

## CERTIFICATE OF ANALYSIS

|                         |   |                         |  |
|-------------------------|---|-------------------------|--|
| Work Order              | : VA23C1067                                 | Page                    | : 1 of 6   |
| Client                  | : Northwest Research and Monitoring Ltd.    | Laboratory              | : ALS Environmental - Vancouver                      |
| Contact                 | : Laura Guillon                             | Account Manager         | : Sneha Sansare                                      |
| Address                 | : PO Box 4357<br>Smithers BC Canada V0J 2N0 | Address                 | : 8081 Lougheed Highway<br>Burnaby BC Canada V5A 1W9 |
| Telephone               | : ----                                      | Telephone               | : +1 604 253 4188                                    |
| Project                 | : MWMT 2023                                 | Date Samples Received   | : 07-Sep-2023 11:30                                  |
| PO                      | : ----                                      | Date Analysis Commenced | : 08-Sep-2023  |
| C-O-C number            | : 20-1068889                                | Issue Date              | : 15-Sep-2023 15:44                                  |
| Sampler                 | : ----                                      |                         |  |
| Site                    | : ----                                      |                         |  |
| Quote number            | : Q72918                                    |                         |  |
| No. of samples received | : 5   |                         |  |
| No. of samples analysed | : 5   |                         |  |

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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                     |
|-------------------|--|---|
| Angelo Salandanan | Lab Assistant                              | Metals, Burnaby, British Columbia         |
| Kate Dimitrova    | Supervisor - Inorganic                     | Inorganics, Burnaby, British Columbia     |
| Kim Jensen        | Department Manager - Metals                | Metals, Burnaby, British Columbia         |
| Miles Gropen      | Department Manager - Inorganics            | Inorganics, Burnaby, British Columbia     |
| Tracy Harley      | Supervisor - Water Quality Instrumentation | Inorganics, Burnaby, British Columbia     |
| Virginia Smith    | Account Manager Assistant                  | Administration, 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                   |
|----------|-------------------------------|
| -        | no units                      |
| %        | percent                       |
| °C       | degrees celsius               |
| µS/cm    | microsiemens per centimetre   |
| mg/L     | milligrams per litre          |
| NTU      | nephelometric turbidity units |
| 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  |
|-----------|--|
| HTP       | Sample preparation or preservation hold time was exceeded. |
| RRV       | Reported result verified by repeat analysis.               |
| SP        | Sample was preserved at the laboratory.                    |



## Analytical Results

| Sub-Matrix: Water                                  |            |                   |         |          | Client sample ID     |                      |                      |                       |                            |
|--|------------|-------------------|---------|----------|----------------------|----------------------|----------------------|-----------------------|----------------------------|
| (Matrix: Water)                                    |            |                   |         |          | Cutthroat Creek      | Nanika River         | McBride Creek        | Field Blank           | Travel Blank               |
| Client sampling date / time                        |            |                   |         |          | 05-Sep-2023<br>12:30 | 05-Sep-2023<br>13:00 | 05-Sep-2023<br>13:45 | 05-Sep-2023<br>13:00  | 05-Sep-2023<br>00:00       |
| Analyte  | CAS Number | Method/Lab        | LOR     | Unit     | VA23C1067-001        | VA23C1067-002        | VA23C1067-003        | VA23C1067-004         | VA23C1067-005              |
|  |            |                   |         |          | Result               | Result               | Result               | Result                | Result                     |
| <b>Field Tests</b>                                 |            |                   |         |          |                      |                      |                      |                       |                            |
| Conductivity, field                                | ----       | EF001/VA          | 0.10    | µS/cm    | 56.100               | 54.100               | 47.500               | ----                  | ----                       |
| Oxygen, dissolved saturation %, field              | ----       | EF001/VA          | 0.1     | %        | 53                   | 82                   | 77                   | ----                  | ----                       |
| Oxygen, dissolved, field                           | ----       | EF001/VA          | 0.01    | mg/L     | 5.6                  | 8.5                  | 8.6                  | ----                  | ----                       |
| pH, field  | ----       | EF001/VA          | 0.10    | pH units | 7.52                 | 7.92                 | 7.85                 | ----                  | ----                       |
| Temperature, field                                 | ----       | EF001/VA          | 0.10    | °C       | 11.9                 | 13.8                 | 10.9                 | ----                  | ----                       |
| <b>Physical Tests</b>                              |            |                   |         |          |                      |                      |                      |                       |                            |
| Alkalinity, total (as CaCO <sub>3</sub> )          | ----       | E290/VA           | 1.0     | mg/L     | 24.5                 | 15.8                 | 22.4                 | <1.0                  | <1.0                       |
| Hardness (as CaCO <sub>3</sub> ), dissolved        | ----       | EC100/VA          | 0.50    | mg/L     | 23.8                 | 21.2                 | 18.1                 | <0.50                 | ----                       |
| Hardness (as CaCO <sub>3</sub> ), from total Ca/Mg | ----       | EC100A/VA         | 0.50    | mg/L     | ----                 | ----                 | ----                 | ----                  | <0.50                      |
| Solids, total dissolved [TDS]                      | ----       | E162/VA           | 10      | mg/L     | 39                   | 29                   | 40                   | <10                   | <10                        |
| Solids, total suspended [TSS]                      | ----       | E160/VA           | 3.0     | mg/L     | <3.0                 | <3.0                 | <3.0                 | <3.0                  | <3.0                       |
| Turbidity  | ----       | E121/VA           | 0.10    | NTU      | 2.42                 | 0.44                 | 0.39                 | <0.10                 | <0.10                      |
| <b>Anions and Nutrients</b>                        |            |                   |         |          |                      |                      |                      |                       |                            |
| Ammonia, total (as N)                              | 7664-41-7  | E298/VA           | 0.0050  | mg/L     | <0.0050              | <0.0050              | <0.0050              | <0.0050               | <0.0050                    |
| Kjeldahl nitrogen, total [TKN]                     | ----       | EC318/VA          | 0.050   | mg/L     | 0.180                | <0.050               | 0.209                | <0.050                | <0.050                     |
| Nitrate (as N)                                     | 14797-55-8 | E235.NO3-L/V<br>A | 0.0050  | mg/L     | 0.0128               | 0.0060               | <0.0050              | <0.0050               | <0.0050                    |
| Nitrate + Nitrite (as N)                           | ----       | EC235.N+N/V<br>A  | 0.0050  | mg/L     | 0.0128               | 0.0060               | <0.0051              | <0.0051               | <0.0051                    |
| Nitrite (as N)                                     | 14797-65-0 | E235.NO2-L/V<br>A | 0.0010  | mg/L     | <0.0010              | <0.0010              | <0.0010              | <0.0010               | <0.0010                    |
| Nitrogen, total                                    | 7727-37-9  | E366/VA           | 0.030   | mg/L     | 0.193                | <0.030               | 0.209                | <0.030                | <0.030                     |
| Nitrogen, total dissolved                          | ----       | E368/VA           | 0.030   | mg/L     | 0.210                | <0.030               | 0.230                | <0.030                | ----                       |
| Phosphorus, total                                  | 7723-14-0  | E372-U/VA         | 0.0020  | mg/L     | 0.0151               | 0.0029               | 0.0089               | <0.0020               | <0.0020 <sup>HTP, SP</sup> |
| <b>Organic / Inorganic Carbon</b>                  |            |                   |         |          |                      |                      |                      |                       |                            |
| Carbon, dissolved organic [DOC]                    | ----       | E358-L/VA         | 0.50    | mg/L     | 4.64                 | 1.26                 | 9.40                 | <0.50                 | ----                       |
| <b>Total Metals</b>                                |            |                   |         |          |                      |                      |                      |                       |                            |
| Aluminum, total                                    | 7429-90-5  | E420/VA           | 0.0030  | mg/L     | 0.0755               | 0.0492               | 0.0703               | 0.0033 <sup>RRV</sup> | <0.0030                    |
| Antimony, total                                    | 7440-36-0  | E420/VA           | 0.00010 | mg/L     | <0.00010             | <0.00010             | <0.00010             | <0.00010              | <0.00010                   |
| Arsenic, total                                     | 7440-38-2  | E420/VA           | 0.00010 | mg/L     | 0.00056              | 0.00019              | 0.00042              | <0.00010              | <0.00010                   |



Analytical Results

| Sub-Matrix: Water           |            |            |           |      | Client sample ID     |                      |                      |                      |                      |
|-----------------------------|------------|------------|-----------|------|----------------------|----------------------|----------------------|----------------------|----------------------|
| (Matrix: Water)             |            |            |           |      | Cutthroat Creek      | Nanika River         | McBride Creek        | Field Blank          | Travel Blank         |
| Client sampling date / time |            |            |           |      | 05-Sep-2023<br>12:30 | 05-Sep-2023<br>13:00 | 05-Sep-2023<br>13:45 | 05-Sep-2023<br>13:00 | 05-Sep-2023<br>00:00 |
| Analyte                     | CAS Number | Method/Lab | LOR       | Unit | VA23C1067-001        | VA23C1067-002        | VA23C1067-003        | VA23C1067-004        | VA23C1067-005        |
|                             |            |            |           |      | Result               | Result               | Result               | Result               | Result               |
| Total Metals                |            |            |           |      |                      |                      |                      |                      |                      |
| Barium, total               | 7440-39-3  | E420/VA    | 0.00010   | mg/L | 0.0168               | 0.0135               | 0.0130               | <0.00010             | <0.00010             |
| Beryllium, total            | 7440-41-7  | E420/VA    | 0.000020  | mg/L | <0.000020            | <0.000020            | <0.000020            | <0.000020            | <0.000020            |
| Bismuth, total              | 7440-69-9  | E420/VA    | 0.000050  | mg/L | <0.000050            | <0.000050            | <0.000050            | <0.000050            | <0.000050            |
| Boron, total                | 7440-42-8  | E420/VA    | 0.010     | mg/L | <0.010               | <0.010               | <0.010               | <0.010               | <0.010               |
| Cadmium, total              | 7440-43-9  | E420/VA    | 0.0000050 | mg/L | <0.0000050           | 0.0000165            | 0.0000061            | <0.0000050           | <0.0000050           |
| Calcium, total              | 7440-70-2  | E420/VA    | 0.050     | mg/L | 8.50                 | 7.33                 | 5.54                 | <0.050               | <0.050               |
| Cesium, total               | 7440-46-2  | E420/VA    | 0.000010  | mg/L | <0.000010            | 0.000010             | <0.000010            | <0.000010            | <0.000010            |
| Chromium, total             | 7440-47-3  | E420/VA    | 0.00050   | mg/L | <0.00050             | <0.00050             | <0.00050             | <0.00050             | <0.00050             |
| Cobalt, total               | 7440-48-4  | E420/VA    | 0.00010   | mg/L | 0.00033              | <0.00010             | <0.00010             | <0.00010             | <0.00010             |
| Copper, total               | 7440-50-8  | E420/VA    | 0.00050   | mg/L | <0.00050             | 0.00157              | 0.00060              | <0.00050             | <0.00050             |
| Iron, total                 | 7439-89-6  | E420/VA    | 0.010     | mg/L | 1.67                 | 0.053                | 0.341                | <0.010               | <0.010               |
| Lead, total                 | 7439-92-1  | E420/VA    | 0.000050  | mg/L | 0.000122             | <0.000050            | <0.000050            | <0.000050            | <0.000050            |
| Lithium, total              | 7439-93-2  | E420/VA    | 0.0010    | mg/L | <0.0010              | <0.0010              | <0.0010              | <0.0010              | <0.0010              |
| Magnesium, total            | 7439-95-4  | E420/VA    | 0.0050    | mg/L | 0.726                | 0.683                | 1.14                 | <0.0050              | <0.0050              |
| Manganese, total            | 7439-96-5  | E420/VA    | 0.00010   | mg/L | 0.187                | 0.00425              | 0.0197               | <0.00010             | <0.00010             |
| Molybdenum, total           | 7439-98-7  | E420/VA    | 0.000050  | mg/L | 0.000116             | 0.000631             | 0.000089             | <0.000050            | <0.000050            |
| Nickel, total               | 7440-02-0  | E420/VA    | 0.00050   | mg/L | <0.00050             | <0.00050             | <0.00050             | <0.00050             | <0.00050             |
| Phosphorus, total           | 7723-14-0  | E420/VA    | 0.050     | mg/L | <0.050               | <0.050               | <0.050               | <0.050               | <0.050               |
| Potassium, total            | 7440-09-7  | E420/VA    | 0.050     | mg/L | 0.138                | 0.175                | 0.364                | <0.050               | <0.050               |
| Rubidium, total             | 7440-17-7  | E420/VA    | 0.00020   | mg/L | 0.00035              | 0.00025              | 0.00060              | <0.00020             | <0.00020             |
| Selenium, total             | 7782-49-2  | E420/VA    | 0.000050  | mg/L | <0.000050            | <0.000050            | <0.000050            | <0.000050            | <0.000050            |
| Silicon, total              | 7440-21-3  | E420/VA    | 0.10      | mg/L | 1.58                 | 1.33                 | 2.64                 | <0.10                | <0.10                |
| Silver, total               | 7440-22-4  | E420/VA    | 0.000010  | mg/L | <0.000010            | <0.000010            | <0.000010            | <0.000010            | <0.000010            |
| Sodium, total               | 7440-23-5  | E420/VA    | 0.050     | mg/L | 0.912                | 0.687                | 2.51                 | <0.050               | <0.050               |
| Strontium, total            | 7440-24-6  | E420/VA    | 0.00020   | mg/L | 0.0331               | 0.0364               | 0.0490               | <0.00020             | <0.00020             |
| Sulfur, total               | 7704-34-9  | E420/VA    | 0.50      | mg/L | 0.75                 | 2.21                 | <0.50                | <0.50                | <0.50                |
| Tellurium, total            | 13494-80-9 | E420/VA    | 0.00020   | mg/L | <0.00020             | <0.00020             | <0.00020             | <0.00020             | <0.00020             |
| Thallium, total             | 7440-28-0  | E420/VA    | 0.000010  | mg/L | <0.000010            | <0.000010            | <0.000010            | <0.000010            | <0.000010            |
| Thorium, total              | 7440-29-1  | E420/VA    | 0.00010   | mg/L | <0.00010             | <0.00010             | <0.00010             | <0.00010             | <0.00010             |
| Tin, total                  | 7440-31-5  | E420/VA    | 0.00010   | mg/L | <0.00010             | <0.00010             | <0.00010             | <0.00010             | <0.00010             |



