




**Eagle Mountain - Woodfibre Gas Pipeline Project
Woodfibre Site Waste Discharge Approval AE-
111973 Report**

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| Reporting Week | Feb 5 th to Feb 11 th , 2024 |
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Eagle Mountain - Woodfibre Gas Pipeline Project

Woodfibre Site Waste Discharge Approval Report

Report Period: February 5th to February 11th, 2024


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Appendix A: Point of Discharge from Water Treatment System Documentation

Appendix B: Receiving Environment Documentation

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Preamble

This report is the initial report for the British Columbia Energy Regulator (BCER) Waste Discharge Approval (BCER number AE 111973) for the FortisBC Eagle Mountain – Woodfibre Gas Pipeline (EGP) Project for the BC Rail site. This report covers the reporting period from February 5th to February 11th, 2024 and includes the results of water quality monitoring and sampling of the receiving environment (upstream and downstream) at the Woodfibre Site. During this timeframe, no discharge into the receiving environment at the Woodfibre Site occurred from the water treatment plant.

FortisBC has retained Triton Environmental Consultants Ltd. as the Qualified Professional to implement and oversee the monitoring and sampling program in the receiving environment. The data represented below, including laboratory reported exceedances, represent background conditions of the receiving environment, and are not related to EGP Project activities. The data collected and reported in this report represents background water quality conditions at the two receiving environment sampling sites as shown on the approved Waste Discharge Approval AE-111973.

Water Treatment Plant Update

Since the issuance of the Waste Discharge Approval (AE 111973) on December 8th, 2023, FortisBC’s tunnel contractor Frontier-Kemper Michels Joint Venture (FKM) has shipped the water treatment plant (WTP) components to the Woodfibre site. No water treatment plant has been set up on site to date.

Introduction

The results provided in this document are submitted to BC Energy Regulator (BCER) by FortisBC as per the requirements listed in the Waste Discharge Approval AE-111973 Section 4.2:

The Approval Holder shall summarize the results of the discharge and receiving environment compliance sampling and monitoring program in a report that shall be submitted weekly over the term of this approval. The sampling and monitoring results shall be suitably tabulated and include comparison to the respective British Columbia Approved and Working Water Quality Guidelines for Freshwater & Marine Aquatic Life, as published by the Ministry of Environment & Climate Change Strategy. Any exceedance of regulatory guidelines shall be clearly highlighted, and any missed sampling events/missing date shall be identified with an explanation provided. Reporting frequency may be reduced upon a history of compliance and by written confirmation from the BCER. These reports shall be submitted to Waste.Management@bc-er.ca. A copy of the reports shall be provided to each First Nation consulted with regarding this subject approval, and also made publicly available on the FortisBC Eagle Mountain-Woodfibre Gas Pipeline Project | Talking Energy webpage.

FortisBC requests that the BCER confirm the receipt of this submittal and confirm that the submission meets the requirements of reporting. Future reports will use this format unless otherwise directed by BCER.



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Sampling Methodology

The monitoring and sampling has been carried out in accordance with the procedures described in the most recent edition of the “British Columbia Field Sampling Manual” using field equipment and lab samples to meet daily and real time requirements for the Waste Discharge Approval.

At the receiving environment, real time daily field readings of pH, temperature, NTU, electrical conductivity, DO, ORP and salinity are being taken using an AquaTROLL 600 datalogger upstream and downstream in the watercourse at the Woodfibre site. Visible sheen will be monitored with visual inspections during times of discharge or sampling. Real time and daily readings are being monitored at the same time with one piece of equipment, allowing all the daily readings to be real time.

At the point of discharge from the WTP, the parameters are being monitored using field equipment (YSI ProDSS) and sondes/real time meters make and models to be confirmed by the contractor. Table 1 and Table 2 below show how each parameter is being monitored.


Table 1. Monitoring Process at Point of Discharge from Water Treatment System

| Permit Frequency | Parameters | Details |
|-----------------------------------|---------------------------|-------------------------------|
| Daily | Visible Sheen | In field inspection |
| Daily (or per batch) | DO | Monitoring using YSI ProDSS |
| | ORP | Monitoring using YSI ProDSS |
| | Salinity | Monitoring using YSI ProDSS |
| Real Time (or per batch) | pH | Monitoring using YSI ProDSS |
| | Temperature | Monitoring using YSI ProDSS |
| | NTU | Monitoring using YSI ProDSS |
| | Electrical Conductivity | Monitoring using YSI ProDSS |
| Weekly (or per batch) Lab Samples | List prescribed in permit | No Changes, still lab samples |

