔
Oil & Grease by Gravimetry	E567	1223036	1	10	10.0	5.0	✔
PAHs by Hexane LVI GC-MS	E641A	1223778	1	16	6.2	5.0	✔
pH by Meter	E108	1220414	1	20	5.0	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	1225162	1	20	5.0	5.0	✔
Total Mercury in Water by CVAAS	E508	1225786	1	7	14.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1217526	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1223730	1	20	5.0	5.0	✔
VOCs (BC List) by Headspace GC-MS	E611C	1223731	1	20	5.0	5.0	✔
Method Blanks (MB)							
BC PHCs - EPH by GC-FID	E601A	1223777	1	16	6.2	5.0	✔
CCME PHCs - F2-F4 by GC-FID	E601	1223779	1	3	33.3	5.0	✔
Oil & Grease by Gravimetry	E567	1223036	1	10	10.0	5.0	✔
PAHs by Hexane LVI GC-MS	E641A	1223778	1	16	6.2	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	1225162	1	20	5.0	5.0	✔
Total Mercury in Water by CVAAS	E508	1225786	1	7	14.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1217526	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1223730	1	20	5.0	5.0	✔
VOCs (BC List) by Headspace GC-MS	E611C	1223731	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
Phenols (4AAP) in Water by Colorimetry	E562	1225162	1	20	5.0	5.0	✔
Total Mercury in Water by CVAAS	E508	1225786	1	7	14.2	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1217526	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1223730	1	20	5.0	5.0	✔
VOCs (BC List) by Headspace GC-MS	E611C	1223731	1	20	5.0	5.0	✔



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 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally $20 \pm 5^{\circ}\text{C}$). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Phenols (4AAP) in Water by Colorimetry	E562 ALS Environmental - Edmonton	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide ($\text{K}_3\text{Fe}(\text{CN})_6$) and 4-amino-antipyrine (4-AAP) to form a red complex which is measured colorimetrically.
Oil & Grease by Gravimetry	E567 ALS Environmental - Vancouver	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane and the extract is evaporated to dryness. The residue is then weighed to determine Oil and Grease.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	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. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID	E601 ALS Environmental - Vancouver	Water	CCME PHC in Soil - Tier 1	Sample extracts are analyzed by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs (BC List) by Headspace GC-MS	E611C ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO ₃), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters.
F1-BTEX	EC580 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Oil & Grease Extraction for Gravimetry	EP567 ALS Environmental - Vancouver	Water	BC MOE Lab Manual (Oil & Grease) (mod)	The entire water sample is extracted with hexane by liquid-liquid extraction.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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	: WR2301406	Page	: 1 of 16
Client	: KBL Environmental Ltd.	Laboratory	: ALS Environmental - Whitehorse
Contact	: Rola Hogan	Account Manager	: Oliver Gregg
Address	: 17 Cameron Road PO Box 1895 Yellowknife NT Canada X1A 2P4	Address	: #12 151 Industrial Road Whitehorse, Yukon Canada Y1A 2V3
Telephone	:	Telephone	: 1 867 445 7143
Project	: 4200 IVSTF	Date Samples Received	: 30-Oct-2023 12:00
PO	: ----	Date Analysis Commenced	: 02-Nov-2023
C-O-C number	: 17774035	Issue Date	: 08-Nov-2023 10:50
Sampler	: Holeary Baiki ____		
Site	: ----		
Quote number	: YL22-KBLE100-001		
No. of samples received	: 2		
No. of samples analysed	: 2		

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
Brooke Miller	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Vancouver Inorganics, Burnaby, British Columbia
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Rebecca Sit	Supervisor - Organics Extractions	Vancouver Organics, Burnaby, British Columbia



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
Physical Tests (QC Lot: 1220414)											
VA23C5831-005	Anonymous	pH	----	E108	0.10	pH units	7.57	7.59	0.264%	4%	----
Total Metals (QC Lot: 1217526)											
KS2304079-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	6.13	6.16	0.482%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00035	0.00036	0.000003	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00796	0.00781	1.94%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.130	0.131	1.12%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	0.000211	0.000225	6.38%	20%	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	0.000160	0.000167	0.000006	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.158	0.160	0.962%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.000258	0.000260	0.788%	20%	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	50.9	50.6	0.650%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000884	0.000900	1.86%	20%	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.0116	0.0118	1.86%	20%	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00968	0.00971	0.332%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.0365	0.0364	0.454%	20%	----
		Iron, total	7439-89-6	E420	0.010	mg/L	10.6	10.7	0.850%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.00921	0.00941	2.15%	20%	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0142	0.0142	0.526%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	21.7	21.5	0.957%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	1.39	1.40	0.469%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00288	0.00293	1.62%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.0180	0.0180	0.176%	20%	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	1.83	1.69	7.89%	20%	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	12.4	12.3	0.477%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.0138	0.0137	0.634%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000255	0.000264	0.000009	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	20.3	20.5	1.22%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000268	0.000276	2.72%	20%	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	41.8	40.8	2.56%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.304	0.303	0.575%	20%	----



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
Total Metals (QC Lot: 1217526) - continued											
KS2304079-001	Anonymous	Sulfur, total	7704-34-9	E420	0.50	mg/L	17.4	17.9	2.82%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	0.000098	0.000099	0.0000007	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	0.00270	0.00294	8.42%	20%	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	0.00096	0.00117	19.4%	20%	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.401	0.410	2.21%	20%	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00026	0.00029	0.00003	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00594	0.00610	2.67%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.0178	0.0182	2.72%	20%	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0291	0.0286	0.0005	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	0.00100	0.00112	0.00012	Diff <2x LOR	----
Total Metals (QC Lot: 1225786)											
WR2301406-001	23MW1	Mercury, total	7439-97-6	E508	0.0000050	mg/L	0.000106	0.000106	0.378%	20%	----
Aggregate Organics (QC Lot: 1225162)											
CG2315697-001	Anonymous	Phenols, total (4AAP)	----	E562	0.0010	mg/L	0.0017	0.0020	0.0003	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1223731)											
VA23C5704-001	Anonymous	Benzene	71-43-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroethane	75-00-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloromethane	74-87-3	E611C	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611C	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----



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 Compounds (QC Lot: 1223731) - continued											
VA23C5704-001	Anonymous	Dichloropropane, 1,2-	78-87-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611C	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1223730)											
VA23C5704-001	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%	----