Analytical Results

| Sub-Matrix: Water           |            |            |           |      | Client sample ID     | Cutthroat Creek      | Nanika River         | McBride Creek        | Field Blank          | Travel Blank |
|-----------------------------|------------|------------|-----------|------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------|
| (Matrix: Water)             |            |            |           |      |                      |                      |                      |                      |                      |              |
| Client sampling date / time |            |            |           |      | 05-Sep-2023<br>12:30 | 05-Sep-2023<br>13:00 | 05-Sep-2023<br>13:45 | 05-Sep-2023<br>13:00 | 05-Sep-2023<br>00:00 |              |
| Analyte                     | CAS Number | Method/Lab | LOR       | Unit | VA23C1067-001        | VA23C1067-002        | VA23C1067-003        | VA23C1067-004        | VA23C1067-005        |              |
|                             |            |            |           |      | Result               | Result               | Result               | Result               | Result               |              |
| Total Metals                |            |            |           |      |                      |                      |                      |                      |                      |              |
| Titanium, total             | 7440-32-6  | E420/VA    | 0.00030   | mg/L | 0.00117              | 0.00063              | 0.00072              | <0.00030             | <0.00030             |              |
| Tungsten, total             | 7440-33-7  | E420/VA    | 0.00010   | mg/L | <0.00010             | <0.00010             | <0.00010             | <0.00010             | <0.00010             |              |
| Uranium, total              | 7440-61-1  | E420/VA    | 0.000010  | mg/L | <0.000010            | 0.000026             | 0.000013             | <0.000010            | <0.000010            |              |
| Vanadium, total             | 7440-62-2  | E420/VA    | 0.00050   | mg/L | <0.00050             | <0.00050             | <0.00050             | <0.00050             | <0.00050             |              |
| Zinc, total                 | 7440-66-6  | E420/VA    | 0.0030    | mg/L | <0.0030              | <0.0030              | <0.0030              | <0.0030              | <0.0030              |              |
| Zirconium, total            | 7440-67-7  | E420/VA    | 0.00020   | mg/L | <0.00020             | <0.00020             | <0.00020             | <0.00020             | <0.00020             |              |
| Dissolved Metals            |            |            |           |      |                      |                      |                      |                      |                      |              |
| Aluminum, dissolved         | 7429-90-5  | E421/VA    | 0.0010    | mg/L | 0.0253               | 0.0148               | 0.0595               | <0.0010              | ----                 |              |
| Antimony, dissolved         | 7440-36-0  | E421/VA    | 0.00010   | mg/L | <0.00010             | <0.00010             | <0.00010             | <0.00010             | ----                 |              |
| Arsenic, dissolved          | 7440-38-2  | E421/VA    | 0.00010   | mg/L | 0.00038              | 0.00015              | 0.00038              | <0.00010             | ----                 |              |
| Barium, dissolved           | 7440-39-3  | E421/VA    | 0.00010   | mg/L | 0.0144               | 0.0124               | 0.0119               | <0.00010             | ----                 |              |
| Beryllium, dissolved        | 7440-41-7  | E421/VA    | 0.000020  | mg/L | <0.000020            | <0.000020            | <0.000020            | <0.000020            | ----                 |              |
| Bismuth, dissolved          | 7440-69-9  | E421/VA    | 0.000050  | mg/L | <0.000050            | <0.000050            | <0.000050            | <0.000050            | ----                 |              |
| Boron, dissolved            | 7440-42-8  | E421/VA    | 0.010     | mg/L | <0.010               | <0.010               | <0.010               | <0.010               | ----                 |              |
| Cadmium, dissolved          | 7440-43-9  | E421/VA    | 0.0000050 | mg/L | <0.0000050           | 0.0000108            | 0.0000061            | <0.0000050           | ----                 |              |
| Calcium, dissolved          | 7440-70-2  | E421/VA    | 0.050     | mg/L | 8.37                 | 7.42                 | 5.46                 | <0.050               | ----                 |              |
| Cesium, dissolved           | 7440-46-2  | E421/VA    | 0.000010  | mg/L | <0.000010            | <0.000010            | <0.000010            | <0.000010            | ----                 |              |
| Chromium, dissolved         | 7440-47-3  | E421/VA    | 0.00050   | mg/L | <0.00050             | <0.00050             | <0.00050             | <0.00050             | ----                 |              |
| Cobalt, dissolved           | 7440-48-4  | E421/VA    | 0.00010   | mg/L | 0.00019              | <0.00010             | <0.00010             | <0.00010             | ----                 |              |
| Copper, dissolved           | 7440-50-8  | E421/VA    | 0.00020   | mg/L | 0.00022              | 0.00114              | 0.00055              | <0.00020             | ----                 |              |
| Iron, dissolved             | 7439-89-6  | E421/VA    | 0.010     | mg/L | 0.606                | 0.016                | 0.267                | <0.010               | ----                 |              |
| Lead, dissolved             | 7439-92-1  | E421/VA    | 0.000050  | mg/L | <0.000050            | <0.000050            | <0.000050            | <0.000050            | ----                 |              |
| Lithium, dissolved          | 7439-93-2  | E421/VA    | 0.0010    | mg/L | <0.0010              | <0.0010              | <0.0010              | <0.0010              | ----                 |              |
| Magnesium, dissolved        | 7439-95-4  | E421/VA    | 0.0050    | mg/L | 0.696                | 0.663                | 1.09                 | <0.0050              | ----                 |              |
| Manganese, dissolved        | 7439-96-5  | E421/VA    | 0.00010   | mg/L | 0.127                | 0.00209              | 0.0156               | <0.00010             | ----                 |              |
| Molybdenum, dissolved       | 7439-98-7  | E421/VA    | 0.000050  | mg/L | 0.000083             | 0.000616             | 0.000089             | <0.000050            | ----                 |              |
| Nickel, dissolved           | 7440-02-0  | E421/VA    | 0.00050   | mg/L | <0.00050             | <0.00050             | <0.00050             | <0.00050             | ----                 |              |
| Phosphorus, dissolved       | 7723-14-0  | E421/VA    | 0.050     | mg/L | <0.050               | <0.050               | <0.050               | <0.050               | ----                 |              |
| Potassium, dissolved        | 7440-09-7  | E421/VA    | 0.050     | mg/L | 0.125                | 0.162                | 0.359                | <0.050               | ----                 |              |
| Rubidium, dissolved         | 7440-17-7  | E421/VA    | 0.00020   | mg/L | 0.00026              | 0.00023              | 0.00053              | <0.00020             | ----                 |              |

| Sub-Matrix: Water                    |            |            |          |      | Client sample ID     | Cutthroat Creek      | Nanika River         | McBride Creek        | Field Blank          | Travel Blank |
|--------------------------------------|------------|------------|----------|------|----------------------|----------------------|----------------------|----------------------|----------------------|--------------|
| (Matrix: Water)                      |            |            |          |      |                      |                      |                      |                      |                      |              |
| Client sampling date / time          |            |            |          |      | 05-Sep-2023<br>12:30 | 05-Sep-2023<br>13:00 | 05-Sep-2023<br>13:45 | 05-Sep-2023<br>13:00 | 05-Sep-2023<br>00:00 |              |
| Analyte                              | CAS Number | Method/Lab | LOR      | Unit | VA23C1067-001        | VA23C1067-002        | VA23C1067-003        | VA23C1067-004        | VA23C1067-005        |              |
|                                      |            |            |          |      | Result               | Result               | Result               | Result               | Result               |              |
| Dissolved Metals                     |            |            |          |      |                      |                      |                      |                      |                      |              |
| Selenium, dissolved                  | 7782-49-2  | E421/VA    | 0.000050 | mg/L | <0.000050            | <0.000050            | <0.000050            | <0.000050            | ----                 |              |
| Silicon, dissolved                   | 7440-21-3  | E421/VA    | 0.050    | mg/L | 1.52                 | 1.29                 | 2.63                 | <0.050               | ----                 |              |
| Silver, dissolved                    | 7440-22-4  | E421/VA    | 0.000010 | mg/L | <0.000010            | <0.000010            | <0.000010            | <0.000010            | ----                 |              |
| Sodium, dissolved                    | 7440-23-5  | E421/VA    | 0.050    | mg/L | 0.862                | 0.644                | 2.27                 | <0.050               | ----                 |              |
| Strontium, dissolved                 | 7440-24-6  | E421/VA    | 0.00020  | mg/L | 0.0305               | 0.0335               | 0.0452               | <0.00020             | ----                 |              |
| Sulfur, dissolved                    | 7704-34-9  | E421/VA    | 0.50     | mg/L | 0.66                 | 2.34                 | <0.50                | <0.50                | ----                 |              |
| Tellurium, dissolved                 | 13494-80-9 | E421/VA    | 0.00020  | mg/L | <0.00020             | <0.00020             | <0.00020             | <0.00020             | ----                 |              |
| Thallium, dissolved                  | 7440-28-0  | E421/VA    | 0.000010 | mg/L | <0.000010            | <0.000010            | <0.000010            | <0.000010            | ----                 |              |
| Thorium, dissolved                   | 7440-29-1  | E421/VA    | 0.00010  | mg/L | <0.00010             | <0.00010             | <0.00010             | <0.00010             | ----                 |              |
| Tin, dissolved                       | 7440-31-5  | E421/VA    | 0.00010  | mg/L | <0.00010             | <0.00010             | <0.00010             | <0.00010             | ----                 |              |
| Titanium, dissolved                  | 7440-32-6  | E421/VA    | 0.00030  | mg/L | <0.00030             | <0.00030             | 0.00052              | <0.00030             | ----                 |              |
| Tungsten, dissolved                  | 7440-33-7  | E421/VA    | 0.00010  | mg/L | <0.00010             | <0.00010             | <0.00010             | <0.00010             | ----                 |              |
| Uranium, dissolved                   | 7440-61-1  | E421/VA    | 0.000010 | mg/L | <0.000010            | 0.000027             | 0.000012             | <0.000010            | ----                 |              |
| Vanadium, dissolved                  | 7440-62-2  | E421/VA    | 0.00050  | mg/L | <0.00050             | <0.00050             | <0.00050             | <0.00050             | ----                 |              |
| Zinc, dissolved                      | 7440-66-6  | E421/VA    | 0.0010   | mg/L | <0.0010              | <0.0010              | <0.0010              | <0.0010              | ----                 |              |
| Zirconium, dissolved                 | 7440-67-7  | E421/VA    | 0.00030  | mg/L | <0.00030             | <0.00030             | <0.00030             | <0.00030             | ----                 |              |
| Dissolved metals filtration location | ----       | EP421/VA   | -        | -    | Field                | Field                | Field                | Field                | ----                 |              |

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

## QUALITY CONTROL INTERPRETIVE REPORT

|                         |   |                       |   |
|-------------------------|---|-----------------------|---|
| Work Order              | : <b>VA23C1067</b>                              | Page                  | : 1 of 15   |
| Client                  | : <b>Northwest Research and Monitoring Ltd.</b> | Laboratory            | : ALS Environmental - Vancouver                                     |
| Contact                 | : Laura Guillon                                 | Account Manager       | : Sneha Sansare   |
| Address                 | : PO Box 4357<br>Smithers BC Canada V0J 2N0     | Address               | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| Telephone               | : ----  | Telephone             | : +1 604 253 4188   |
| Project                 | : MWMT 2023                                     | Date Samples Received | : 07-Sep-2023 11:30   |
| PO                      | : ----  | Issue Date            | : 15-Sep-2023 15:44   |
| C-O-C number            | : 20-1068889                                    |                       |   |
| Sampler                 | : ----  |                       |   |
| Site                    | : ----  |                       |   |
| Quote number            | : Q72918  |                       |   |
| No. of samples received | : 5   |                       |   |
| No. of samples analysed | : 5   |                       |   |

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

### Key

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

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

**DQO:** Data Quality Objective.

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

**RPD:** Relative Percent Difference.

### **Workorder Comments**

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

### **Summary of Outliers**

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

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

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

- No Reference Material (RM) Sample outliers occur.

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

- No Analysis Holding Time Outliers exist.

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

- No Quality Control Sample Frequency Outliers occur.





## 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<br>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 |      |
| Anions and Nutrients : Ammonia by Fluorescence            |            |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>Cutthroat Creek      | E298       | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 10-Sep-2023   | 28 days       | 5 days | ✓    |
| Anions and Nutrients : Ammonia by Fluorescence            |            |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>Field Blank          | E298       | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 10-Sep-2023   | 28 days       | 5 days | ✓    |
| Anions and Nutrients : Ammonia by Fluorescence            |            |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>McBride Creek        | E298       | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 10-Sep-2023   | 28 days       | 5 days | ✓    |
| Anions and Nutrients : Ammonia by Fluorescence            |            |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>Nanika River         | E298       | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 10-Sep-2023   | 28 days       | 5 days | ✓    |
| Anions and Nutrients : Ammonia by Fluorescence            |            |               |                          |               |        |      |               |               |        |      |
| Amber glass total (lab preserved)<br>Travel Blank         | E298       | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 28 days       | 1 days | ✓    |
| Anions and Nutrients : Nitrate in Water by IC (Low Level) |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Cutthroat Creek                                   | E235.NO3-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Anions and Nutrients : Nitrate in Water by IC (Low Level) |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Field Blank                                       | E235.NO3-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |



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 |      |
| Anions and Nutrients : Nitrate in Water by IC (Low Level)       |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>McBride Creek   | E235.NO3-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Anions and Nutrients : Nitrate in Water by IC (Low Level)       |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Nanika River  | E235.NO3-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Anions and Nutrients : Nitrate in Water by IC (Low Level)       |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Travel Blank  | E235.NO3-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Anions and Nutrients : Nitrite in Water by IC (Low Level)       |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Cutthroat Creek   | E235.NO2-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Anions and Nutrients : Nitrite in Water by IC (Low Level)       |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Field Blank   | E235.NO2-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Anions and Nutrients : Nitrite in Water by IC (Low Level)       |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>McBride Creek   | E235.NO2-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Anions and Nutrients : Nitrite in Water by IC (Low Level)       |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Nanika River  | E235.NO2-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Anions and Nutrients : Nitrite in Water by IC (Low Level)       |            |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Travel Blank  | E235.NO2-L | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Anions and Nutrients : Total Dissolved Nitrogen by Colourimetry |            |               |                          |               |        |      |               |               |        |      |
| Amber glass dissolved (sulfuric acid)<br>Cutthroat Creek        | E368       | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 12-Sep-2023   | 28 days       | 7 days | ✓    |