Table 2. Receiving Environment (upstream and downstream) Monitoring Process

| Permit Frequency | Parameters | Details |
|--------------------|---------------------------|--|
| Daily | Visible Sheen | In field inspection |
| Daily | DO | Monitoring using Sonde- AquaTROLL 600 datalogger |
| | ORP | Monitoring using Sonde- AquaTROLL 600 datalogger |
| | Salinity | Monitoring using Sonde- AquaTROLL 600 datalogger |
| Real Time | pH | Monitoring using Sonde- AquaTROLL 600 datalogger |
| | Temperature | Monitoring using Sonde- AquaTROLL 600 datalogger |
| | NTU | Monitoring using Sonde- AquaTROLL 600 datalogger |
| | Electrical Conductivity | Monitoring using Sonde- AquaTROLL 600 datalogger |
| Weekly Lab Samples | List prescribed in permit | No changes, still lab samples |

Receiving Environment equipment details: Sondes: Aqua-TROLL 600 made by In-Situ Inc. Sondes set up to log temperature, specific conductivity, salinity (in PSU), pH, ORP, DO (mg/L), and turbidity (NTU) at 10 minute intervals.

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Point of Discharge from the water treatment system equipment details: YSI ProDSS with pH, conductivity, DO, ORP and turbidity probe that measure pH, temperature, NTU, electrical conductivity, ORP, DO and salinity.

Summary

Activities

- The real time water quality monitoring equipment (sondes) were deployed at the Woodfibre Site on December 18th, 2023.
- No discharges to the receiving environment have occurred from the water treatment plant within the reporting period. The water treatment plan has not yet been built and no tunneling is occurring.

Point of Discharge from Water Treatment System Summary

N/A - No discharge occurred during the reporting period.

Exceedance details

N/A - No discharge occurred during the reporting period.

Receiving Environment Summary


The receiving environment is being monitored as a permit requirement, currently, there are no discharges from the WTP to the receiving environment, so all recorded exceedances in the laboratory report are not project related and existing background quality.

Table 3: Upstream Monitoring Information

| Date of Lab Sample | Real Time Monitored | Field Samples Taken | Results |
|--------------------|---------------------|---------------------|--|
| 2024-02-05 | Yes | Yes-real time | Full set of lab sample results, photo and documentation are provided in Appendix B |


Table 4: Downstream Monitoring Information

| Date of Lab Sample | Real Time Monitored | Field Samples Taken | Results |
|--------------------|---------------------|---------------------|--|
| 2024-02-05 | Yes | Yes-real time | Full set of lab sample results, photo and documentation are provided in Appendix B |


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Receiving Environment Monitoring Details


- Daily visible sheen checks have not been conducted in the receiving environment as there have not been any discharges from the WTP.
- All receiving environment lab results are in Appendix B.
- Recorded exceedances in the laboratory and field samples collected from the receiving environment (upstream and downstream) are indicative of the existing background water quality in the Squamish River, and are not related to the EGP Project activities.

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Appendix A Point of Discharge from Water Treatment Plant Documentation

| | | |
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No discharge from the water treatment plant, nothing to report

| | | |
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Appendix B Receiving Environment Documentation

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Receiving Environment Sample Analysis

| | | |
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Receiving Environment Lab Documentation

CERTIFICATE OF ANALYSIS

Work Order : **VA24A2204**
Client : **Triton Environmental Consultants Ltd.**
Contact :
Address :

Telephone :
Project : 11964
PO : 11964 - Task 20 - Phase 3C-4C
C-O-C number : ----
Sampler : ----
Site : Water Analysis
Quote number : VA23-TRIT100-012
No. of samples received : 2
No. of samples analysed : 2

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Laboratory : ALS Environmental - Vancouver
Account Manager :
Address :

Telephone :
Date Samples Received : 05-Feb-2024 16:35
Date Analysis Commenced : 05-Feb-2024
Issue Date : 12-Feb-2024 12:06

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.

| <i>Signatories</i> | <i>Position</i> | <i>Laboratory Department</i> |
|----------------------|---|---|
| Angelo Salandanan | Lab Assistant | Metals, Burnaby, British Columbia |
| Angelo Salandanan | Lab Assistant | Metals, Burnaby, British Columbia |
| Ghazaleh Khanmirzaei | Analyt | Metals, Burnaby, British Columbia |
| Ghazaleh Khanmirzaei | Analyt | Metals, Burnaby, British Columbia |
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Metals, Burnaby, British Columbia |
| Kim Jensen | Department Manager - Metals | Metals, Burnaby, British Columbia |
| Miles Gropen | Department Manager - Inorganics | Inorganics, Burnaby, British Columbia |
| Miles Gropen | Department Manager - Inorganics | Inorganics, Burnaby, British Columbia |
| Owen Cheng | | Metals, Burnaby, British Columbia |
| Owen Cheng | | Metals, Burnaby, British Columbia |
| Paolo Obillo | Account Manager Assistant | Administration, Burnaby, British Columbia |
| Paolo Obillo | 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).

| <i>Unit</i> | <i>Description</i> |
|-------------|-----------------------------|
| - | no units |
| °C | degrees celsius |
| µS/cm | microsiemens per centimetre |
| mg/L | milligrams per litre |
| pH units | pH units |

<: less than.