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: 1217526)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
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	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1217526) - continued						
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 1225786)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Aggregate Organics (QCLot: 1223036)						
Oil & grease (gravimetric)	----	E567	5	mg/L	<5.0	----
Aggregate Organics (QCLot: 1225162)						
Phenols, total (4AAP)	----	E562	0.001	mg/L	<0.0010	----
Volatile Organic Compounds (QCLot: 1223731)						
Benzene	71-43-2	E611C	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611C	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	<0.50	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	<0.50	----
Chloroethane	75-00-3	E611C	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611C	0.5	µg/L	<0.50	----
Chloromethane	74-87-3	E611C	5	µg/L	<5.0	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611C	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	<0.50	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1223731) - continued						
Ethylbenzene	100-41-4	E611C	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611C	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	<0.20	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611C	0.4	µg/L	<0.40	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	<0.40	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1223730)						
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1223777)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Hydrocarbons (QCLot: 1223779)						
F2 (C10-C16)	----	E601	100	µg/L	<100	----
F3 (C16-C34)	----	E601	250	µg/L	<250	----
F4 (C34-C50)	----	E601	250	µg/L	<250	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1223778)						
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	----
Benzo(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	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1223778) - continued						
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	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----



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: 1220414)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Total Metals (QCLot: 1217526)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	106	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	104	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	99.1	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	100	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	103	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	100	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	100	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	105	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.2	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.0	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	103	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	105	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	98.8	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	# 121	80.0	120	MES
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	99.9	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	106	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	95.7	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	105	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	107	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1217526) - continued									
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	103	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	98.7	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	99.9	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	95.0	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	105	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	101	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	99.7	80.0	120	----
Total Metals (QCLot: 1225786)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	98.5	80.0	120	----
Aggregate Organics (QCLot: 1223036)									
Oil & grease (gravimetric)	----	E567	5	mg/L	100 mg/L	83.7	70.0	130	----
Aggregate Organics (QCLot: 1225162)									
Phenols, total (4AAP)	----	E562	0.001	mg/L	0.02 mg/L	98.0	85.0	115	----
Volatile Organic Compounds (QCLot: 1223731)									
Benzene	71-43-2	E611C	0.5	µg/L	100 µg/L	101	70.0	130	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	100 µg/L	97.6	70.0	130	----
Bromoform	75-25-2	E611C	0.5	µg/L	100 µg/L	93.8	70.0	130	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	100 µg/L	109	70.0	130	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	100 µg/L	99.1	70.0	130	----
Chloroethane	75-00-3	E611C	0.5	µg/L	100 µg/L	120	60.0	140	----
Chloroform	67-66-3	E611C	0.5	µg/L	100 µg/L	100.0	70.0	130	----
Chloromethane	74-87-3	E611C	5	µg/L	100 µg/L	126	60.0	140	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	100 µg/L	102	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	100 µg/L	97.8	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	100 µg/L	97.4	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	100 µg/L	96.8	70.0	130	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	100 µg/L	96.2	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	100 µg/L	94.9	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	100 µg/L	99.2	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	100 µg/L	92.4	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	100 µg/L	100	70.0	130	----
Dichloromethane	75-09-2	E611C	1	µg/L	100 µg/L	98.5	70.0	130	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	LCS	Low	High	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1223731) - continued									
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	100 µg/L	90.3	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	100 µg/L	82.6	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	100 µg/L	72.1	70.0	130	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	100 µg/L	99.3	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	100 µg/L	98.7	70.0	130	----
Styrene	100-42-5	E611C	0.5	µg/L	100 µg/L	96.5	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	100 µg/L	97.8	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	100 µg/L	86.8	70.0	130	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	100 µg/L	114	70.0	130	----
Toluene	108-88-3	E611C	0.4	µg/L	100 µg/L	101	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	100 µg/L	98.4	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	100 µg/L	91.4	70.0	130	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	100 µg/L	106	70.0	130	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	100 µg/L	121	60.0	140	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	100 µg/L	128	60.0	140	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	200 µg/L	107	70.0	130	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	100 µg/L	98.2	70.0	130	----
Hydrocarbons (QCLot: 1223730)									
F1 (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	83.4	70.0	130	----
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	81.2	70.0	130	----
Hydrocarbons (QCLot: 1223777)									
EPH (C10-C19)	----	E601A	250	µg/L	6491 µg/L	105	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	3363 µg/L	103	70.0	130	----
Hydrocarbons (QCLot: 1223779)									
F2 (C10-C16)	----	E601	100	µg/L	3538 µg/L	116	70.0	130	----
F3 (C16-C34)	----	E601	250	µg/L	7053 µg/L	103	70.0	130	----
F4 (C34-C50)	----	E601	250	µg/L	5051 µg/L	110	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1223778)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	99.1	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	114	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	109	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	105	60.0	130	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Concentration	LCS	Low	High	Qualifier
Analyte	CAS Number	Method	LOR	Unit					
Polycyclic Aromatic Hydrocarbons (QCLot: 1223778) - continued									
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	112	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	106	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	111	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	107	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	99.4	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	97.8	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	99.5	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	97.5	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	109	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	115	60.0	130	----

Qualifiers

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).



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.