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 |      |
| Anions and Nutrients : Total Dissolved Nitrogen by Colourimetry      |        |               |                          |               |        |      |               |               |        |      |
| Amber glass dissolved (sulfuric acid)<br>Field Blank                 | E368   | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 12-Sep-2023   | 28 days       | 7 days | ✓    |
| Anions and Nutrients : Total Dissolved Nitrogen by Colourimetry      |        |               |                          |               |        |      |               |               |        |      |
| Amber glass dissolved (sulfuric acid)<br>McBride Creek               | E368   | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 12-Sep-2023   | 28 days       | 7 days | ✓    |
| Anions and Nutrients : Total Dissolved Nitrogen by Colourimetry      |        |               |                          |               |        |      |               |               |        |      |
| Amber glass dissolved (sulfuric acid)<br>Nanika River                | E368   | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 12-Sep-2023   | 28 days       | 7 days | ✓    |
| Anions and Nutrients : Total Nitrogen by Colourimetry                |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>Cutthroat Creek                 | E366   | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 14-Sep-2023   | 28 days       | 9 days | ✓    |
| Anions and Nutrients : Total Nitrogen by Colourimetry                |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>Field Blank                     | E366   | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 14-Sep-2023   | 28 days       | 9 days | ✓    |
| Anions and Nutrients : Total Nitrogen by Colourimetry                |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>McBride Creek                   | E366   | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 14-Sep-2023   | 28 days       | 9 days | ✓    |
| Anions and Nutrients : Total Nitrogen by Colourimetry                |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>Nanika River                    | E366   | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 14-Sep-2023   | 28 days       | 9 days | ✓    |
| Anions and Nutrients : Total Nitrogen by Colourimetry                |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (lab preserved)<br>Travel Blank                    | E366   | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 10-Sep-2023   | 28 days       | 2 days | ✓    |
| Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L) |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>Cutthroat Creek                 | E372-U | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 12-Sep-2023   | 28 days       | 7 days | ✓    |



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

| Analyte Group<br>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 |      |
| Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)                     |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>Field Blank   | E372-U | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 12-Sep-2023   | 28 days       | 7 days | ✓    |
| Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)                     |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>McBride Creek                                       | E372-U | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 12-Sep-2023   | 28 days       | 7 days | ✓    |
| Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)                     |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (sulfuric acid)<br>Nanika River  | E372-U | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 12-Sep-2023   | 28 days       | 7 days | ✓    |
| Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)                     |        |               |                          |               |        |      |               |               |        |      |
| Amber glass total (lab preserved)<br>Travel Blank  | E372-U | 05-Sep-2023   | 08-Sep-2023              | 3 days        | 3 days | ✓    | 11-Sep-2023   | 28 days       | 4 days | ✓    |
| Dissolved Metals : Dissolved Metals in Water by CRC ICPMS                                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - dissolved (lab preserved)<br>Cutthroat Creek                                      | E421   | 05-Sep-2023   | 08-Sep-2023              | 180 days      | 3 days | ✓    | 11-Sep-2023   | 180 days      | 6 days | ✓    |
| Dissolved Metals : Dissolved Metals in Water by CRC ICPMS                                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - dissolved (lab preserved)<br>Field Blank  | E421   | 05-Sep-2023   | 08-Sep-2023              | 180 days      | 3 days | ✓    | 11-Sep-2023   | 180 days      | 6 days | ✓    |
| Dissolved Metals : Dissolved Metals in Water by CRC ICPMS                                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - dissolved (lab preserved)<br>McBride Creek  | E421   | 05-Sep-2023   | 08-Sep-2023              | 180 days      | 3 days | ✓    | 11-Sep-2023   | 180 days      | 6 days | ✓    |
| Dissolved Metals : Dissolved Metals in Water by CRC ICPMS                                |        |               |                          |               |        |      |               |               |        |      |
| HDPE - dissolved (lab preserved)<br>Nanika River   | E421   | 05-Sep-2023   | 08-Sep-2023              | 180 days      | 3 days | ✓    | 11-Sep-2023   | 180 days      | 6 days | ✓    |
| Field Tests : Field pH,EC,Salinity,Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine |        |               |                          |               |        |      |               |               |        |      |
| HDPE - dissolved (lab preserved)<br>Cutthroat Creek                                      | EF001  | 05-Sep-2023   | ----                     | ----          | ----   |      | 11-Sep-2023   | ----          | 6 days |      |



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

| Analyte Group<br>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 |      |
| Field Tests : Field pH,EC,Salinity,Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine |        |               |                          |               |        |      |               |               |        |      |
| HDPE - dissolved (lab preserved)<br>McBride Creek  | EF001  | 05-Sep-2023   | ----                     | ----          | ----   |      | 11-Sep-2023   | ----          | 6 days |      |
| Field Tests : Field pH,EC,Salinity,Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine |        |               |                          |               |        |      |               |               |        |      |
| HDPE - dissolved (lab preserved)<br>Nanika River   | EF001  | 05-Sep-2023   | ----                     | ----          | ----   |      | 11-Sep-2023   | ----          | 6 days |      |
| Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)          |        |               |                          |               |        |      |               |               |        |      |
| Amber glass dissolved (sulfuric acid)<br>Cutthroat Creek                                 | E358-L | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 10-Sep-2023   | 28 days       | 5 days | ✓    |
| Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)          |        |               |                          |               |        |      |               |               |        |      |
| Amber glass dissolved (sulfuric acid)<br>Field Blank                                     | E358-L | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 10-Sep-2023   | 28 days       | 5 days | ✓    |
| Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)          |        |               |                          |               |        |      |               |               |        |      |
| Amber glass dissolved (sulfuric acid)<br>McBride Creek                                   | E358-L | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 10-Sep-2023   | 28 days       | 5 days | ✓    |
| Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)          |        |               |                          |               |        |      |               |               |        |      |
| Amber glass dissolved (sulfuric acid)<br>Nanika River                                    | E358-L | 05-Sep-2023   | 09-Sep-2023              | 28 days       | 4 days | ✓    | 10-Sep-2023   | 28 days       | 5 days | ✓    |
| Physical Tests : Alkalinity Species by Titration   |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Cutthroat Creek  | E290   | 05-Sep-2023   | 08-Sep-2023              | 14 days       | 3 days | ✓    | 08-Sep-2023   | 14 days       | 3 days | ✓    |
| Physical Tests : Alkalinity Species by Titration   |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Field Blank  | E290   | 05-Sep-2023   | 08-Sep-2023              | 14 days       | 3 days | ✓    | 08-Sep-2023   | 14 days       | 3 days | ✓    |
| Physical Tests : Alkalinity Species by Titration   |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>McBride Creek  | E290   | 05-Sep-2023   | 08-Sep-2023              | 14 days       | 3 days | ✓    | 08-Sep-2023   | 14 days       | 3 days | ✓    |



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 |      |
| Physical Tests : Alkalinity Species by Titration |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Nanika River                             | E290   | 05-Sep-2023   | 08-Sep-2023              | 14 days       | 3 days | ✓    | 08-Sep-2023   | 14 days       | 3 days | ✓    |
| Physical Tests : Alkalinity Species by Titration |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Travel Blank                             | E290   | 05-Sep-2023   | 08-Sep-2023              | 14 days       | 3 days | ✓    | 08-Sep-2023   | 14 days       | 3 days | ✓    |
| Physical Tests : TDS by Gravimetry               |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Cutthroat Creek                          | E162   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 6 days | ✓    |
| Physical Tests : TDS by Gravimetry               |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Field Blank                              | E162   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 6 days | ✓    |
| Physical Tests : TDS by Gravimetry               |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>McBride Creek                            | E162   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 6 days | ✓    |
| Physical Tests : TDS by Gravimetry               |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Nanika River                             | E162   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 6 days | ✓    |
| Physical Tests : TDS by Gravimetry               |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Travel Blank                             | E162   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 6 days | ✓    |
| Physical Tests : TSS by Gravimetry               |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Field Blank                              | E160   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 6 days | ✓    |
| Physical Tests : TSS by Gravimetry               |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>McBride Creek                            | E160   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 6 days | ✓    |



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

| Analyte Group<br>Container / Client Sample ID(s)  | Method | Sampling Date | Extraction / Preparation |               |        |      | Analysis      |               |        |      |
|---|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
|   |        |               | Preparation<br>Date      | Holding Times |        | Eval | Analysis Date | Holding Times |        | Eval |
|   |        |               |                          | Rec           | Actual |      |               | Rec           | Actual |      |
| Physical Tests : TSS by Gravimetry                |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Nanika River                              | E160   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 6 days | ✓    |
| Physical Tests : TSS by Gravimetry                |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Cutthroat Creek                           | E160   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 7 days | ✓    |
| Physical Tests : TSS by Gravimetry                |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Travel Blank                              | E160   | 05-Sep-2023   | ----                     | ----          | ----   |      | 12-Sep-2023   | 7 days        | 7 days | ✓    |
| Physical Tests : Turbidity by Nephelometry        |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Cutthroat Creek                           | E121   | 05-Sep-2023   | ----                     | ----          | ----   |      | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Physical Tests : Turbidity by Nephelometry        |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Field Blank                               | E121   | 05-Sep-2023   | ----                     | ----          | ----   |      | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Physical Tests : Turbidity by Nephelometry        |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>McBride Creek                             | E121   | 05-Sep-2023   | ----                     | ----          | ----   |      | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Physical Tests : Turbidity by Nephelometry        |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Nanika River                              | E121   | 05-Sep-2023   | ----                     | ----          | ----   |      | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Physical Tests : Turbidity by Nephelometry        |        |               |                          |               |        |      |               |               |        |      |
| HDPE<br>Travel Blank                              | E121   | 05-Sep-2023   | ----                     | ----          | ----   |      | 08-Sep-2023   | 3 days        | 3 days | ✓    |
| Total Metals : Total Metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Cutthroat Creek   | E420   | 05-Sep-2023   | 09-Sep-2023              | 180<br>days   | 4 days | ✓    | 12-Sep-2023   | 180<br>days   | 7 days | ✓    |



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

| Analyte Group<br>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)<br>Field Blank       | E420   | 05-Sep-2023   | 09-Sep-2023              | 180 days      | 4 days | ✓    | 12-Sep-2023   | 180 days      | 7 days | ✓    |
| Total Metals : Total Metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>McBride Creek     | E420   | 05-Sep-2023   | 09-Sep-2023              | 180 days      | 4 days | ✓    | 12-Sep-2023   | 180 days      | 7 days | ✓    |
| Total Metals : Total Metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Nanika River      | E420   | 05-Sep-2023   | 09-Sep-2023              | 180 days      | 4 days | ✓    | 12-Sep-2023   | 180 days      | 7 days | ✓    |
| Total Metals : Total Metals in Water by CRC ICPMS |        |               |                          |               |        |      |               |               |        |      |
| HDPE - total (lab preserved)<br>Travel Blank      | E420   | 05-Sep-2023   | 09-Sep-2023              | 180 days      | 4 days | ✓    | 12-Sep-2023   | 180 days      | 7 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: **Water** 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)                        |            |          |       |         |               |          |            |
| Alkalinity Species by Titration                    | E290       | 1124134  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Ammonia by Fluorescence                            | E298       | 1124075  | 2     | 36      | 5.5           | 5.0      | ✔          |
| Dissolved Metals in Water by CRC ICPMS             | E421       | 1125258  | 1     | 18      | 5.5           | 5.0      | ✔          |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L     | 1126737  | 1     | 13      | 7.6           | 5.0      | ✔          |
| Nitrate in Water by IC (Low Level)                 | E235.NO3-L | 1124138  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Nitrite in Water by IC (Low Level)                 | E235.NO2-L | 1124139  | 1     | 20      | 5.0           | 5.0      | ✔          |
| TDS by Gravimetry                                  | E162       | 1128929  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Total Dissolved Nitrogen by Colourimetry           | E368       | 1126736  | 1     | 5       | 20.0          | 5.0      | ✔          |
| Total Metals in Water by CRC ICPMS                 | E420       | 1124754  | 1     | 15      | 6.6           | 5.0      | ✔          |
| Total Nitrogen by Colourimetry                     | E366       | 1124070  | 2     | 12      | 16.6          | 5.0      | ✔          |
| Total Phosphorus by Colourimetry (0.002 mg/L)      | E372-U     | 1124073  | 2     | 26      | 7.6           | 5.0      | ✔          |
| TSS by Gravimetry                                  | E160       | 1128919  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Turbidity by Nephelometry                          | E121       | 1125687  | 1     | 7       | 14.2          | 5.0      | ✔          |
| Laboratory Control Samples (LCS)                   |            |          |       |         |               |          |            |
| Alkalinity Species by Titration                    | E290       | 1124134  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Ammonia by Fluorescence                            | E298       | 1124075  | 2     | 36      | 5.5           | 5.0      | ✔          |
| Dissolved Metals in Water by CRC ICPMS             | E421       | 1125258  | 1     | 18      | 5.5           | 5.0      | ✔          |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L     | 1126737  | 1     | 13      | 7.6           | 5.0      | ✔          |
| Nitrate in Water by IC (Low Level)                 | E235.NO3-L | 1124138  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Nitrite in Water by IC (Low Level)                 | E235.NO2-L | 1124139  | 1     | 20      | 5.0           | 5.0      | ✔          |
| TDS by Gravimetry                                  | E162       | 1128929  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Total Dissolved Nitrogen by Colourimetry           | E368       | 1126736  | 1     | 5       | 20.0          | 5.0      | ✔          |
| Total Metals in Water by CRC ICPMS                 | E420       | 1124754  | 1     | 15      | 6.6           | 5.0      | ✔          |
| Total Nitrogen by Colourimetry                     | E366       | 1124070  | 2     | 12      | 16.6          | 5.0      | ✔          |
| Total Phosphorus by Colourimetry (0.002 mg/L)      | E372-U     | 1124073  | 2     | 26      | 7.6           | 5.0      | ✔          |
| TSS by Gravimetry                                  | E160       | 1128919  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Turbidity by Nephelometry                          | E121       | 1125687  | 1     | 7       | 14.2          | 5.0      | ✔          |
| Method Blanks (MB)                                 |            |          |       |         |               |          |            |
| Alkalinity Species by Titration                    | E290       | 1124134  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Ammonia by Fluorescence                            | E298       | 1124075  | 2     | 36      | 5.5           | 5.0      | ✔          |
| Dissolved Metals in Water by CRC ICPMS             | E421       | 1125258  | 1     | 18      | 5.5           | 5.0      | ✔          |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L     | 1126737  | 1     | 13      | 7.6           | 5.0      | ✔          |
| Nitrate in Water by IC (Low Level)                 | E235.NO3-L | 1124138  | 1     | 20      | 5.0           | 5.0      | ✔          |
| Nitrite in Water by IC (Low Level)                 | E235.NO2-L | 1124139  | 1     | 20      | 5.0           | 5.0      | ✔          |
| TDS by Gravimetry                                  | E162       | 1128929  | 1     | 20      | 5.0           | 5.0      | ✔          |