>: greater than.

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

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

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

Qualifiers

| <i>Qualifier</i> | <i>Description</i> |
|------------------|---|
| RRV | Reported result verified by repeat analysis. |
| SFPR | Suspected False Positive Result, based on detection in Lab Blanks and/or Field Blanks, or other known issues. |



Analytical Results

| Sub-Matrix: Water | | | | | Client sample ID | WLNG DS 1 | WLNG US 1 | ---- | ---- | ---- |
|--|------------|-------------------|--------|----------|-----------------------------|----------------------|----------------------|-------|-------|------|
| (Matrix: Water) | | | | | Client sampling date / time | 05-Feb-2024 10:12 | 05-Feb-2024 09:28 | ---- | ---- | ---- |
| Analyte | CAS Number | Method/Lab | LOR | Unit | VA24A2204-001 | VA24A2204-002 | ----- | ----- | ----- | |
| | | | | | Result | Result | ---- | ---- | ---- | |
| Field Tests | | | | | | | | | | |
| Conductivity, field | ---- | EF001/VA | 0.10 | µS/cm | 31.000 | 13.000 | ---- | ---- | ---- | |
| pH, field | ---- | EF001/VA | 0.10 | pH units | 7.05 | 6.54 | ---- | ---- | ---- | |
| Temperature, field | ---- | EF001/VA | 0.10 | °C | 6.70 | 6.70 | ---- | ---- | ---- | |
| Physical Tests | | | | | | | | | | |
| Hardness (as CaCO3), dissolved | ---- | EC100/VA | 0.60 | mg/L | 12.4 | 3.98 | ---- | ---- | ---- | |
| Hardness (as CaCO3), from total Ca/Mg | ---- | EC100A/VA | 0.60 | mg/L | 12.9 | 4.01 | ---- | ---- | ---- | |
| Solids, total dissolved [TDS] | ---- | E162/VA | 10 | mg/L | 22 | 15 | ---- | ---- | ---- | |
| Solids, total suspended [TSS] | ---- | E160/VA | 3.0 | mg/L | <3.0 | <3.0 | ---- | ---- | ---- | |
| Alkalinity, total (as CaCO3) | ---- | E290/VA | 2.0 | mg/L | 12.2 | 3.6 | ---- | ---- | ---- | |
| Anions and Nutrients | | | | | | | | | | |
| Ammonia, total (as N) | 7664-41-7 | E298/VA | 0.0050 | mg/L | <0.0050 | <0.0050 | ---- | ---- | ---- | |
| Bromide | 24959-67-9 | E235.Br-L/VA | 0.050 | mg/L | <0.050 | <0.050 | ---- | ---- | ---- | |
| Chloride | 16887-00-6 | E235.Cl/VA | 0.50 | mg/L | 0.54 | 0.71 | ---- | ---- | ---- | |
| Fluoride | 16984-48-8 | E235.F/VA | 0.020 | mg/L | <0.020 | <0.020 | ---- | ---- | ---- | |
| Nitrate (as N) | 14797-55-8 | E235.NO3-L/V A | 0.0050 | mg/L | 0.0420 | 0.0108 | ---- | ---- | ---- | |
| Nitrite (as N) | 14797-65-0 | E235.NO2-L/V A | 0.0010 | mg/L | <0.0010 | <0.0010 | ---- | ---- | ---- | |
| Nitrogen, total | 7727-37-9 | E366/VA | 0.030 | mg/L | 0.096 | 0.046 | ---- | ---- | ---- | |
| Phosphorus, total | 7723-14-0 | E372-U/VA | 0.0020 | mg/L | 0.0053 | 0.0025 | ---- | ---- | ---- | |
| Sulfate (as SO4) | 14808-79-8 | E235.SO4/VA | 0.30 | mg/L | 2.31 | 1.63 | ---- | ---- | ---- | |
| Organic / Inorganic Carbon | | | | | | | | | | |
| Carbon, dissolved organic [DOC] | ---- | E358-L/VA | 0.50 | mg/L | 2.02 | 1.73 | ---- | ---- | ---- | |
| Carbon, total organic [TOC] | ---- | E355-L/VA | 0.50 | mg/L | 2.27 | 2.33 | ---- | ---- | ---- | |
| Total Sulfides | | | | | | | | | | |
| Sulfide, total (as S) | 18496-25-8 | E395/VA | 0.0015 | mg/L | <0.0015 | <0.0015 | ---- | ---- | ---- | |
| Sulfide, un-ionized (as H2S), from total | 7783-06-4 | EC395/VA | 0.0015 | mg/L | <0.0015 | <0.0015 | ---- | ---- | ---- | |
| Sulfide, total (as H2S) | 7783-06-4 | E395/VA | 0.0016 | mg/L | <0.0016 | <0.0016 | ---- | ---- | ---- | |
| Total Metals | | | | | | | | | | |
| Aluminum, total | 7429-90-5 | E420/VA | 0.0030 | mg/L | 0.0999 | 0.0834 | ---- | ---- | ---- | |