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1217526)										
KS2304079-002	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	0.2 mg/L	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0186 mg/L	0.02 mg/L	92.9	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0366 mg/L	0.04 mg/L	91.5	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00898 mg/L	0.01 mg/L	89.8	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	0.1 mg/L	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00374 mg/L	0.004 mg/L	93.5	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00957 mg/L	0.01 mg/L	95.7	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0367 mg/L	0.04 mg/L	91.7	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0185 mg/L	0.02 mg/L	92.7	70.0	130	----
		Copper, total	7440-50-8	E420	0.0176 mg/L	0.02 mg/L	87.8	70.0	130	----
		Iron, total	7439-89-6	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Lead, total	7439-92-1	E420	0.0178 mg/L	0.02 mg/L	89.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0898 mg/L	0.1 mg/L	89.8	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	1 mg/L	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0366 mg/L	0.04 mg/L	91.5	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.79 mg/L	10 mg/L	97.9	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	4 mg/L	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0183 mg/L	0.02 mg/L	91.5	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0387 mg/L	0.04 mg/L	96.8	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	10 mg/L	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00357 mg/L	0.004 mg/L	89.3	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	2 mg/L	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	0.02 mg/L	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	18.5 mg/L	20 mg/L	92.5	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0385 mg/L	0.04 mg/L	96.3	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00350 mg/L	0.004 mg/L	87.5	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1217526) - continued										
KS2304079-002	Anonymous	Thorium, total	7440-29-1	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Tin, total	7440-31-5	E420	0.0183 mg/L	0.02 mg/L	91.6	70.0	130	----
		Titanium, total	7440-32-6	E420	ND mg/L	0.04 mg/L	ND	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0180 mg/L	0.02 mg/L	89.8	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00379 mg/L	0.004 mg/L	94.7	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0962 mg/L	0.1 mg/L	96.2	70.0	130	----
		Zinc, total	7440-66-6	E420	0.356 mg/L	0.4 mg/L	89.0	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0368 mg/L	0.04 mg/L	92.0	70.0	130	----
Total Metals (QCLot: 1225786)										
WR2301406-002	23MW3	Mercury, total	7439-97-6	E508	0.0000882 mg/L	0.0001 mg/L	88.2	70.0	130	----
Aggregate Organics (QCLot: 1225162)										
CG2315697-002	Anonymous	Phenols, total (4AAP)	----	E562	0.0206 mg/L	0.02 mg/L	103	75.0	125	----
Volatile Organic Compounds (QCLot: 1223731)										
VA23C5704-002	Anonymous	Benzene	71-43-2	E611C	104 µg/L	100 µg/L	104	60.0	140	----
		Bromodichloromethane	75-27-4	E611C	102 µg/L	100 µg/L	102	60.0	140	----
		Bromoform	75-25-2	E611C	96.5 µg/L	100 µg/L	96.5	60.0	140	----
		Carbon tetrachloride	56-23-5	E611C	112 µg/L	100 µg/L	112	60.0	140	----
		Chlorobenzene	108-90-7	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		Chloroethane	75-00-3	E611C	120 µg/L	100 µg/L	120	50.0	150	----
		Chloroform	67-66-3	E611C	103 µg/L	100 µg/L	103	60.0	140	----
		Chloromethane	74-87-3	E611C	122 µg/L	100 µg/L	122	50.0	150	----
		Dibromochloromethane	124-48-1	E611C	105 µg/L	100 µg/L	105	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	99.9 µg/L	100 µg/L	99.9	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	99.6 µg/L	100 µg/L	99.6	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	99.3 µg/L	100 µg/L	99.3	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611C	98.8 µg/L	100 µg/L	98.8	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611C	97.2 µg/L	100 µg/L	97.2	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	94.9 µg/L	100 µg/L	94.9	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	105 µg/L	100 µg/L	105	60.0	140	----
		Dichloromethane	75-09-2	E611C	100 µg/L	100 µg/L	100	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611C	94.2 µg/L	100 µg/L	94.2	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	88.4 µg/L	100 µg/L	88.4	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	75.1 µg/L	100 µg/L	75.1	60.0	140	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1223731) - continued										
VA23C5704-002	Anonymous	Ethylbenzene	100-41-4	E611C	100 µg/L	100 µg/L	100	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	102 µg/L	100 µg/L	102	60.0	140	----
		Styrene	100-42-5	E611C	98.9 µg/L	100 µg/L	98.9	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	90.9 µg/L	100 µg/L	90.9	60.0	140	----
		Tetrachloroethylene	127-18-4	E611C	113 µg/L	100 µg/L	113	60.0	140	----
		Toluene	108-88-3	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	102 µg/L	100 µg/L	102	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	93.2 µg/L	100 µg/L	93.2	60.0	140	----
		Trichloroethylene	79-01-6	E611C	109 µg/L	100 µg/L	109	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611C	121 µg/L	100 µg/L	121	50.0	150	----
		Vinyl chloride	75-01-4	E611C	125 µg/L	100 µg/L	125	50.0	150	----
		Xylene, m+p-	179601-23-1	E611C	217 µg/L	200 µg/L	108	60.0	140	----
		Xylene, o-	95-47-6	E611C	100 µg/L	100 µg/L	100	60.0	140	----
Hydrocarbons (QCLot: 1223730)										
VA23C5704-003	Anonymous	F1 (C6-C10)	----	E581.VH+F1	5100 µg/L	6310 µg/L	80.8	60.0	140	----
		VHw (C6-C10)	----	E581.VH+F1	4970 µg/L	6310 µg/L	78.7	60.0	140	----



Environmental

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: 17-774035

Environmental Division
Whitehorse

Work Order Reference
WR2301406

Telephone: +1 867 668 6639



Contact and company name below will appear on the final report

Company: ALS Environmental

Contact: 800-668-9878

Phone: 480-848-4314

Company address below will appear on the final report

Street: 3009 53rd Ave

City/Province: Leduc, Alberta

Postal Code: T4E 0Z4

Invoice To: Same as Report To

Copy of Invoice with Report: YES NO

Company:

Contact:

ALS Account # / Quote #:

Lab #: 4200 2V5T

PO / AFE:

LSD:

ALS Lab Work Order # (lab use only):

Report Format / Distribution

Select Report Format: PDF EXCEL EDD (DIGITAL)

Quality Control (QC) Report with Report: YES NO

Complete Results to Clients on Report - provide details below if box checked

Select Distribution: EMAIL MAIL FAX

Email 1 or Fax: rhonda@kblenv.com

Email 2: holayba@kblenv.com

Email 3:

Select Invoice Distribution: PDF EMAIL MAIL FAX

Email 1 or Fax: rhonda@kblenv.com

Email 2:

Oil and Gas Required Fields (client use)

AF/Coast Center: PO#

Vaporizing Code: Routing Code:

Requisition:

Location:

ALS Contact:

Sampler: Huey Baker

Date: 28-10-23

Time: 12:00

Sample Type: Water

Volume: 1L

Temperature: 10

Pressure: 10

Humidity: 10

Wind Speed: 10

Wind Direction: 10

Cloud Cover: 10

Visibility: 10

Barometric Pressure: 10

Relative Humidity: 10

Dew Point: 10

Heat Index: 10

Wind Chill: 10

UV Index: 10

Air Quality Index: 10

Water Quality Index: 10

Soil Quality Index: 10

Plant Health Index: 10

Animal Health Index: 10

Human Health Index: 10

Environmental Health Index: 10

Global Health Index: 10

Select Service Level Below - Contact your AM to

Regular (R) 4 day (P2-20%)

Standard (S) 3 day (P3-25%)

Emergency (E) 2 day (P2-50%)

1 Business Same Day (Laboratory)

DATE AND TIME REQUIRED FOR ALL EDP-TATS:

For cases not being performed according to the service level selected:

Analysis

Free Filtered (if L Pressured (P) or Filtered

Mercury, BTEX, F-Fu, LEAD, PCBs, VOCs, Chlorinated, PH, General, Oil, Grease, Metals, PAHs, Phenols,

SAMPLES ON HOLD

SUSPECTED HAZARD (see Special Instruction)

Drinking Water (DW) Samples (client use)

Are samples taken from a Regulated DW System?