Matrix: **Water**

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

| Quality Control Sample Type                        |               |                 | Count     |                | Frequency (%) |                 |                   |
|--|---------------|-----------------|-----------|----------------|---------------|-----------------|-------------------|
| <i>Analytical Methods</i>                          | <i>Method</i> | <i>QC Lot #</i> | <i>QC</i> | <i>Regular</i> | <i>Actual</i> | <i>Expected</i> | <i>Evaluation</i> |
| <b>Method Blanks (MB) - Continued</b>              |               |                 |           |                |               |                 |                   |
| Total Dissolved Nitrogen by Colourimetry           | E368          | 1126736         | 1         | 5              | 20.0          | 5.0             | ✔                 |
| Total Metals in Water by CRC ICPMS                 | E420          | 1124754         | 1         | 15             | 6.6           | 5.0             | ✔                 |
| Total Nitrogen by Colourimetry                     | E366          | 1124070         | 2         | 12             | 16.6          | 5.0             | ✔                 |
| Total Phosphorus by Colourimetry (0.002 mg/L)      | E372-U        | 1124073         | 2         | 26             | 7.6           | 5.0             | ✔                 |
| TSS by Gravimetry                                  | E160          | 1128919         | 1         | 20             | 5.0           | 5.0             | ✔                 |
| Turbidity by Nephelometry                          | E121          | 1125687         | 1         | 7              | 14.2          | 5.0             | ✔                 |
| <b>Matrix Spikes (MS)</b>                          |               |                 |           |                |               |                 |                   |
| Ammonia by Fluorescence                            | E298          | 1124075         | 2         | 36             | 5.5           | 5.0             | ✔                 |
| Dissolved Metals in Water by CRC ICPMS             | E421          | 1125258         | 1         | 18             | 5.5           | 5.0             | ✔                 |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L        | 1126737         | 1         | 13             | 7.6           | 5.0             | ✔                 |
| Nitrate in Water by IC (Low Level)                 | E235.NO3-L    | 1124138         | 1         | 20             | 5.0           | 5.0             | ✔                 |
| Nitrite in Water by IC (Low Level)                 | E235.NO2-L    | 1124139         | 1         | 20             | 5.0           | 5.0             | ✔                 |
| Total Dissolved Nitrogen by Colourimetry           | E368          | 1126736         | 1         | 5              | 20.0          | 5.0             | ✔                 |
| Total Metals in Water by CRC ICPMS                 | E420          | 1124754         | 1         | 15             | 6.6           | 5.0             | ✔                 |
| Total Nitrogen by Colourimetry                     | E366          | 1124070         | 2         | 12             | 16.6          | 5.0             | ✔                 |
| Total Phosphorus by Colourimetry (0.002 mg/L)      | E372-U        | 1124073         | 2         | 26             | 7.6           | 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  |
|--|---|--------|--|--|
| Turbidity by Nephelometry                          | E121<br>ALS Environmental - Vancouver       | Water  | APHA 2130 B (mod)                          | Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.   |
| TSS by Gravimetry                                  | E160<br>ALS Environmental - Vancouver       | Water  | APHA 2540 D (mod)                          | Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$ , with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.  |
| TDS by Gravimetry                                  | E162<br>ALS Environmental - Vancouver       | Water  | APHA 2540 C (mod)                          | Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at $180 \pm 2^\circ\text{C}$ for 16 hours or to constant weight, with gravimetric measurement of the residue.   |
| Nitrite in Water by IC (Low Level)                 | E235.NO2-L<br>ALS Environmental - Vancouver | Water  | EPA 300.1 (mod)                            | Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.   |
| Nitrate in Water by IC (Low Level)                 | E235.NO3-L<br>ALS Environmental - Vancouver | Water  | EPA 300.1 (mod)                            | Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.   |
| Alkalinity Species by Titration                    | E290<br>ALS Environmental - Vancouver       | Water  | APHA 2320 B (mod)                          | Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.   |
| Ammonia by Fluorescence                            | E298<br>ALS Environmental - Vancouver       | Water  | Method Fialab 100, 2018                    | Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)   |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L<br>ALS Environmental - Vancouver     | Water  | APHA 5310 B (mod)                          | Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO <sub>2</sub> . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC). |
| Total Nitrogen by Colourimetry                     | E366<br>ALS Environmental - Vancouver       | Water  | Chinchilla Scientific Nitrate Method, 2011 | Following digestion, total nitrogen is determined colourimetrically using a discrete analyzer utilizing the vanadium chloride reduction method. This method of analysis is approved under US EPA 40 CFR Part 136 (May 2021).   |



| Analytical Methods   | Method / Lab                               | Matrix | Method Reference                    | Method Descriptions   |
|--|--|--------|-------------------------------------|---|
| Total Dissolved Nitrogen by Colourimetry                                   | E368<br>ALS Environmental - Vancouver      | Water  | APHA 4500-P J (mod)                 | Total Dissolved Nitrogen is determined colourimetrically using a discrete analyzer after filtration through a 0.45 micron filter followed by heated persulfate digestion of the sample.   |
| Total Phosphorus by Colourimetry (0.002 mg/L)                              | E372-U<br>ALS Environmental - Vancouver    | Water  | APHA 4500-P E (mod).                | Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.   |
| Total Metals in Water by CRC ICPMS   | E420<br>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.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.   |
| Dissolved Metals in Water by CRC ICPMS                                     | E421<br>ALS Environmental - Vancouver      | Water  | APHA 3030B/EPA 6020B (mod)          | Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.<br><br>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.  |
| Dissolved Hardness (Calculated)  | EC100<br>ALS Environmental - Vancouver     | Water  | APHA 2340B                          | "Hardness (as CaCO <sub>3</sub> ), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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 (Calculated) from Total Ca/Mg                                     | EC100A<br>ALS Environmental - Vancouver    | Water  | APHA 2340B                          | "Hardness (as CaCO <sub>3</sub> ), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO <sub>3</sub> 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. |
| Nitrate and Nitrite (as N) (Calculation)                                   | EC235.N+N<br>ALS Environmental - Vancouver | Water  | EPA 300.0                           | Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).   |
| Total Kjeldahl Nitrogen (Calculation)                                      | EC318<br>ALS Environmental - Vancouver     | Water  | BC MOE LABORATORY MANUAL (2005)     | Total Kjeldahl Nitrogen is a calculated parameter. Total Kjeldahl Nitrogen (calc) = Total Nitrogen - [Nitrite (as N) + Nitrate (as N)].   |
| Field pH,EC,Salinity,Ci2,CiO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine | EF001<br>ALS Environmental - Vancouver     | Water  | Field Measurement (Client Supplied) | Field pH,EC,Salinity,Ci2,CiO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3 or Chloramine measurements provided by client and recorded on ALS report may affect the validity of results.  |

| Preparation Methods | Method / Lab | Matrix | Method Reference | Method Descriptions |
|---------------------|--------------|--------|------------------|---------------------|
|---------------------|--------------|--------|------------------|---------------------|



| <i>Preparation Methods</i>                                 | <i>Method / Lab</i>                           | <i>Matrix</i> | <i>Method Reference</i> | <i>Method Descriptions</i>   |
|--|---|---------------|-------------------------|--|
| Preparation for Ammonia                                    | EP298<br><br>ALS Environmental -<br>Vancouver | Water         |                         | Sample preparation for Preserved Nutrients Water Quality Analysis.   |
| Preparation for Dissolved Organic Carbon for<br>Combustion | EP358<br><br>ALS Environmental -<br>Vancouver | Water         | APHA 5310 B (mod)       | Preparation for Dissolved Organic Carbon   |
| Digestion for Total Nitrogen in water                      | EP366<br><br>ALS Environmental -<br>Vancouver | Water         | APHA 4500-P J (mod)     | Samples for total nitrogen analysis are digested using a heated persulfate digestion .<br>Nitrogen compounds are converted to nitrate in this digestion. |
| Digestion for Total Dissolved Nitrogen in<br>water         | EP368<br><br>ALS Environmental -<br>Vancouver | Water         | APHA 4500-P J (mod)     | Samples are filtration through a 0.45 micron filter and then heated with a persulfate<br>digestion reagent.  |
| Digestion for Total Phosphorus in water                    | EP372<br><br>ALS Environmental -<br>Vancouver | Water         | APHA 4500-P E (mod).    | Samples are heated with a persulfate digestion reagent.  |
| Dissolved Metals Water Filtration                          | EP421<br><br>ALS Environmental -<br>Vancouver | Water         | APHA 3030B              | Water samples are filtered (0.45 um), and preserved with HNO3.   |

## QUALITY CONTROL REPORT

|                                |   |                                |   |
|--------------------------------|---|--------------------------------|---|
| <b>Work Order</b>              | <b>: VA23C1067</b>                          | <b>Page</b>                    | <b>: 1 of 18</b>  |
| <b>Client</b>                  | : Northwest Research and Monitoring Ltd.    | <b>Laboratory</b>              | : ALS Environmental - Vancouver                                     |
| <b>Contact</b>                 | : Laura Guillon                             | <b>Account Manager</b>         | : Sneha Sansare   |
| <b>Address</b>                 | : PO Box 4357<br>Smithers BC Canada V0J 2N0 | <b>Address</b>                 | : 8081 Lougheed Highway<br>Burnaby, British Columbia Canada V5A 1W9 |
| <b>Telephone</b>               | :   | <b>Telephone</b>               | : +1 604 253 4188   |
| <b>Project</b>                 | : MWM T 2023                                | <b>Date Samples Received</b>   | : 07-Sep-2023 11:30   |
| <b>PO</b>                      | : ----                                      | <b>Date Analysis Commenced</b> | : 08-Sep-2023   |
| <b>C-O-C number</b>            | : 20-1068889                                | <b>Issue Date</b>              | : 15-Sep-2023 15:45   |
| <b>Sampler</b>                 | : ----                                      |                                |   |
| <b>Site</b>                    | : ----                                      |                                |   |
| <b>Quote number</b>            | : Q72918                                    |                                |   |
| <b>No. of samples received</b> | : 5   |                                |   |
| <b>No. of samples analysed</b> | : 5   |                                |   |

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

This 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.

| <i>Signatories</i> | <i>Position</i>                            | <i>Laboratory Department</i>                        |
|--------------------|--|---|
| Angelo Salandanan  | Lab Assistant                              | Vancouver Metals, Burnaby, British Columbia         |
| Kate Dimitrova     | Supervisor - Inorganic                     | Vancouver Inorganics, Burnaby, British Columbia     |
| Kim Jensen         | Department Manager - Metals                | Vancouver Metals, Burnaby, British Columbia         |
| Miles Gropen       | Department Manager - Inorganics            | Vancouver Inorganics, Burnaby, British Columbia     |
| Tracy Harley       | Supervisor - Water Quality Instrumentation | Vancouver Inorganics, Burnaby, British Columbia     |
| Virginia Smith     | Account Manager Assistant                  | Vancouver Administration, Burnaby, British Columbia |



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## 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