Are samples for human consumption/ use?

SHIPPING RELEASE (client use)

Released by: 01/30/24

Date: 01/30/24

Time: 09:00

Received by: 30/01/2023

Date: 30/01/2023

Time: 12:00

Received by:

Date:

Time:

Received by:

Date:

Time:

Received by:

Date:

Time:

Received by:

Date:

Time:

Received by:

Date:

Time:

Received by:

Date:

Time:

Received by:

Date:

Time:

Environmental Division

Whitehorse

Work Order Reference

WR2301406

APPENDIX F

Appendix F: Facility inspections

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

4/Jan/2022

Time:

11:15 AM

Inspector:

Dawn Allen

Weather:

overcast

Current activities on site:

STE

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Pilled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	N/A			
	Signage visible/in good condition	N/A			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	X			
	Trash pump in containment	N/A			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	X			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	X			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	X			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
WTP	Pond level	X			
	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

4/Jan/23 OA

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

11 Jan / 2023

Time:

10:58 AM

Inspector:

Dave Allen

Weather:

Current activities on site:

STF

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

N/A Pilled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	N/A			
	Signage visible/in good condition	N/A			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	X			
	Trash pump in containment	N/A			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
	Observed on site (identify type)	X			
Wildlife	Damage to facility	X			
	Birds on or near pond	X			
	Bears in or near facility	X			
	Evidence of spills/leaks/staining	X			
Facility Grounds	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	X			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
WTP	Pond level	X			
	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

11 Jan / 23 OA

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

18/Jan/2023

Time:

1:15 pm

Inspector:

Quen Allen

Weather:

-17°C SNOW

Current activities on site:

STF

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

N/A

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	N/A			
	Signage visible/in good condition	N/A			
Spill Kit	On site	x			
	Lid secured	x			
	Contents checked	x			
Storage Shed	Locked	x			
	PPE available	x			
	Trash pump in containment	N/A			
	Pump fuel in containment	x			
	Soil amendments in containment	x			
	SDS' available	x			
	Sample kit contents checked	x			
Wildlife	Observed on site (identify type)	x			
	Damage to facility	x			
	Birds on or near pond	x			
	Bears in or near facility	x			
Facility Grounds	Evidence of spills/leaks/staining	x			
	Rutting	N/A			
	Ice	N/A			
Soil Pad	Evidence of soil tracking	N/A			
	Berm stability	x			
	Liner visible	x			
	Road stability	x			
	Drainage system working	x			
	Dust control	x			
	Soil piles in good condition	x			
Water Retention Pond	Water tanks in good condition	x			
	Erosion	x			
	Liner visible	x			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
	Pond level	x			
	Flow meter working	N/A			
WTP	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

18/Jan/2023 OA

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

24/Jan/2023

Time:

10:05 AM

Inspector:

Owen Allen

Weather:

overcast & snow -21°C

Current activities on site:

STF

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Filed

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	N/A			
	Signage visible/in good condition	N/A			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	X			
	Trash pump in containment	N/A			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	X			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	X			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

31/Jan/2023

Time:

10:05 AM

Inspector:

Owen Allen

Weather:

Clear -34 °C

Current activities on site:

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes Pilled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	N/A			
	Signage visible/in good condition	N/A			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	X			
	Trash pump in containment	N/A			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
	Observed on site (identify type)	X			
Wildlife	Damage to facility	X			
	Birds on or near pond	X			
	Bears in or near facility	X			
	Evidence of spills/leaks/staining	X			
Facility Grounds	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
WTP	Pond level	X			
	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

02/08/23

Time:

3:30 pm

Inspector:

Dwen Allen

Weather:

-30°C overcast

Current activities on site:

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes Pilled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	N/A			
	Signage visible/in good condition	N/A			
Spill Kit	On site	x			
	Lid secured	x			
	Contents checked	x			
Storage Shed	Locked	x			
	PPE available	x			
	Trash pump in containment	N/A			
	Pump fuel in containment	x			
	Soil amendments in containment	x			
	SDS' available	x			
	Sample kit contents checked	x			
Wildlife	Observed on site (identify type)	x			
	Damage to facility	x			
	Birds on or near pond	x			
	Bears in or near facility	x			
Facility Grounds	Evidence of spills/leaks/staining	x			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	x			
	Liner visible	x			
	Road stability	x			
	Drainage system working	x			
	Dust control	x			
	Soil piles in good condition	x			
	Water tanks in good condition	x			
Water Retention Pond	Erosion	N/A			
	Liner visible	x			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
	Pond level	x			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Feb 15/23

Time:

4:10 PM

Inspector:

Dwain Allen

Weather:

-28°C E 14 km/hr PCLOUDY

Current activities on site:

Water in Cell?

N/A

Soil on Pad?

Yes Piller

Treated water tank in use?

N/A

Review Maintenance Log (Y/N)

Freeboard in ditch

N/A

Freeboard in Pond

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	N/A			
	Signage visible/in good condition	N/A			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	X			
	Trash pump in containment	N/A			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	X			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	X			
	Rutting	N/A			
	Ice	N/A			
Soil Pad	Evidence of soil tracking	N/A			
	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
Water Retention Pond	Water tanks in good condition	X			
	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
WTP	Pond level	X			
	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Feb 12/2023

Time:

11:11 AM

Inspector:

Dwain Allen

Weather:

Sunny -20°C SE 31km/hr
FL-36°C

Current activities on site:

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes Pilled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	X			
	Trash pump in containment	N/A			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	X			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	X			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	X			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

3/3/23

Time:

3:15 PM

Inspector:

Owen Allen

Weather:

-30°C sunny w/ snow

Current activities on site:

Skylar inspecting site

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes piled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	N/A			
	Contents checked	N/A			
Storage Shed	Locked	X			
	PPE available	X			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	X			
	SDS' available	X			
	Sample kit contents checked	X			
Wildlife	Observed on site (Identify type)	N/A			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	X			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	X			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
Water Retention Pond	Water tanks in good condition	X			
	Erosion	X			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
WTP	Pond level	X			
	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

Owen Allen

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

03/17/2023

Time:

5:27 PM

Inspector:

Owen Allen

Weather:

-22°C P Cloudy

Current activities on site:

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes filled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2 Empty

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	X			
	Trash pump in containment	N/A			
	Pump fuel in containment	✓			
	Soil amendments in containment	N/A			
	SDS' available	X			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	X			
	Birds on or near pond	✓			
	Bears in or near facility	✓			
Facility Grounds	Evidence of spills/leaks/staining	X			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp Intact & secure	N/A			
WTP	Pond level	N/A			
	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

Owen Allen

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

March 23 / 2023

Time:

4:44 PM

Inspector:

Owen Allen

Weather:

Sunny - 5°C ESE 20 km/hr

Current activities on site:

Contaminated soils from TUK & 41C tank dropped in soil

Water in Cell?

N/A

Soil on Pad?

Yes Billard

Treated water tank in use?

Review Maintenance Log (Y/N)

Freeboard in ditch

N/A

Freeboard in Pond

N/A

If yes, fill out page 2 (x)

2

of TW tanks

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	X			
	Trash pump in containment	N/A			
	Pump fuel in containment	X			
	Soil amendments in containment	N/A			
	SDS' available	X			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	X			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	X			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

Owen Allen

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

March 30 / 2023

Time:

3:30pm

Inspector:

DWEN Allen

Weather:

-17°C Sunny Elymly FL-19

Current activities on site:

WWT - Semi Trucks coming in from AK w/ contaminated Soil

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes Pilled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	X			
	SDS* available	X			
	Sample kit contents checked				
Wildlife	Observed on site (identify type)	N/A			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	X			
	Pond level	N/A			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

30 March / 2023

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Apr. 5/2023

Time:

3:30 PM

Inspector:

Owen Allen

Weather:

-14°C Light snow -15°C wind Nock 15 km/h

Current activities on site:

Semi-trucks coming from Atkasuk with contaminated soil

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes/No

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	X			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	N/A			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	N/A			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	X			
	Pond level	N/A			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

5 April / 2023

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

April 12/2023

Time:

3:30 pm

Inspector:

Owen Allen

Weather:

-19°C overcast + L. snow wind w/ KWH FL

Current activities on site:

Scrub Trucks coming from Arklavik w/ contaminated soil

Water in Cell?

N/A

Freeboard in ditch

Soil on Pad?

Yes Pilled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
Signage visible/in good condition	X			
Spill Kit				
On site	X			
Lid secured	X			
Contents checked	X			
Storage Shed				
Locked	X			
PPE available	N/A			
Trash pump in containment	N/A			
Pump fuel in containment	N/A			
Soil amendments in containment	X			
SDS available	N/A			
Sample kit contents checked	N/A			
Wildlife				
Observed on site (identify type)	N/A			
Damage to facility	N/A			
Birds on or near pond	N/A			
Bears in or near facility	N/A			
Facility Grounds				
Evidence of spills/leaks/staining	N/A			
Rutting	N/A			
Ice	N/A			
Evidence of soil tracking	N/A			
Soil Pad				
Berm stability	X			
Liner visible	X			
Road stability	X			
Drainage system working	X			
Dust control	N/A			
Soil piles in good condition	X			
Water tanks in good condition	X			
Water Retention Pond				
Erosion	N/A			
Liner visible	X			
Filter cloth on pump intake	N/A			
Tarp intact & secure	X			
Pond level	N/A			
WTP				
Flow meter working	N/A			
System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

12 April/2023

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

19 April 2023

Time:

3:30pm

Inspector:

Owen Allen

Weather:

-8°C Show NW 6km/hr FC-12

Current activities on site:

NWI-Semi Trucks coming in from Akkuvik w/Contaminated Soil

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes filled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
Signage visible/in good condition	X			
Spill Kit				
On site	X			
Lid secured	X			
Contents checked	X			
Storage Shed				
Locked	X			
PPE available	N/A			
Trash pump in containment	N/A			
Pump fuel in containment	N/A			
Soil amendments in containment	X			
SDS available	N/A			
Sample kit contents checked	N/A			
Wildlife				
Observed on site (Identify type)	N/A			
Damage to facility	N/A			
Birds on or near pond	N/A			
Bears in or near facility	N/A			
Facility Grounds				
Evidence of spills/leaks/staining	N/A			
Rutting	N/A			
Ice	N/A			
Evidence of soil tracking	N/A			
Soil Pad				
Berm stability	X			
Liner visible	X			
Road stability	X			
Drainage system working	X			
Dust control	N/A			
Soil piles in good condition	X			
Water tanks in good condition	X			
Water Retention Pond				
Erosion	N/A			
Liner visible	X			
Filter cloth on pump intake	N/A			
Tarp intact & secure	Y			
Pond level	N/A			
WTP				
Flow meter working	N/A			
System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

19 April 2023

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

April 26/2023

Time:

3:30 PM

Inspector:

Jwenallen

Weather:

-4°C M(oudy)

Current activities on site:

N/A

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes filled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	x			
	Signage visible/in good condition	x			
Spill Kit	On site	x			
	Lid secured	x			
	Contents checked	x			
Storage Shed	Locked	x			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	x			
	SDS' available	N/A			
	Sample kit contents checked	x			
Wildlife	Observed on site (identify type)	N/A			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	x			
	Liner visible	x			
	Road stability	x			
	Drainage system working	x			
	Dust control	N/A			
	Soil piles in good condition	x			
	Water tanks in good condition	x			
Water Retention Pond	Erosion	N/A			
	Liner visible	x			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	x			
	Pond level	N/A			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

26 April 2023

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

May 3 / 2023

Time:

3:30 PM

Inspector:

Jwen Allen

Weather:

-3°C Cloudy wNW 12K/h FL

Current activities on site:

N/A

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes Pilled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
Signage visible/in good condition	X			
Spill Kit				
On site	X			
Lid secured	X			
Contents checked	X			
Storage Shed				
Locked	X			
PPE available	N/A			
Trash pump in containment	N/A			
Pump fuel in containment	N/A			
Soil amendments in containment	X			
SDS' available	N/A			
Sample kit contents checked	X			
Wildlife				
Observed on site (identify type)	N/A			
Damage to facility	N/A			
Birds on or near pond	N/A			
Bears in or near facility	N/A			
Facility Grounds				
Evidence of spills/leaks/staining	N/A			
Rutting	N/A			
Ice	N/A			
Evidence of soil tracking	N/A			
Soil Pad				
Berm stability	X			
Liner visible	X			
Road stability	X			
Drainage system working	X			
Dust control	N/A			
Soil piles in good condition	X			
Water tanks in good condition	X			
Water Retention Pond				
Erosion	N/A			
Liner visible	X			
Filter cloth on pump intake	N/A			
Tarp intact & secure	X			
Pond level	N/A			
WTP				
Flow meter working	N/A			
System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up