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

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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: 1124134)             |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| KS2303337-002                                | Anonymous        | Alkalinity, total (as CaCO3)    | ----       | E290       | 1.0                               | mg/L | 447             | 440              | 1.64%                | 20%              | ----      |
| Physical Tests (QC Lot: 1125687)             |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C1059-002                                | Anonymous        | Turbidity                       | ----       | E121       | 0.10                              | NTU  | 0.94            | 0.93             | 0.006                | Diff <2x LOR     | ----      |
| Physical Tests (QC Lot: 1128919)             |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C0955-008                                | Anonymous        | Solids, total suspended [TSS]   | ----       | E160       | 3.0                               | mg/L | 8.0             | 9.6              | 1.6                  | Diff <2x LOR     | ----      |
| Physical Tests (QC Lot: 1128929)             |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C0955-008                                | Anonymous        | Solids, total dissolved [TDS]   | ----       | E162       | 20                                | mg/L | 3120            | 3020             | 3.21%                | 20%              | ----      |
| Anions and Nutrients (QC Lot: 1124070)       |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C1018-001                                | Anonymous        | Nitrogen, total                 | 7727-37-9  | E366       | 0.030                             | mg/L | 0.122           | 0.127            | 0.005                | Diff <2x LOR     | ----      |
| Anions and Nutrients (QC Lot: 1124073)       |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| FJ2302270-002                                | Anonymous        | Phosphorus, total               | 7723-14-0  | E372-U     | 0.0020                            | mg/L | 0.0078          | 0.0075           | 0.0003               | Diff <2x LOR     | ----      |
| Anions and Nutrients (QC Lot: 1124075)       |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| FJ2302270-002                                | Anonymous        | Ammonia, total (as N)           | 7664-41-7  | E298       | 0.0050                            | mg/L | <0.0050         | <0.0050          | 0                    | Diff <2x LOR     | ----      |
| Anions and Nutrients (QC Lot: 1124138)       |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| KS2303337-001                                | Anonymous        | Nitrate (as N)                  | 14797-55-8 | E235.NO3-L | 0.100                             | mg/L | <0.100          | <0.100           | 0                    | Diff <2x LOR     | ----      |
| Anions and Nutrients (QC Lot: 1124139)       |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| KS2303337-001                                | Anonymous        | Nitrite (as N)                  | 14797-65-0 | E235.NO2-L | 0.0200                            | mg/L | <0.0200         | <0.0200          | 0                    | Diff <2x LOR     | ----      |
| Anions and Nutrients (QC Lot: 1126736)       |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C1067-002                                | Nanika River     | Nitrogen, total dissolved       | ----       | E368       | 0.030                             | mg/L | <0.030          | <0.030           | 0                    | Diff <2x LOR     | ----      |
| Anions and Nutrients (QC Lot: 1126738)       |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C1067-001                                | Cutthroat Creek  | Nitrogen, total                 | 7727-37-9  | E366       | 0.030                             | mg/L | 0.193           | 0.179            | 0.014                | Diff <2x LOR     | ----      |
| Anions and Nutrients (QC Lot: 1126739)       |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C0927-001                                | Anonymous        | Phosphorus, total               | 7723-14-0  | E372-U     | 0.200                             | mg/L | 5.13            | 5.45             | 5.99%                | 20%              | ----      |
| Anions and Nutrients (QC Lot: 1126740)       |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C0927-001                                | Anonymous        | Ammonia, total (as N)           | 7664-41-7  | E298       | 0.250                             | mg/L | 33.8            | 34.7             | 2.53%                | 20%              | ----      |
| Organic / Inorganic Carbon (QC Lot: 1126737) |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C1010-011                                | Anonymous        | Carbon, dissolved organic [DOC] | ----       | E358-L     | 0.50                              | mg/L | 3.04            | 2.96             | 0.08                 | Diff <2x LOR     | ----      |
| Total Metals (QC Lot: 1124754)               |                  |                                 |            |            |                                   |      |                 |                  |                      |                  |           |
| VA23C1059-001                                | Anonymous        | Aluminum, total                 | 7429-90-5  | E420       | 0.0030                            | mg/L | 0.0042          | 0.0060           | 0.0018               | Diff <2x LOR     | ----      |
|  |                  | Antimony, total                 | 7440-36-0  | E420       | 0.00010                           | mg/L | <0.00010        | <0.00010         | 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 |
| Total Metals (QC Lot: 1124754) - continued |                  |                   |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23C1059-001                              | Anonymous        | Arsenic, total    | 7440-38-2  | E420   | 0.00010                           | mg/L | 0.00198         | 0.00220          | 10.7%                | 20%              | ----      |
|  |                  | Barium, total     | 7440-39-3  | E420   | 0.00010                           | mg/L | 0.0648          | 0.0706           | 8.61%                | 20%              | ----      |
|  |                  | Beryllium, total  | 7440-41-7  | E420   | 0.000020                          | mg/L | <0.000020       | <0.000020        | 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                    | Diff <2x LOR     | ----      |
|  |                  | Cadmium, total    | 7440-43-9  | E420   | 0.0000050                         | mg/L | <0.0000050      | 0.0000059        | 0.0000009            | Diff <2x LOR     | ----      |
|  |                  | Calcium, total    | 7440-70-2  | E420   | 0.050                             | mg/L | 71.0            | 71.6             | 0.904%               | 20%              | ----      |
|  |                  | Cesium, total     | 7440-46-2  | E420   | 0.000010                          | mg/L | <0.000010       | <0.000010        | 0                    | 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 | 0.00059         | 0.00065          | 0.00005              | Diff <2x LOR     | ----      |
|  |                  | Iron, total       | 7439-89-6  | E420   | 0.010                             | mg/L | 0.010           | 0.011            | 0.0008               | 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 | <0.0010         | <0.0010          | 0                    | Diff <2x LOR     | ----      |
|  |                  | Magnesium, total  | 7439-95-4  | E420   | 0.100                             | mg/L | 14.7            | 16.1             | 9.43%                | 20%              | ----      |
|  |                  | Manganese, total  | 7439-96-5  | E420   | 0.00010                           | mg/L | 0.00198         | 0.00221          | 10.8%                | 20%              | ----      |
|  |                  | Molybdenum, total | 7439-98-7  | E420   | 0.000050                          | mg/L | 0.00109         | 0.00110          | 0.870%               | 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   | 0.050                             | mg/L | 0.054           | 0.070            | 0.016                | Diff <2x LOR     | ----      |
|  |                  | Potassium, total  | 7440-09-7  | E420   | 0.100                             | mg/L | 1.59            | 1.76             | 9.90%                | 20%              | ----      |
|  |                  | Rubidium, total   | 7440-17-7  | E420   | 0.00020                           | mg/L | 0.00036         | 0.00035          | 0.00002              | Diff <2x LOR     | ----      |
|  |                  | Selenium, total   | 7782-49-2  | E420   | 0.000050                          | mg/L | 0.000488        | 0.000446         | 0.000042             | Diff <2x LOR     | ----      |
|  |                  | Silicon, total    | 7440-21-3  | E420   | 0.10                              | mg/L | 6.08            | 6.14             | 1.04%                | 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 | 6.01            | 6.49             | 7.64%                | 20%              | ----      |
|  |                  | Strontium, total  | 7440-24-6  | E420   | 0.00020                           | mg/L | 0.277           | 0.282            | 1.78%                | 20%              | ----      |
|  |                  | Sulfur, total     | 7704-34-9  | E420   | 0.50                              | mg/L | 60.9            | 61.3             | 0.620%               | 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   | 0.00030                           | mg/L | <0.00030        | <0.00030         | 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 | 0.000162        | 0.000162         | 0.0525%              | 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: 1124754) - continued |                  |                       |            |        |                                   |      |                 |                  |                      |                  |           |
| VA23C1059-001                              | Anonymous        | Vanadium, total       | 7440-62-2  | E420   | 0.00050                           | mg/L | 0.00111         | 0.00123          | 0.00012              | 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     | ----      |
| Dissolved Metals (QC Lot: 1125258)         |                  |                       |            |        |                                   |      |                 |                  |                      |                  |           |
| FJ2302287-001                              | Anonymous        | Aluminum, dissolved   | 7429-90-5  | E421   | 0.0010                            | mg/L | 0.103           | 0.105            | 2.37%                | 20%              | ----      |
|  |                  | Antimony, dissolved   | 7440-36-0  | E421   | 0.00010                           | mg/L | 0.00014         | 0.00013          | 0.000007             | Diff <2x LOR     | ----      |
|  |                  | Arsenic, dissolved    | 7440-38-2  | E421   | 0.00010                           | mg/L | 0.00026         | 0.00026          | 0.000002             | Diff <2x LOR     | ----      |
|  |                  | Barium, dissolved     | 7440-39-3  | E421   | 0.00010                           | mg/L | 0.0402          | 0.0408           | 1.66%                | 20%              | ----      |
|  |                  | Beryllium, dissolved  | 7440-41-7  | E421   | 0.000020                          | mg/L | <0.000020       | <0.000020        | 0                    | Diff <2x LOR     | ----      |
|  |                  | Bismuth, dissolved    | 7440-69-9  | E421   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |
|  |                  | Boron, dissolved      | 7440-42-8  | E421   | 0.010                             | mg/L | 0.123           | 0.124            | 0.595%               | 20%              | ----      |
|  |                  | Cadmium, dissolved    | 7440-43-9  | E421   | 0.0000050                         | mg/L | 0.0000852       | 0.0000862        | 1.23%                | 20%              | ----      |
|  |                  | Calcium, dissolved    | 7440-70-2  | E421   | 0.050                             | mg/L | 132             | 132              | 0.000944%            | 20%              | ----      |
|  |                  | Cesium, dissolved     | 7440-46-2  | E421   | 0.000010                          | mg/L | 0.000035        | 0.000034         | 0.0000004            | Diff <2x LOR     | ----      |
|  |                  | Chromium, dissolved   | 7440-47-3  | E421   | 0.00050                           | mg/L | <0.00050        | <0.00050         | 0                    | Diff <2x LOR     | ----      |
|  |                  | Cobalt, dissolved     | 7440-48-4  | E421   | 0.00010                           | mg/L | 0.00196         | 0.00195          | 0.445%               | 20%              | ----      |
|  |                  | Copper, dissolved     | 7440-50-8  | E421   | 0.00020                           | mg/L | 0.00235         | 0.00237          | 1.01%                | 20%              | ----      |
|  |                  | Iron, dissolved       | 7439-89-6  | E421   | 0.010                             | mg/L | 0.018           | 0.018            | 0.0003               | Diff <2x LOR     | ----      |
|  |                  | Lead, dissolved       | 7439-92-1  | E421   | 0.000050                          | mg/L | <0.000050       | <0.000050        | 0                    | Diff <2x LOR     | ----      |
|  |                  | Lithium, dissolved    | 7439-93-2  | E421   | 0.0010                            | mg/L | 0.0272          | 0.0278           | 1.95%                | 20%              | ----      |
|  |                  | Magnesium, dissolved  | 7439-95-4  | E421   | 0.0050                            | mg/L | 66.5            | 68.4             | 2.84%                | 20%              | ----      |
|  |                  | Manganese, dissolved  | 7439-96-5  | E421   | 0.00010                           | mg/L | 0.0246          | 0.0250           | 1.53%                | 20%              | ----      |
|  |                  | Molybdenum, dissolved | 7439-98-7  | E421   | 0.000050                          | mg/L | 0.00286         | 0.00278          | 2.81%                | 20%              | ----      |
|  |                  | Nickel, dissolved     | 7440-02-0  | E421   | 0.00050                           | mg/L | 0.0174          | 0.0179           | 2.60%                | 20%              | ----      |
|  |                  | Phosphorus, dissolved | 7723-14-0  | E421   | 0.050                             | mg/L | <0.050          | <0.050           | 0                    | Diff <2x LOR     | ----      |
|  |                  | Potassium, dissolved  | 7440-09-7  | E421   | 0.050                             | mg/L | 8.38            | 8.62             | 2.80%                | 20%              | ----      |
|  |                  | Rubidium, dissolved   | 7440-17-7  | E421   | 0.00020                           | mg/L | 0.00252         | 0.00257          | 2.14%                | 20%              | ----      |
|  |                  | Selenium, dissolved   | 7782-49-2  | E421   | 0.000050                          | mg/L | 0.0104          | 0.0105           | 1.54%                | 20%              | ----      |
|  |                  | Silicon, dissolved    | 7440-21-3  | E421   | 0.050                             | mg/L | 4.54            | 4.58             | 0.891%               | 20%              | ----      |
|  |                  | Silver, dissolved     | 7440-22-4  | E421   | 0.000010                          | mg/L | <0.000010       | <0.000010        | 0                    | Diff <2x LOR     | ----      |
|  |                  | Sodium, dissolved     | 7440-23-5  | E421   | 0.050                             | mg/L | 40.6            | 42.0             | 3.36%                | 20%              | ----      |
|  |                  | Strontium, dissolved  | 7440-24-6  | E421   | 0.00020                           | mg/L | 0.571           | 0.566            | 0.741%               | 20%              | ----      |
|  |                  | Sulfur, dissolved     | 7704-34-9  | E421   | 0.50                              | mg/L | 99.8            | 102              | 1.78%                | 20%              | ----      |
|  |                  | Tellurium, dissolved  | 13494-80-9 | E421   | 0.00020                           | mg/L | <0.00020        | <0.00020         | 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 |
| Dissolved Metals (QC Lot: 1125258) - continued |                  |                      |            |        |                                   |      |                 |                  |                      |                  |           |
| FJ2302287-001                                  | Anonymous        | Thallium, dissolved  | 7440-28-0  | E421   | 0.000010                          | mg/L | 0.000019        | 0.000019         | 0.0000007            | Diff <2x LOR     | ----      |
|  |                  | Thorium, dissolved   | 7440-29-1  | E421   | 0.00010                           | mg/L | <0.00010        | <0.00010         | 0                    | Diff <2x LOR     | ----      |
|  |                  | Tin, dissolved       | 7440-31-5  | E421   | 0.00010                           | mg/L | 0.00019         | 0.00018          | 0.00001              | Diff <2x LOR     | ----      |
|  |                  | Titanium, dissolved  | 7440-32-6  | E421   | 0.00030                           | mg/L | <0.00030        | <0.00030         | 0                    | Diff <2x LOR     | ----      |
|  |                  | Tungsten, dissolved  | 7440-33-7  | E421   | 0.00010                           | mg/L | <0.00010        | <0.00010         | 0                    | Diff <2x LOR     | ----      |
|  |                  | Uranium, dissolved   | 7440-61-1  | E421   | 0.000010                          | mg/L | 0.00877         | 0.00877          | 0.0487%              | 20%              | ----      |
|  |                  | Vanadium, dissolved  | 7440-62-2  | E421   | 0.00050                           | mg/L | <0.00050        | <0.00050         | 0                    | Diff <2x LOR     | ----      |
|  |                  | Zinc, dissolved      | 7440-66-6  | E421   | 0.0010                            | mg/L | 0.0046          | 0.0042           | 0.0003               | Diff <2x LOR     | ----      |
|  |                  | Zirconium, dissolved | 7440-67-7  | E421   | 0.00030                           | mg/L | <0.00030        | <0.00030         | 0                    | Diff <2x LOR     | ----      |



## 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 |
|--|------------|------------|--------|------|----------|-----------|
| <b>Physical Tests (QCLot: 1124134)</b>             |            |            |        |      |          |           |
| Alkalinity, total (as CaCO <sub>3</sub> )          | ----       | E290       | 1      | mg/L | <1.0     | ----      |
| <b>Physical Tests (QCLot: 1125687)</b>             |            |            |        |      |          |           |
| Turbidity  | ----       | E121       | 0.1    | NTU  | <0.10    | ----      |
| <b>Physical Tests (QCLot: 1128919)</b>             |            |            |        |      |          |           |
| Solids, total suspended [TSS]                      | ----       | E160       | 3      | mg/L | <3.0     | ----      |
| <b>Physical Tests (QCLot: 1128929)</b>             |            |            |        |      |          |           |
| Solids, total dissolved [TDS]                      | ----       | E162       | 10     | mg/L | <10      | ----      |
| <b>Anions and Nutrients (QCLot: 1124070)</b>       |            |            |        |      |          |           |
| Nitrogen, total                                    | 7727-37-9  | E366       | 0.03   | mg/L | <0.030   | ----      |
| <b>Anions and Nutrients (QCLot: 1124073)</b>       |            |            |        |      |          |           |
| Phosphorus, total                                  | 7723-14-0  | E372-U     | 0.002  | mg/L | <0.0020  | ----      |
| <b>Anions and Nutrients (QCLot: 1124075)</b>       |            |            |        |      |          |           |
| Ammonia, total (as N)                              | 7664-41-7  | E298       | 0.005  | mg/L | <0.0050  | ----      |
| <b>Anions and Nutrients (QCLot: 1124138)</b>       |            |            |        |      |          |           |
| Nitrate (as N)                                     | 14797-55-8 | E235.NO3-L | 0.005  | mg/L | <0.0050  | ----      |
| <b>Anions and Nutrients (QCLot: 1124139)</b>       |            |            |        |      |          |           |
| Nitrite (as N)                                     | 14797-65-0 | E235.NO2-L | 0.001  | mg/L | <0.0010  | ----      |
| <b>Anions and Nutrients (QCLot: 1126736)</b>       |            |            |        |      |          |           |
| Nitrogen, total dissolved                          | ----       | E368       | 0.03   | mg/L | <0.030   | ----      |
| <b>Anions and Nutrients (QCLot: 1126738)</b>       |            |            |        |      |          |           |
| Nitrogen, total                                    | 7727-37-9  | E366       | 0.03   | mg/L | <0.030   | ----      |
| <b>Anions and Nutrients (QCLot: 1126739)</b>       |            |            |        |      |          |           |
| Phosphorus, total                                  | 7723-14-0  | E372-U     | 0.002  | mg/L | <0.0020  | ----      |
| <b>Anions and Nutrients (QCLot: 1126740)</b>       |            |            |        |      |          |           |
| Ammonia, total (as N)                              | 7664-41-7  | E298       | 0.005  | mg/L | <0.0050  | ----      |
| <b>Organic / Inorganic Carbon (QCLot: 1126737)</b> |            |            |        |      |          |           |
| Carbon, dissolved organic [DOC]                    | ----       | E358-L     | 0.5    | mg/L | <0.50    | ----      |
| <b>Total Metals (QCLot: 1124754)</b>               |            |            |        |      |          |           |
| 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 | ----      |