Office Back-up: Date (DD/MM/YY) Initial

3 May / 2023

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

May 10/2023

Time:

3:30 PM

Inspector:

DWEN ALLEN

Weather:

9°C Cloudy SE 9 km/hr

Current activities on site:

MW1 - Excavator moving contaminated soil in container

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

YES filled up

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
Signage visible/in good condition	X			
Spill Kit				
On site	X			
Lid secured	X			
Contents checked	X			
Storage Shed				
Locked	X			
PPE available	N/A			
Trash pump in containment	N/A			
Pump fuel in containment	N/A			
Soil amendments in containment	X			
SDS' available	N/A			
Sample kit contents checked	X			
Wildlife				
Observed on site (identify type)	N/A			
Damage to facility	N/A			
Birds on or near pond	N/A			
Bears in or near facility	N/A			
Facility Grounds				
Evidence of spills/leaks/staining	N/A			
Rutting	N/A			
Ice	N/A			
Evidence of soil tracking	N/A			
Soil Pad				
Berm stability	X			
Liner visible	X			
Road stability	X			
Drainage system working	X			
Dust control	N/A			
Soil piles in good condition	X			
Water tanks in good condition	X			
Water Retention Pond				
Erosion	N/A			
Liner visible	X			
Filter cloth on pump intake	N/A			
Tarp intact & secure	X			
Pond level	N/A			
WTP				
Flow meter working	N/A			
System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

10 May /2023

KBL Environmental LTD.

Weekly Inspection Checklist

Iqovik Soil Treatment Facility

Date (MM/DD/YY):

May 17 / 2023

Time:

3:30 PM

Inspector:

DWEN Allen

Weather:

7°C Cloudy SW 6 km/hr

Current activities on site:

N/A

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes Pilled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	X			
	SDS' available	N/A			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	N/A			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	N/A			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	X			
	Pond level	N/A			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

17 May / 2023

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

May 24/2023

Time:

3:30 PM

Inspector:

Owen Allen

Weather:

3°C SNOW N13KM/h

Current activities on site:

N/A

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes piled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
Signage visible/in good condition	X			
Spill Kit				
On site	X			
Lid secured	X			
Contents checked	X			
Storage Shed				
Locked	X			
PPE available	N/A			
Trash pump in containment	N/A			
Pump fuel in containment	N/A			
Soil amendments in containment	X			
SDS available	N/A			
Sample kit contents checked	X			
Wildlife				
Observed on site (identify type)	N/A			
Damage to facility	N/A			
Birds on or near pond	N/A			
Bears in or near facility	X			
Facility Grounds				
Evidence of spills/leaks/staining	N/A			
Rutting	N/A			
Ice	N/A			
Evidence of soil tracking	N/A			
Soil Pad				
Berm stability	X			
Liner visible	X			
Road stability	X			
Drainage system working	X			
Dust control	N/A			
Soil piles in good condition	X			
Water tanks in good condition	X			
Water Retention Pond				
Erosion	N/A			
Liner visible	X			
Filter cloth on pump intake	N/A			
Tarp intact & secure	X			
Pond level	X			
WTP				
Flow meter working	N/A			
System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

24 May/2023

KBL Environmental LTD.

Weekly Inspection Checklist

Date (MM/DD/YY):

Inspector:

Current activities on site:

May 31st Inuvik Soil Treatment Facility

~~June 1st~~ 1/2023

Time:

Weather:

3:30 PM

4°C MCloudy NW 13 Km/hr

Water in Cell?

Soil on Pad?

Treated water tank in use?

Review Maintenance Log (Y/N)

yes - static

yes - Pilled

NO

Freeboard in ditch

Freeboard in Pond

If yes, fill out page 2 (x)

of TW tanks

Outstanding work order (Y/N)

N/A

yes

.

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	X			
	SDS available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	N/A			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	N/A			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

1st June /2023

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

June 6/2023

Time:

3:30 PM

Inspector:

DWen Allen

Weather:

20°C Pcloudy NE 10km/h

Current activities on site:

Yes Gravel in solid waste site / NWI

Turning over Contaminated soil

Water in Cell?

Yes - static

Freeboard in ditch

N/A

Soil on Pad?

Yes - NWI Turning over

Freeboard in Pond

Yes

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
Signage visible/in good condition	X			
Spill Kit				
On site	X			
Lid secured	X			
Contents checked	X			
Storage Shed				
Locked	X			
PPE available	N/A			
Trash pump in containment	N/A			
Pump fuel in containment	N/A			
Soil amendments in containment	X			
SDS available	N/A			
Sample kit contents checked	N/A			
Wildlife				
Observed on site (Identify type)	X			
Damage to facility	N/A			
Birds on or near pond	N/A			
Bears in or near facility	X			
Facility Grounds				
Evidence of spills/leaks/staining	N/A			
Rutting	N/A			
Ice	N/A			
Evidence of soil tracking	N/A			
Soil Pad				
Berm stability	X			
Liner visible	X			
Road stability	X			
Drainage system working	X			
Dust control	N/A			
Soil piles in good condition	X			
Water tanks in good condition	X			
Water Retention Pond				
Erosion	N/A			
Liner visible	X			
Filter cloth on pump intake	N/A			
Tarp intact & secure	X			
Pond level	X			
WTP				
Flow meter working	N/A			
System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

6 June/2023

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Aug. 22, 2023

Time:

10:00 AM

Inspector:

Jesse Harder

Weather:

22°C smoken

Current activities on site:

none

Water in Cell?