Sub-Matrix: **Water**

| Analyte  | CAS Number | Method | LOR      | Unit | Result     | Qualifier |
|--|------------|--------|----------|------|------------|-----------|
| <b>Total Metals (QCLot: 1124754) - continued</b> |            |        |          |      |            |           |
| 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   | ----      |
| 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   | ----      |



Sub-Matrix: **Water**

| Analyte                                  | CAS Number | Method | LOR      | Unit | Result     | Qualifier |
|--|------------|--------|----------|------|------------|-----------|
| <b>Dissolved Metals (QCLot: 1125258)</b> |            |        |          |      |            |           |
| Aluminum, dissolved                      | 7429-90-5  | E421   | 0.001    | mg/L | <0.0010    | ----      |
| Antimony, dissolved                      | 7440-36-0  | E421   | 0.0001   | mg/L | <0.00010   | ----      |
| Arsenic, dissolved                       | 7440-38-2  | E421   | 0.0001   | mg/L | <0.00010   | ----      |
| Barium, dissolved                        | 7440-39-3  | E421   | 0.0001   | mg/L | <0.00010   | ----      |
| Beryllium, dissolved                     | 7440-41-7  | E421   | 0.00002  | mg/L | <0.000020  | ----      |
| Bismuth, dissolved                       | 7440-69-9  | E421   | 0.00005  | mg/L | <0.000050  | ----      |
| Boron, dissolved                         | 7440-42-8  | E421   | 0.01     | mg/L | <0.010     | ----      |
| Cadmium, dissolved                       | 7440-43-9  | E421   | 0.000005 | mg/L | <0.0000050 | ----      |
| Calcium, dissolved                       | 7440-70-2  | E421   | 0.05     | mg/L | <0.050     | ----      |
| Cesium, dissolved                        | 7440-46-2  | E421   | 0.00001  | mg/L | <0.000010  | ----      |
| Chromium, dissolved                      | 7440-47-3  | E421   | 0.0005   | mg/L | <0.00050   | ----      |
| Cobalt, dissolved                        | 7440-48-4  | E421   | 0.0001   | mg/L | <0.00010   | ----      |
| Copper, dissolved                        | 7440-50-8  | E421   | 0.0002   | mg/L | <0.00020   | ----      |
| Iron, dissolved                          | 7439-89-6  | E421   | 0.01     | mg/L | <0.010     | ----      |
| Lead, dissolved                          | 7439-92-1  | E421   | 0.00005  | mg/L | <0.000050  | ----      |
| Lithium, dissolved                       | 7439-93-2  | E421   | 0.001    | mg/L | <0.0010    | ----      |
| Magnesium, dissolved                     | 7439-95-4  | E421   | 0.005    | mg/L | <0.0050    | ----      |
| Manganese, dissolved                     | 7439-96-5  | E421   | 0.0001   | mg/L | <0.00010   | ----      |
| Molybdenum, dissolved                    | 7439-98-7  | E421   | 0.00005  | mg/L | <0.000050  | ----      |
| Nickel, dissolved                        | 7440-02-0  | E421   | 0.0005   | mg/L | <0.00050   | ----      |
| Phosphorus, dissolved                    | 7723-14-0  | E421   | 0.05     | mg/L | <0.050     | ----      |
| Potassium, dissolved                     | 7440-09-7  | E421   | 0.05     | mg/L | <0.050     | ----      |
| Rubidium, dissolved                      | 7440-17-7  | E421   | 0.0002   | mg/L | <0.00020   | ----      |
| Selenium, dissolved                      | 7782-49-2  | E421   | 0.00005  | mg/L | <0.000050  | ----      |
| Silicon, dissolved                       | 7440-21-3  | E421   | 0.05     | mg/L | <0.050     | ----      |
| Silver, dissolved                        | 7440-22-4  | E421   | 0.00001  | mg/L | <0.000010  | ----      |
| Sodium, dissolved                        | 7440-23-5  | E421   | 0.05     | mg/L | <0.050     | ----      |
| Strontium, dissolved                     | 7440-24-6  | E421   | 0.0002   | mg/L | <0.00020   | ----      |
| Sulfur, dissolved                        | 7704-34-9  | E421   | 0.5      | mg/L | <0.50      | ----      |
| Tellurium, dissolved                     | 13494-80-9 | E421   | 0.0002   | mg/L | <0.00020   | ----      |
| Thallium, dissolved                      | 7440-28-0  | E421   | 0.00001  | mg/L | <0.000010  | ----      |
| Thorium, dissolved                       | 7440-29-1  | E421   | 0.0001   | mg/L | <0.00010   | ----      |
| Tin, dissolved                           | 7440-31-5  | E421   | 0.0001   | mg/L | <0.00010   | ----      |
| Titanium, dissolved                      | 7440-32-6  | E421   | 0.0003   | mg/L | <0.00030   | ----      |
| Tungsten, dissolved                      | 7440-33-7  | E421   | 0.0001   | mg/L | <0.00010   | ----      |



Sub-Matrix: Water

| Analyte                                       | CAS Number | Method | LOR     | Unit | Result    | Qualifier |
|---|------------|--------|---------|------|-----------|-----------|
| Dissolved Metals (QCLot: 1125258) - continued |            |        |         |      |           |           |
| Uranium, dissolved                            | 7440-61-1  | E421   | 0.00001 | mg/L | <0.000010 | ----      |
| Vanadium, dissolved                           | 7440-62-2  | E421   | 0.0005  | mg/L | <0.00050  | ----      |
| Zinc, dissolved                               | 7440-66-6  | E421   | 0.001   | mg/L | <0.0010   | ----      |
| Zirconium, dissolved                          | 7440-67-7  | E421   | 0.0002  | mg/L | <0.00020  | ----      |



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 (%) |      | Qualifier |
|   |            |            |       |      | Concentration                          | LCS          | Low                 | High |           |
| Analyte                                     | CAS Number | Method     | LOR   | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Physical Tests (QCLot: 1124134)             |            |            |       |      |  |              |                     |      |           |
| Alkalinity, total (as CaCO3)                | ----       | E290       | 1     | mg/L | 500 mg/L                               | 110          | 85.0                | 115  | ----      |
| Physical Tests (QCLot: 1125687)             |            |            |       |      |  |              |                     |      |           |
| Turbidity                                   | ----       | E121       | 0.1   | NTU  | 200 NTU                                | 99.0         | 85.0                | 115  | ----      |
| Physical Tests (QCLot: 1128919)             |            |            |       |      |  |              |                     |      |           |
| Solids, total suspended [TSS]               | ----       | E160       | 3     | mg/L | 150 mg/L                               | 108          | 85.0                | 115  | ----      |
| Physical Tests (QCLot: 1128929)             |            |            |       |      |  |              |                     |      |           |
| Solids, total dissolved [TDS]               | ----       | E162       | 10    | mg/L | 1000 mg/L                              | 101          | 85.0                | 115  | ----      |
| Anions and Nutrients (QCLot: 1124070)       |            |            |       |      |  |              |                     |      |           |
| Nitrogen, total                             | 7727-37-9  | E366       | 0.03  | mg/L | 0.5 mg/L                               | 104          | 75.0                | 125  | ----      |
| Anions and Nutrients (QCLot: 1124073)       |            |            |       |      |  |              |                     |      |           |
| Phosphorus, total                           | 7723-14-0  | E372-U     | 0.002 | mg/L | 0.05 mg/L                              | 95.8         | 80.0                | 120  | ----      |
| Anions and Nutrients (QCLot: 1124075)       |            |            |       |      |  |              |                     |      |           |
| Ammonia, total (as N)                       | 7664-41-7  | E298       | 0.005 | mg/L | 0.2 mg/L                               | 90.2         | 85.0                | 115  | ----      |
| Anions and Nutrients (QCLot: 1124138)       |            |            |       |      |  |              |                     |      |           |
| Nitrate (as N)                              | 14797-55-8 | E235.NO3-L | 0.005 | mg/L | 2.5 mg/L                               | 102          | 90.0                | 110  | ----      |
| Anions and Nutrients (QCLot: 1124139)       |            |            |       |      |  |              |                     |      |           |
| Nitrite (as N)                              | 14797-65-0 | E235.NO2-L | 0.001 | mg/L | 0.5 mg/L                               | 100          | 90.0                | 110  | ----      |
| Anions and Nutrients (QCLot: 1126736)       |            |            |       |      |  |              |                     |      |           |
| Nitrogen, total dissolved                   | ----       | E368       | 0.03  | mg/L | 0.5 mg/L                               | 98.6         | 75.0                | 125  | ----      |
| Anions and Nutrients (QCLot: 1126738)       |            |            |       |      |  |              |                     |      |           |
| Nitrogen, total                             | 7727-37-9  | E366       | 0.03  | mg/L | 0.5 mg/L                               | 93.8         | 75.0                | 125  | ----      |
| Anions and Nutrients (QCLot: 1126739)       |            |            |       |      |  |              |                     |      |           |
| Phosphorus, total                           | 7723-14-0  | E372-U     | 0.002 | mg/L | 0.05 mg/L                              | 97.8         | 80.0                | 120  | ----      |
| Anions and Nutrients (QCLot: 1126740)       |            |            |       |      |  |              |                     |      |           |
| Ammonia, total (as N)                       | 7664-41-7  | E298       | 0.005 | mg/L | 0.2 mg/L                               | 99.9         | 85.0                | 115  | ----      |
| Organic / Inorganic Carbon (QCLot: 1126737) |            |            |       |      |  |              |                     |      |           |
| Carbon, dissolved organic [DOC]             | ----       | E358-L     | 0.5   | mg/L | 8.57 mg/L                              | 97.1         | 80.0                | 120  | ----      |
| Total Metals (QCLot: 1124754)               |            |            |       |      |  |              |                     |      |           |
| Aluminum, total                             | 7429-90-5  | E420       | 0.003 | mg/L | 2 mg/L                                 | 106          | 80.0                | 120  | ----      |





Sub-Matrix: Water

|   |            |        |          |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|---|------------|--------|----------|------|--|--------------|---------------------|------|-----------|
|   |            |        |          |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                                   | CAS Number | Method | LOR      | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Total Metals (QCLot: 1124754) - continued |            |        |          |      |  |              |                     |      |           |
| Antimony, total                           | 7440-36-0  | E420   | 0.0001   | mg/L | 1 mg/L                                 | 106          | 80.0                | 120  | ----      |
| Arsenic, total                            | 7440-38-2  | E420   | 0.0001   | mg/L | 1 mg/L                                 | 108          | 80.0                | 120  | ----      |
| Barium, total                             | 7440-39-3  | E420   | 0.0001   | mg/L | 0.25 mg/L                              | 107          | 80.0                | 120  | ----      |
| Beryllium, total                          | 7440-41-7  | E420   | 0.00002  | mg/L | 0.1 mg/L                               | 102          | 80.0                | 120  | ----      |
| Bismuth, total                            | 7440-69-9  | E420   | 0.00005  | mg/L | 1 mg/L                                 | 106          | 80.0                | 120  | ----      |
| Boron, total                              | 7440-42-8  | E420   | 0.01     | mg/L | 1 mg/L                                 | 99.0         | 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                                | 105          | 80.0                | 120  | ----      |
| Cesium, total                             | 7440-46-2  | E420   | 0.00001  | mg/L | 0.05 mg/L                              | 108          | 80.0                | 120  | ----      |
| Chromium, total                           | 7440-47-3  | E420   | 0.0005   | mg/L | 0.25 mg/L                              | 104          | 80.0                | 120  | ----      |
| Cobalt, total                             | 7440-48-4  | E420   | 0.0001   | mg/L | 0.25 mg/L                              | 105          | 80.0                | 120  | ----      |
| Copper, total                             | 7440-50-8  | E420   | 0.0005   | mg/L | 0.25 mg/L                              | 102          | 80.0                | 120  | ----      |
| Iron, total                               | 7439-89-6  | E420   | 0.01     | mg/L | 1 mg/L                                 | 120          | 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                              | 109          | 80.0                | 120  | ----      |
| Magnesium, total                          | 7439-95-4  | E420   | 0.005    | mg/L | 50 mg/L                                | 106          | 80.0                | 120  | ----      |
| Manganese, total                          | 7439-96-5  | E420   | 0.0001   | mg/L | 0.25 mg/L                              | 104          | 80.0                | 120  | ----      |
| Molybdenum, total                         | 7439-98-7  | E420   | 0.00005  | mg/L | 0.25 mg/L                              | 102          | 80.0                | 120  | ----      |
| Nickel, total                             | 7440-02-0  | E420   | 0.0005   | mg/L | 0.5 mg/L                               | 104          | 80.0                | 120  | ----      |
| Phosphorus, total                         | 7723-14-0  | E420   | 0.05     | mg/L | 10 mg/L                                | 113          | 80.0                | 120  | ----      |
| Potassium, total                          | 7440-09-7  | E420   | 0.05     | mg/L | 50 mg/L                                | 105          | 80.0                | 120  | ----      |
| Rubidium, total                           | 7440-17-7  | E420   | 0.0002   | mg/L | 0.1 mg/L                               | 106          | 80.0                | 120  | ----      |
| Selenium, total                           | 7782-49-2  | E420   | 0.00005  | mg/L | 1 mg/L                                 | 101          | 80.0                | 120  | ----      |
| Silicon, total                            | 7440-21-3  | E420   | 0.1      | mg/L | 10 mg/L                                | 105          | 80.0                | 120  | ----      |
| Silver, total                             | 7440-22-4  | E420   | 0.00001  | mg/L | 0.1 mg/L                               | 102          | 80.0                | 120  | ----      |
| Sodium, total                             | 7440-23-5  | E420   | 0.05     | mg/L | 50 mg/L                                | 115          | 80.0                | 120  | ----      |
| Strontium, total                          | 7440-24-6  | E420   | 0.0002   | mg/L | 0.25 mg/L                              | 112          | 80.0                | 120  | ----      |
| Sulfur, total                             | 7704-34-9  | E420   | 0.5      | mg/L | 50 mg/L                                | 100          | 80.0                | 120  | ----      |
| Tellurium, total                          | 13494-80-9 | E420   | 0.0002   | mg/L | 0.1 mg/L                               | 105          | 80.0                | 120  | ----      |
| Thallium, total                           | 7440-28-0  | E420   | 0.00001  | mg/L | 1 mg/L                                 | 100          | 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                               | 101          | 80.0                | 120  | ----      |
| Titanium, total                           | 7440-32-6  | E420   | 0.0003   | mg/L | 0.25 mg/L                              | 102          | 80.0                | 120  | ----      |
| Tungsten, total                           | 7440-33-7  | E420   | 0.0001   | mg/L | 0.1 mg/L                               | 94.6         | 80.0                | 120  | ----      |
| Uranium, total                            | 7440-61-1  | E420   | 0.00001  | mg/L | 0.005 mg/L                             | 98.4         | 80.0                | 120  | ----      |
| Vanadium, total                           | 7440-62-2  | E420   | 0.0005   | mg/L | 0.5 mg/L                               | 107          | 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 |  |              |                     |      |           |
| Total Metals (QCLot: 1124754) - continued |            |        |          |      |  |              |                     |      |           |
| Zinc, total                               | 7440-66-6  | E420   | 0.003    | mg/L | 0.5 mg/L                               | 102          | 80.0                | 120  | ----      |
| Zirconium, total                          | 7440-67-7  | E420   | 0.0002   | mg/L | 0.1 mg/L                               | 108          | 80.0                | 120  | ----      |
| Dissolved Metals (QCLot: 1125258)         |            |        |          |      |  |              |                     |      |           |
| Aluminum, dissolved                       | 7429-90-5  | E421   | 0.001    | mg/L | 2 mg/L                                 | 104          | 80.0                | 120  | ----      |
| Antimony, dissolved                       | 7440-36-0  | E421   | 0.0001   | mg/L | 1 mg/L                                 | 99.8         | 80.0                | 120  | ----      |
| Arsenic, dissolved                        | 7440-38-2  | E421   | 0.0001   | mg/L | 1 mg/L                                 | 102          | 80.0                | 120  | ----      |
| Barium, dissolved                         | 7440-39-3  | E421   | 0.0001   | mg/L | 0.25 mg/L                              | 97.9         | 80.0                | 120  | ----      |
| Beryllium, dissolved                      | 7440-41-7  | E421   | 0.00002  | mg/L | 0.1 mg/L                               | 95.3         | 80.0                | 120  | ----      |
| Bismuth, dissolved                        | 7440-69-9  | E421   | 0.00005  | mg/L | 1 mg/L                                 | 97.5         | 80.0                | 120  | ----      |
| Boron, dissolved                          | 7440-42-8  | E421   | 0.01     | mg/L | 1 mg/L                                 | 99.2         | 80.0                | 120  | ----      |
| Cadmium, dissolved                        | 7440-43-9  | E421   | 0.000005 | mg/L | 0.1 mg/L                               | 98.6         | 80.0                | 120  | ----      |
| Calcium, dissolved                        | 7440-70-2  | E421   | 0.05     | mg/L | 50 mg/L                                | 100          | 80.0                | 120  | ----      |
| Cesium, dissolved                         | 7440-46-2  | E421   | 0.00001  | mg/L | 0.05 mg/L                              | 98.8         | 80.0                | 120  | ----      |
| Chromium, dissolved                       | 7440-47-3  | E421   | 0.0005   | mg/L | 0.25 mg/L                              | 96.8         | 80.0                | 120  | ----      |
| Cobalt, dissolved                         | 7440-48-4  | E421   | 0.0001   | mg/L | 0.25 mg/L                              | 97.7         | 80.0                | 120  | ----      |
| Copper, dissolved                         | 7440-50-8  | E421   | 0.0002   | mg/L | 0.25 mg/L                              | 95.8         | 80.0                | 120  | ----      |
| Iron, dissolved                           | 7439-89-6  | E421   | 0.01     | mg/L | 1 mg/L                                 | 100          | 80.0                | 120  | ----      |
| Lead, dissolved                           | 7439-92-1  | E421   | 0.00005  | mg/L | 0.5 mg/L                               | 98.6         | 80.0                | 120  | ----      |
| Lithium, dissolved                        | 7439-93-2  | E421   | 0.001    | mg/L | 0.25 mg/L                              | 107          | 80.0                | 120  | ----      |
| Magnesium, dissolved                      | 7439-95-4  | E421   | 0.005    | mg/L | 50 mg/L                                | 101          | 80.0                | 120  | ----      |
| Manganese, dissolved                      | 7439-96-5  | E421   | 0.0001   | mg/L | 0.25 mg/L                              | 97.1         | 80.0                | 120  | ----      |
| Molybdenum, dissolved                     | 7439-98-7  | E421   | 0.00005  | mg/L | 0.25 mg/L                              | 100          | 80.0                | 120  | ----      |
| Nickel, dissolved                         | 7440-02-0  | E421   | 0.0005   | mg/L | 0.5 mg/L                               | 97.1         | 80.0                | 120  | ----      |
| Phosphorus, dissolved                     | 7723-14-0  | E421   | 0.05     | mg/L | 10 mg/L                                | 99.5         | 80.0                | 120  | ----      |
| Potassium, dissolved                      | 7440-09-7  | E421   | 0.05     | mg/L | 50 mg/L                                | 99.8         | 80.0                | 120  | ----      |
| Rubidium, dissolved                       | 7440-17-7  | E421   | 0.0002   | mg/L | 0.1 mg/L                               | 97.5         | 80.0                | 120  | ----      |
| Selenium, dissolved                       | 7782-49-2  | E421   | 0.00005  | mg/L | 1 mg/L                                 | 104          | 80.0                | 120  | ----      |
| Silicon, dissolved                        | 7440-21-3  | E421   | 0.05     | mg/L | 10 mg/L                                | 106          | 80.0                | 120  | ----      |
| Silver, dissolved                         | 7440-22-4  | E421   | 0.00001  | mg/L | 0.1 mg/L                               | 93.8         | 80.0                | 120  | ----      |
| Sodium, dissolved                         | 7440-23-5  | E421   | 0.05     | mg/L | 50 mg/L                                | 104          | 80.0                | 120  | ----      |
| Strontium, dissolved                      | 7440-24-6  | E421   | 0.0002   | mg/L | 0.25 mg/L                              | 99.4         | 80.0                | 120  | ----      |
| Sulfur, dissolved                         | 7704-34-9  | E421   | 0.5      | mg/L | 50 mg/L                                | 95.3         | 80.0                | 120  | ----      |
| Tellurium, dissolved                      | 13494-80-9 | E421   | 0.0002   | mg/L | 0.1 mg/L                               | 99.6         | 80.0                | 120  | ----      |
| Thallium, dissolved                       | 7440-28-0  | E421   | 0.00001  | mg/L | 1 mg/L                                 | 99.0         | 80.0                | 120  | ----      |
| Thorium, dissolved                        | 7440-29-1  | E421   | 0.0001   | mg/L | 0.1 mg/L                               | 95.7         | 80.0                | 120  | ----      |



| Sub-Matrix: Water                             |            |        |         |      | Laboratory Control Sample (LCS) Report |              |                     |      |           |
|---|------------|--------|---------|------|--|--------------|---------------------|------|-----------|
|   |            |        |         |      | Spike                                  | Recovery (%) | Recovery Limits (%) |      |           |
| Analyte                                       | CAS Number | Method | LOR     | Unit | Concentration                          | LCS          | Low                 | High | Qualifier |
| Dissolved Metals (QCLot: 1125258) - continued |            |        |         |      |  |              |                     |      |           |
| Tin, dissolved                                | 7440-31-5  | E421   | 0.0001  | mg/L | 0.5 mg/L                               | 98.4         | 80.0                | 120  | ----      |
| Titanium, dissolved                           | 7440-32-6  | E421   | 0.0003  | mg/L | 0.25 mg/L                              | 96.9         | 80.0                | 120  | ----      |
| Tungsten, dissolved                           | 7440-33-7  | E421   | 0.0001  | mg/L | 0.1 mg/L                               | 97.1         | 80.0                | 120  | ----      |
| Uranium, dissolved                            | 7440-61-1  | E421   | 0.00001 | mg/L | 0.005 mg/L                             | 100          | 80.0                | 120  | ----      |
| Vanadium, dissolved                           | 7440-62-2  | E421   | 0.0005  | mg/L | 0.5 mg/L                               | 99.0         | 80.0                | 120  | ----      |
| Zinc, dissolved                               | 7440-66-6  | E421   | 0.001   | mg/L | 0.5 mg/L                               | 95.6         | 80.0                | 120  | ----      |
| Zirconium, dissolved                          | 7440-67-7  | E421   | 0.0002  | mg/L | 0.1 mg/L                               | 94.2         | 80.0                | 120  | ----      |