No

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

NO

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

22 Aug. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Aug 14, 2023

Time:

3:00 pm

Inspector:

Jesse Harder

Weather:

24°C Smokey

Current activities on site:

None

Water in Cell?

no

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

no

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS* available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

14 Aug. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Aug. 8, 2023

Time:

11:00 AM

Inspector:

Jesse Harder

Weather:

25° & smoky

Current activities on site:

none

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
Signage visible/in good condition	X			
Spill Kit				
On site	X			
Lid secured	X			
Contents checked	X			
Storage Shed				
Locked	X			
PPE available	N/A			
Trash pump in containment	N/A			
Pump fuel in containment	N/A			
Soil amendments in containment	X			
SDS available	N/A			
Sample kit contents checked	N/A			
Wildlife				
Observed on site (identify type)	X			
Damage to facility	N/A			
Birds on or near pond	X			
Bears in or near facility	X			
Facility Grounds				
Evidence of spills/leaks/staining	N/A			
Rutting	N/A			
Ice	N/A			
Evidence of soil tracking	N/A			
Soil Pad				
Berm stability	X			
Liner visible	X			
Road stability	X			
Drainage system working	X			
Dust control	X			
Soil piles in good condition	X			
Water tanks in good condition	X			
Water Retention Pond				
Erosion	N/A			
Liner visible	X			
Filter cloth on pump intake	X			
Tarp intact & secure	X			
Pond level	X			
WTP				
Flow meter working	N/A			
System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

8 Aug. 2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Aug 1, 2023

Time:

9:30 AM

Inspector:

Jesse Harder

Weather:

+21°C smokey

Current activities on site:

none

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

yes

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
Signage visible/in good condition	X			
Spill Kit				
On site	X			
Lid secured	X			
Contents checked	X			
Storage Shed				
Locked	X			
PPE available	N/A			
Trash pump in containment	X			
Pump fuel in containment	X			
Soil amendments in containment	X			
SDS available	N/A			
Sample kit contents checked	N/A			
Wildlife				
Observed on site (identify type)	X			
Damage to facility	N/A			
Birds on or near pond	X			
Bears in or near facility	X			
Facility Grounds				
Evidence of spills/leaks/staining	N/A			
Rutting	N/A			
Ice	N/A			
Evidence of soil tracking	N/A			
Soil Pad				
Berm stability	X			
Liner visible	X			
Road stability	X			
Drainage system working	X			
Dust control	X			
Soil piles in good condition	X			
Water tanks in good condition	X			
Water Retention Pond				
Erosion	N/A			
Liner visible	X			
Filter cloth on pump intake	X			
Tarp intact & secure	X			
Pond level	X			
WTP				
Flow meter working	N/A			
System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

1 Aug. 2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

July 25, 2023

Time:

10:30 AM

Inspector:

Jesse Harder

Weather:

+20 smoky

Current activities on site:

None

Water in Cell?

no

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

yes

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

2

Review Maintenance Log (Y/N)

of TW tanks

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	N/A			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	X			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

25 July 2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

July 17, 2023

Time:

1:56 pm

Inspector:

Jesse Harder

Weather:

+24 Clear

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	N/A			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

17 July 2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

July 11, 2023

Time:

12:30pm

Inspector:

Jesse Harder

Weather:

+19 Sunny

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	x			
	Signage visible/in good condition	x			
Spill Kit	On site	x			
	Lid secured	x			
	Contents checked	x			
Storage Shed	Locked	x			
	PPE available	N/A			
	Trash pump in containment	x			
	Pump fuel in containment	N/A			
	Soil amendments in containment	x			
	SDS* available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	x			
	Damage to facility	N/A			
	Birds on or near pond	x			
	Bears in or near facility	x			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	x			
	Liner visible	x			
	Road stability	x			
	Drainage system working	x			
	Dust control	x			
	Soil piles in good condition	x			
	Water tanks in good condition	x			
Water Retention Pond	Erosion	N/A			
	Liner visible	x			
	Filter cloth on pump intake	x			
	Tarp intact & secure	x			
	Pond level	x			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

11 July 2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

July 3, 2023

Time:

4:15pm

Inspector:

Jesse Harder

Weather:

Cloudy + 22

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	N/A			
	SDS* available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (Identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

July 3, 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

June 26, 2023

Time:

2:00 PM

Inspector:

Owen Allen

Weather:

+23°C

Current activities on site:

N/A

Water in Cell?

NO

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

yes

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	X			
	SDS available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

26 June 2023 OA

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

June 20 2023

Time:

1:30 pm

Inspector:

Owen Allen

Weather:

26°C Windy

Current activities on site:

N/A

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	X			
	SDS available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

20 June 2023 OA

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

June 12, 2023

Time:

3:00 pm

Inspector:

Jesse Harder

Weather:

+22° Sunny

Current activities on site:

~~None~~ N/A

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

Yes Piled

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	X			
	SDS* available	X			
	Sample kit contents checked	X			
Wildlife	Observed on site (identify type)	N/A			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	Obs X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	X			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

June 12, 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Dec. 4, 2023

Time:

5:30 pm

Inspector:

Jesse Harder

Weather:

- 17 snowing

Current activities on site:

NO

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

N/A

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	N/A			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (Identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	N/A			
	Dust control	N/A			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

4. Dec. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Nov. 28, 2023

Time:

3:00pm

Inspector:

Jesse Harder

Weather:

-23°C

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

N/A

Freeboard in Pond

N/A

Treated water tank in use?

NO

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	N/A			
	SDS* available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (Identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	N/A			
	Dust control	N/A			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

28, Nov. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

NOV. 20. 2023

Time:

12:10 pm

Inspector:

Jesse Harder

Weather:

-20°C

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	N/A			
	SDS* available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	N/A			
	Dust control	N/A			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	N/A			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

20.Nov. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

NOV. 13, 2023

Time:

3:25 pm

Inspector:

Jesse Harder

Weather:

-17° windy

Current activities on site:

NONE

Water in Cell?

NO

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

NO

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	N/A			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	N/A			
	Dust control	N/A			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

13 NOV. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Oct. 30, 2023

Time:

2:30 pm

Inspector:

Jesse Harder

Weather:

-4°C Snowing

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

NO

Soil on Pad?

N/A

Freeboard in Pond

NO

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	N/A			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	N/A			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

30.Oct.2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Oct. 23, 2023

Time:

9:10

Inspector:

Jesse Harder

Weather:

-9 clear

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

NO

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	N/A			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

23 Oct. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Oct. 10, 2023

Time:

10:20 AM

Inspector:

Jesse Harder

Weather:

-4°C

Current activities on site:

None

Water in Cell?

NO

Freeboard in ditch

NO

Soil on Pad?

yes

Freeboard in Pond

NO

Treated water tank in use?

no

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	N/A			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

10 Oct. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Nov. 6, 2023

Time:

8:30 AM

Inspector:

Jesse Harder

Weather:

-12° snowing

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

N/A

Freeboard in Pond

N/A

Treated water tank in use?