Matrix Spike (MS) Report

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

| Sub-Matrix: Water                           |                  |                                 |            |            | Matrix Spike (MS) Report |            |              |                     |      |           |
|---|------------------|---------------------------------|------------|------------|--------------------------|------------|--------------|---------------------|------|-----------|
|   |                  |                                 |            |            | Spike                    |            | Recovery (%) | Recovery Limits (%) |      |           |
| Laboratory sample ID                        | Client sample ID | Analyte                         | CAS Number | Method     | Concentration            | Target     | MS           | Low                 | High | Qualifier |
| Anions and Nutrients (QCLot: 1124070)       |                  |                                 |            |            |                          |            |              |                     |      |           |
| KS2303318-001                               | Anonymous        | Nitrogen, total                 | 7727-37-9  | E366       | 0.393 mg/L               | 0.4 mg/L   | 98.2         | 70.0                | 130  | ----      |
| Anions and Nutrients (QCLot: 1124073)       |                  |                                 |            |            |                          |            |              |                     |      |           |
| FJ2302270-001                               | Anonymous        | Phosphorus, total               | 7723-14-0  | E372-U     | 0.0491 mg/L              | 0.05 mg/L  | 98.2         | 70.0                | 130  | ----      |
| Anions and Nutrients (QCLot: 1124075)       |                  |                                 |            |            |                          |            |              |                     |      |           |
| FJ2302270-001                               | Anonymous        | Ammonia, total (as N)           | 7664-41-7  | E298       | 0.0899 mg/L              | 0.1 mg/L   | 89.9         | 75.0                | 125  | ----      |
| Anions and Nutrients (QCLot: 1124138)       |                  |                                 |            |            |                          |            |              |                     |      |           |
| KS2303337-002                               | Anonymous        | Nitrate (as N)                  | 14797-55-8 | E235.NO3-L | 129 mg/L                 | 125 mg/L   | 103          | 75.0                | 125  | ----      |
| Anions and Nutrients (QCLot: 1124139)       |                  |                                 |            |            |                          |            |              |                     |      |           |
| KS2303337-002                               | Anonymous        | Nitrite (as N)                  | 14797-65-0 | E235.NO2-L | 25.1 mg/L                | 25 mg/L    | 100          | 75.0                | 125  | ----      |
| Anions and Nutrients (QCLot: 1126736)       |                  |                                 |            |            |                          |            |              |                     |      |           |
| VA23C1067-001                               | Cutthroat Creek  | Nitrogen, total dissolved       | ----       | E368       | 0.403 mg/L               | 0.4 mg/L   | 101          | 70.0                | 130  | ----      |
| Anions and Nutrients (QCLot: 1126738)       |                  |                                 |            |            |                          |            |              |                     |      |           |
| VA23C1067-002                               | Nanika River     | Nitrogen, total                 | 7727-37-9  | E366       | 0.383 mg/L               | 0.4 mg/L   | 95.7         | 70.0                | 130  | ----      |
| Anions and Nutrients (QCLot: 1126739)       |                  |                                 |            |            |                          |            |              |                     |      |           |
| VA23C0927-002                               | Anonymous        | Phosphorus, total               | 7723-14-0  | E372-U     | 4.71 mg/L                | 5 mg/L     | 94.2         | 70.0                | 130  | ----      |
| Anions and Nutrients (QCLot: 1126740)       |                  |                                 |            |            |                          |            |              |                     |      |           |
| VA23C0927-002                               | Anonymous        | Ammonia, total (as N)           | 7664-41-7  | E298       | ND mg/L                  | 0.1 mg/L   | ND           | 75.0                | 125  | MS-B      |
| Organic / Inorganic Carbon (QCLot: 1126737) |                  |                                 |            |            |                          |            |              |                     |      |           |
| VA23C1010-012                               | Anonymous        | Carbon, dissolved organic [DOC] | ----       | E358-L     | 5.12 mg/L                | 5 mg/L     | 102          | 70.0                | 130  | ----      |
| Total Metals (QCLot: 1124754)               |                  |                                 |            |            |                          |            |              |                     |      |           |
| VA23C1059-002                               | Anonymous        | Aluminum, total                 | 7429-90-5  | E420       | 0.187 mg/L               | 0.2 mg/L   | 93.6         | 70.0                | 130  | ----      |
|   |                  | Antimony, total                 | 7440-36-0  | E420       | 0.0189 mg/L              | 0.02 mg/L  | 94.5         | 70.0                | 130  | ----      |
|   |                  | Arsenic, total                  | 7440-38-2  | E420       | 0.0198 mg/L              | 0.02 mg/L  | 98.9         | 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       | 0.0362 mg/L              | 0.04 mg/L  | 90.4         | 70.0                | 130  | ----      |
|   |                  | Bismuth, total                  | 7440-69-9  | E420       | 0.00899 mg/L             | 0.01 mg/L  | 89.9         | 70.0                | 130  | ----      |
|   |                  | Boron, total                    | 7440-42-8  | E420       | 0.086 mg/L               | 0.1 mg/L   | 86.6         | 70.0                | 130  | ----      |
|   |                  | Cadmium, total                  | 7440-43-9  | E420       | 0.00385 mg/L             | 0.004 mg/L | 96.3         | 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: 1124754) - continued |                  |                     |            |        |                          |            |              |                     |      |           |
| VA23C1059-002                             | Anonymous        | Calcium, total      | 7440-70-2  | E420   | ND mg/L                  | 4 mg/L     | ND           | 70.0                | 130  | ----      |
|   |                  | Cesium, total       | 7440-46-2  | E420   | 0.0104 mg/L              | 0.01 mg/L  | 104          | 70.0                | 130  | ----      |
|   |                  | Chromium, total     | 7440-47-3  | E420   | 0.0384 mg/L              | 0.04 mg/L  | 96.0         | 70.0                | 130  | ----      |
|   |                  | Cobalt, total       | 7440-48-4  | E420   | 0.0189 mg/L              | 0.02 mg/L  | 94.4         | 70.0                | 130  | ----      |
|   |                  | Copper, total       | 7440-50-8  | E420   | 0.0176 mg/L              | 0.02 mg/L  | 88.1         | 70.0                | 130  | ----      |
|   |                  | Iron, total         | 7439-89-6  | E420   | 1.87 mg/L                | 2 mg/L     | 93.7         | 70.0                | 130  | ----      |
|   |                  | Lead, total         | 7439-92-1  | E420   | 0.0180 mg/L              | 0.02 mg/L  | 90.1         | 70.0                | 130  | ----      |
|   |                  | Lithium, total      | 7439-93-2  | E420   | 0.0946 mg/L              | 0.1 mg/L   | 94.6         | 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   | 0.0189 mg/L              | 0.02 mg/L  | 94.7         | 70.0                | 130  | ----      |
|   |                  | Nickel, total       | 7440-02-0  | E420   | 0.0372 mg/L              | 0.04 mg/L  | 93.0         | 70.0                | 130  | ----      |
|   |                  | Phosphorus, total   | 7723-14-0  | E420   | 10.2 mg/L                | 10 mg/L    | 102          | 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   | 0.0199 mg/L              | 0.02 mg/L  | 99.7         | 70.0                | 130  | ----      |
|   |                  | Selenium, total     | 7782-49-2  | E420   | 0.0391 mg/L              | 0.04 mg/L  | 97.7         | 70.0                | 130  | ----      |
|   |                  | Silicon, total      | 7440-21-3  | E420   | 9.35 mg/L                | 10 mg/L    | 93.5         | 70.0                | 130  | ----      |
|   |                  | Silver, total       | 7440-22-4  | E420   | 0.00376 mg/L             | 0.004 mg/L | 94.1         | 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   | 0.0382 mg/L              | 0.04 mg/L  | 95.6         | 70.0                | 130  | ----      |
|   |                  | Thallium, total     | 7440-28-0  | E420   | 0.00344 mg/L             | 0.004 mg/L | 86.0         | 70.0                | 130  | ----      |
|   |                  | Thorium, total      | 7440-29-1  | E420   | 0.0193 mg/L              | 0.02 mg/L  | 96.6         | 70.0                | 130  | ----      |
|   |                  | Tin, total          | 7440-31-5  | E420   | 0.0191 mg/L              | 0.02 mg/L  | 95.4         | 70.0                | 130  | ----      |
|   |                  | Titanium, total     | 7440-32-6  | E420   | 0.0380 mg/L              | 0.04 mg/L  | 95.0         | 70.0                | 130  | ----      |
|   |                  | Tungsten, total     | 7440-33-7  | E420   | 0.0179 mg/L              | 0.02 mg/L  | 89.4         | 70.0                | 130  | ----      |
|   |                  | Uranium, total      | 7440-61-1  | E420   | 0.00356 mg/L             | 0.004 mg/L | 89.1         | 70.0                | 130  | ----      |
|   |                  | Vanadium, total     | 7440-62-2  | E420   | 0.102 mg/L               | 0.1 mg/L   | 102          | 70.0                | 130  | ----      |
|   |                  | Zinc, total         | 7440-66-6  | E420   | 0.361 mg/L               | 0.4 mg/L   | 90.3         | 70.0                | 130  | ----      |
|   |                  | Zirconium, total    | 7440-67-7  | E420   | 0.0422 mg/L              | 0.04 mg/L  | 105          | 70.0                | 130  | ----      |
| Dissolved Metals (QCLot: 1125258)         |                  |                     |            |        |                          |            |              |                     |      |           |
| FJ2302287-002                             | Anonymous        | Aluminum, dissolved | 7429-90-5  | E421   | 0.192 mg/L               | 0.2 mg/L   | 95.8         | 70.0                | 130  | ----      |
|   |                  | Antimony, dissolved | 7440-36-0  | E421   | 0.0184 mg/L              | 0.02 mg/L  | 92.1         | 70.0                | 130  | ----      |
|   |                  | Arsenic, dissolved  | 7440-38-2  | E421   | 0.0186 mg/L              | 0.02 mg/L  | 93.1         | 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 |
| Dissolved Metals (QCLot: 1125258) - continued |                  |                       |            |        |                          |            |              |                     |      |           |
| FJ2302287-002                                 | Anonymous        | Barium, dissolved     | 7440-39-3  | E421   | ND mg/L                  | 0.02 mg/L  | ND           | 70.0                | 130  | ----      |
|   |                  | Beryllium, dissolved  | 7440-41-7  | E421   | 0.0384 mg/L              | 0.04 mg/L  | 96.1         | 70.0                | 130  | ----      |
|   |                  | Bismuth, dissolved    | 7440-69-9  | E421   | 0.00849 mg/L             | 0.01 mg/L  | 84.9         | 70.0                | 130  | ----      |
|   |                  | Boron, dissolved      | 7440-42-8  | E421   | 0.096 mg/L               | 0.1 mg/L   | 96.4         | 70.0                | 130  | ----      |
|   |                  | Cadmium, dissolved    | 7440-43-9  | E421   | 0.00382 mg/L             | 0.004 mg/L | 95.6         | 70.0                | 130  | ----      |
|   |                  | Calcium, dissolved    | 7440-70-2  | E421   | ND mg/L                  | 4 mg/L     | ND           | 70.0                | 130  | ----      |
|   |                  | Cesium, dissolved     | 7440-46-2  | E421   | 0.00953 mg/L             | 0.01 mg/L  | 95.3         | 70.0                | 130  | ----      |
|   |                  | Chromium, dissolved   | 7440-47-3  | E421   | 0.0371 mg/L              | 0.04 mg/L  | 92.7         | 70.0                | 130  | ----      |
|   |                  | Cobalt, dissolved     | 7440-48-4  | E421   | 0.0184 mg/L              | 0.02 mg/L  | 91.9         | 70.0                | 130  | ----      |
|   |                  | Copper, dissolved     | 7440-50-8  | E421   | 0.0179 mg/L              | 0.02 mg/L  | 89.6         | 70.0                | 130  | ----      |
|   |                  | Iron, dissolved       | 7439-89-6  | E421   | 1.84 mg/L                | 2 mg/L     | 91.9         | 70.0                | 130  | ----      |
|   |                  | Lead, dissolved       | 7439-92-1  | E421   | 0.0185 mg/L              | 0.02 mg/L  | 92.5         | 70.0                | 130  | ----      |
|   |                  | Lithium, dissolved    | 7439-93-2  | E421   | 0.104 mg/L               | 0.1 mg/L   | 104          | 70.0                | 130  | ----      |
|   |                  | Magnesium, dissolved  | 7439-95-4  | E421   | ND mg/L                  | 1 mg/L     | ND           | 70.0                | 130  | ----      |
|   |                  | Manganese, dissolved  | 7439-96-5  | E421   | 0.0182 mg/L              | 0.02 mg/L  | 91.1         | 70.0                | 130  | ----      |
|   |                  | Molybdenum, dissolved | 7439-98-7  | E421   | 0.0189 mg/L              | 0.02 mg/L  | 94.4         | 70.0                | 130  | ----      |
|   |                  | Nickel, dissolved     | 7440-02-0  | E421   | 0.0369 mg/L              | 0.04 mg/L  | 92.3         | 70.0                | 130  | ----      |
|   |                  | Phosphorus, dissolved | 7723-14-0  | E421   | 9.66 mg/L                | 10 mg/L    | 96.6         | 70.0                | 130  | ----      |
|   |                  | Potassium, dissolved  | 7440-09-7  | E421   | 3.60 mg/L                | 4 mg/L     | 89.9         | 70.0                | 130  | ----      |
|   |                  | Rubidium, dissolved   | 7440-17-7  | E421   | 0.0189 mg/L              | 0.02 mg/L  | 94.6         | 70.0                | 130  | ----      |
|   |                  | Selenium, dissolved   | 7782-49-2  | E421   | 0.0389 mg/L              | 0.04 mg/L  | 97.3         | 70.0                | 130  | ----      |
|   |                  | Silicon, dissolved    | 7440-21-3  | E421   | 9.34 mg/L                | 10 mg/L    | 93.4         | 70.0                | 130  | ----      |
|   |                  | Silver, dissolved     | 7440-22-4  | E421   | 0.00371 mg/L             | 0.004 mg/L | 92.8         | 70.0                | 130  | ----      |
|   |                  | Sodium, dissolved     | 7440-23-5  | E421   | 1.81 mg/L                | 2 mg/L     | 90.6         | 70.0                | 130  | ----      |
|   |                  | Strontium, dissolved  | 7440-24-6  | E421   | ND mg/L                  | 0.02 mg/L  | ND           | 70.0                | 130  | ----      |
|   |                  | Sulfur, dissolved     | 7704-34-9  | E421   | 19.8 mg/L                | 20 mg/L    | 98.8         | 70.0                | 130  | ----      |
|   |                  | Tellurium, dissolved  | 13494-80-9 | E421   | 0.0394 mg/L              | 0.04 mg/L  | 98.5         | 70.0                | 130  | ----      |
|   |                  | Thallium, dissolved   | 7440-28-0  | E421   | 0.00362 mg/L             | 0.004 mg/L | 90.6         | 70.0                | 130  | ----      |
|   |                  | Thorium, dissolved    | 7440-29-1  | E421   | 0.0194 mg/L              | 0.02 mg/L  | 97.0         | 70.0                | 130  | ----      |
|   |                  | Tin, dissolved        | 7440-31-5  | E421   | 0.0184 mg/L              | 0.02 mg/L  | 92.0         | 70.0                | 130  | ----      |
|   |                  | Titanium, dissolved   | 7440-32-6  | E421   | 0.0367 mg/L              | 0.04 mg/L  | 91.8         | 70.0                | 130  | ----      |
|   |                  | Tungsten, dissolved   | 7440-33-7  | E421   | 0.0182 mg/L              | 0.02 mg/L  | 91.3         | 70.0                | 130  | ----      |
|   |                  | Uranium, dissolved    | 7440-61-1  | E421   | 0.00375 mg/L             | 0.004 mg/L | 93.8         | 70.0                | 130  | ----      |
|   |                  | Vanadium, dissolved   | 7440-62-2  | E421   | 0.0940 mg/L              | 0.1 mg/L   | 94.0         | 70.0                | 130  | ----      |
|   |                  | Zinc, dissolved       | 7440-66-6  | E421   | 0.378 mg/L               | 0.4 mg/L   | 94.5         | 70.0                | 130  | ----      |



| Sub-Matrix: <b>Water</b>                      |                  |                      |            |        | Matrix Spike (MS) Report |           |              |                     |      |           |
|---|------------------|----------------------|------------|--------|--------------------------|-----------|--------------|---------------------|------|-----------|
|   |                  |                      |            |        | Spike                    |           | Recovery (%) | Recovery Limits (%) |      |           |
| Laboratory sample ID                          | Client sample ID | Analyte              | CAS Number | Method | Concentration            | Target    | MS           | Low                 | High | Qualifier |
| Dissolved Metals (QCLot: 1125258) - continued |                  |                      |            |        |                          |           |              |                     |      |           |
| FJ2302287-002                                 | Anonymous        | Zirconium, dissolved | 7440-67-7  | E421   | 0.0394 mg/L              | 0.04 mg/L | 98.4         | 70.0                | 130  | ----      |

Qualifiers

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



Telephone: +1 604 253 4188

Environmental Division  
Vancouver  
Work Order Reference  
VA23C1067



Field Crew

Date

DN/AN

Sept 5, 2023

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## Water Quality Sampling Field Card

| Site              | Time    | EMS ID          | Water Stage | Water Colour     | Ice Cover (cm) |
|-------------------|---------|-----------------|-------------|------------------|----------------|
| Cut-throat Creek  | 12:30pm | E272556         | L (M) H     | Light tea        | Ø              |
| Sp. Cond. (uS/cm) | 56.1    | DO (mg/L)       | 5.6         | Duplicate        | Y (N)          |
| Cond (mmHg)       | N/A     | pH              | 7.52        | Field Blank      | Y (N)          |
| DO (%)            | 53      | Water Temp (°C) | 11.9        | # Sample Bottles | 5              |

Notes: KPA 91.6, water level medium, vegetation starting fall season  
Stream bed blanched,

## Water Quality Sampling Field Card

| Site              | Time   | EMS ID          | Water Stage | Water Colour     | Ice Cover (cm) |
|-------------------|--------|-----------------|-------------|------------------|----------------|
| Nanika            | 1:00pm | E272557         | (L) M / H   | clear            | Ø              |
| Sp. Cond. (uS/cm) | 54.1   | DO (mg/L)       | 8.5         | Duplicate        | Y (N)          |
| Cond (mmHg)       | N/A    | pH              | 7.92        | Field Blank      | (Y) N          |
| DO (%)            | 82     | Water Temp (°C) | 13.8        | # Sample Bottles | 10             |

Notes: KPA 92.1 Stream is nice & clear

## Water Quality Sampling Field Card

| Site              | Time   | EMS ID          | Water Stage | Water Colour     | Ice Cover (cm) |
|-------------------|--------|-----------------|-------------|------------------|----------------|
| McBride           | 1:45pm | E260496         | (L) M / H   | clear            | Ø              |
| Sp. Cond. (uS/cm) | 47.5   | DO (mg/L)       | 8.6         | Duplicate        | Y (N)          |
| Cond (mmHg)       | N/A    | pH              | 7.85        | Field Blank      | Y (N)          |
| DO (%)            | 77     | Water Temp (°C) | 10.9        | # Sample Bottles | 5              |

Notes: KPA 92.6

overgrown vegetation. Stream banks exposed due to low flows