NO

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	N/A			
	SDS available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

6, Nov. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Oct. 3 2023

Time:

2:15 pm

Inspector:

Jesse Harder

Weather:

2: cloudy

Current activities on site:

None

Water in Cell?

yes

Freeboard in ditch

NO

Soil on Pad?

yes

Freeboard in Pond

NO

Treated water tank in use?

NO

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	N/A			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

3. October 2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Sept. 25, 2023

Time:

4:00 pm

Inspector:

Jesse Harder

Weather:

7°C Raining

Current activities on site:

None

Water in Cell?

yes

Freeboard in ditch

No

Soil on Pad?

yes

Freeboard in Pond

No

Treated water tank in use?

No

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	N/A			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

25 Sept. 2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Sept. 18, 2023

Time:

1:00 pm

Inspector:

Jesse Harder

Weather:

17°C ~~Clear~~ Cloudy

Current activities on site:

None

Water in Cell?

NO

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

no

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
WTP	Pond level	X			
	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

18 Sept. 2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Sept. 11, 2023

Time:

10:00 AM

Inspector:

Jesse Harder

Weather:

18 Raining

Current activities on site:

None

Water in Cell?

No

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

no

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS* available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

11 Sept. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Inspector:

Current activities on site:

Sept 5, 2023

Jesse Harder

None

Time:

Weather:

10:15 AM

19°C Smokey

Water in Cell?

Soil on Pad?

Treated water tank in use?

Review Maintenance Log (Y/N)

No

Yes

No

Freeboard in ditch

Freeboard in Pond

If yes, fill out page 2 (x)

of TW tanks

Outstanding work order (Y/N)

N/A

N/A

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS* available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

5 Sept. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Aug. 28. 2023

Time:

9:15 AM

Inspector:

Jesse Harder

Weather:

20°C 3m0 Key

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	X			
	Pump fuel in containment	X			
	Soil amendments in containment	X			
	SDS* available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
	Bears in or near facility	X			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	N/A			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	X			
	Dust control	X			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

28 Aug. 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Dec 12, 2023

Time:

9:00 AM

Inspector:

Jesse Harder

Weather:

-23°C

Current activities on site:

NO

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

N/A

Freeboard in Pond

N/A

Treated water tank in use?

NO

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	N/A			
	SDS* available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (Identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	X			
Facility Grounds	Bears in or near facility	N/A			
	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
Soil Pad	Evidence of soil tracking	N/A			
	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	N/A			
	Dust control	N/A			
	Soil piles in good condition	X			
Water Retention Pond	Water tanks in good condition	X			
	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	X			
WTP	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

12 Dec 2023 JH

KBL Environmental LTD.

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Dec. 18, 2023

Time:

6:00 pm

Inspector:

Jesse Harder

Weather:

- 22° Cloudy

Current activities on site:

NO

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

N/A

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	X			
	Signage visible/in good condition	X			
Spill Kit	On site	X			
	Lid secured	X			
	Contents checked	X			
Storage Shed	Locked	X			
	PPE available	N/A			
	Trash pump in containment	N/A			
	Pump fuel in containment	N/A			
	Soil amendments in containment	N/A			
	SDS' available	N/A			
	Sample kit contents checked	N/A			
Wildlife	Observed on site (identify type)	X			
	Damage to facility	N/A			
	Birds on or near pond	N/A			
	Bears in or near facility	N/A			
Facility Grounds	Evidence of spills/leaks/staining	N/A			
	Rutting	N/A			
	Ice	X			
	Evidence of soil tracking	N/A			
Soil Pad	Berm stability	X			
	Liner visible	X			
	Road stability	X			
	Drainage system working	N/A			
	Dust control	N/A			
	Soil piles in good condition	X			
	Water tanks in good condition	X			
Water Retention Pond	Erosion	N/A			
	Liner visible	X			
	Filter cloth on pump intake	N/A			
	Tarp intact & secure	X			
	Pond level	X			
WTP	Flow meter working	N/A			
	System function	N/A			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

18. Dec. 2023 JH

Weekly Inspection Checklist

Inuvik Soil Treatment Facility

Date (MM/DD/YY):

Dec. 27 2023

Time:

1:30 pm

Inspector:

Jesse Harder

Weather:

-29°C

Current activities on site:

None

Water in Cell?

N/A

Freeboard in ditch

N/A

Soil on Pad?

yes

Freeboard in Pond

N/A

Treated water tank in use?

N/A

If yes, fill out page 2 (x)

Review Maintenance Log (Y/N)

of TW tanks

2

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	<u>X</u>			
	Signage visible/in good condition	<u>X</u>			
Spill Kit	On site	<u>X</u>			
	Lid secured	<u>X</u>			
	Contents checked	<u>X</u>			
Storage Shed	Locked	<u>X</u>			
	PPE available	<u>N/A</u>			
	Trash pump in containment	<u>N/A</u>			
	Pump fuel in containment	<u>N/A</u>			
	Soil amendments in containment	<u>N/A</u>			
	SDS' available	<u>N/A</u>			
	Sample kit contents checked	<u>N/A</u>			
Wildlife	Observed on site (identify type)	<u>X</u>			
	Damage to facility	<u>N/A</u>			
	Birds on or near pond	<u>X</u>			
	Bears in or near facility	<u>N/A</u>			
Facility Grounds	Evidence of spills/leaks/staining	<u>N/A</u>			
	Rutting	<u>N/A</u>			
	Ice	<u>X</u>			
	Evidence of soil tracking	<u>N/A</u>			
Soil Pad	Berm stability	<u>X</u>			
	Liner visible	<u>N/A</u>			
	Road stability	<u>X</u>			
	Drainage system working	<u>N/A</u>			
	Dust control	<u>N/A</u>			
	Soil piles in good condition	<u>X</u>			
	Water tanks in good condition	<u>X</u>			
Water Retention Pond	Erosion	<u>X</u>			
	Liner visible	<u>X</u>			
	Filter cloth on pump intake	<u>N/A</u>			
	Tarp intact & secure	<u>N/A</u>			
	Pond level	<u>X</u>			
WTP	Flow meter working	<u>N/A</u>			
	System function	<u>N/A</u>			

*placing an X in a shaded box requires entry into Maintenance Log and follow-up.

Office Back-up: Date (DD/MM/YY) Initial

27 Dec. 2023