Analytical Results

| Sub-Matrix: Water | | | | | Client sample ID | WLNG DS 1 | WLNG US 1 | ---- | ---- | ---- |
|---------------------|------------|------------|-----------|------|-----------------------------|-------------------------|----------------------|-------|-------|------|
| (Matrix: Water) | | | | | Client sampling date / time | 05-Feb-2024 10:12 | 05-Feb-2024 09:28 | ---- | ---- | ---- |
| Analyte | CAS Number | Method/Lab | LOR | Unit | VA24A2204-001 | VA24A2204-002 | ----- | ----- | ----- | |
| | | | | | Result | Result | ---- | ---- | ---- | |
| Total Metals | | | | | | | | | | |
| Antimony, total | 7440-36-0 | E420/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Arsenic, total | 7440-38-2 | E420/VA | 0.00010 | mg/L | <0.00010 | 0.00011 | ---- | ---- | ---- | |
| Barium, total | 7440-39-3 | E420/VA | 0.00010 | mg/L | 0.00336 | 0.00180 | ---- | ---- | ---- | |
| Beryllium, total | 7440-41-7 | E420/VA | 0.000100 | mg/L | <0.000100 | <0.000100 | ---- | ---- | ---- | |
| Bismuth, total | 7440-69-9 | E420/VA | 0.000050 | mg/L | <0.000050 | <0.000050 | ---- | ---- | ---- | |
| Boron, total | 7440-42-8 | E420/VA | 0.010 | mg/L | <0.010 | <0.010 | ---- | ---- | ---- | |
| Cadmium, total | 7440-43-9 | E420/VA | 0.0000050 | mg/L | 0.0000055 | 0.0000070 | ---- | ---- | ---- | |
| Calcium, total | 7440-70-2 | E420/VA | 0.050 | mg/L | 4.61 | 1.37 | ---- | ---- | ---- | |
| Cesium, total | 7440-46-2 | E420/VA | 0.000010 | mg/L | <0.000010 | <0.000010 | ---- | ---- | ---- | |
| Chromium, total | 7440-47-3 | E420/VA | 0.00050 | mg/L | <0.00050 | <0.00050 ^{RRV} | ---- | ---- | ---- | |
| Cobalt, total | 7440-48-4 | E420/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Copper, total | 7440-50-8 | E420/VA | 0.00050 | mg/L | 0.00058 | 0.00061 | ---- | ---- | ---- | |
| Iron, total | 7439-89-6 | E420/VA | 0.010 | mg/L | 0.050 | 0.023 | ---- | ---- | ---- | |
| Lead, total | 7439-92-1 | E420/VA | 0.000050 | mg/L | <0.000050 | <0.000050 | ---- | ---- | ---- | |
| Lithium, total | 7439-93-2 | E420/VA | 0.0010 | mg/L | <0.0010 | <0.0010 | ---- | ---- | ---- | |
| Magnesium, total | 7439-95-4 | E420/VA | 0.0050 | mg/L | 0.329 | 0.144 | ---- | ---- | ---- | |
| Manganese, total | 7439-96-5 | E420/VA | 0.00010 | mg/L | 0.00266 | 0.00092 | ---- | ---- | ---- | |
| Mercury, total | 7439-97-6 | E508/VA | 0.0000050 | mg/L | <0.0000050 | <0.0000050 | ---- | ---- | ---- | |
| Molybdenum, total | 7439-98-7 | E420/VA | 0.000050 | mg/L | 0.000385 | 0.000265 | ---- | ---- | ---- | |
| Nickel, total | 7440-02-0 | E420/VA | 0.00050 | mg/L | <0.00050 | <0.00050 | ---- | ---- | ---- | |
| Phosphorus, total | 7723-14-0 | E420/VA | 0.050 | mg/L | <0.050 | <0.050 | ---- | ---- | ---- | |
| Potassium, total | 7440-09-7 | E420/VA | 0.050 | mg/L | 0.184 | 0.125 | ---- | ---- | ---- | |
| Rubidium, total | 7440-17-7 | E420/VA | 0.00020 | mg/L | 0.00027 | <0.00020 | ---- | ---- | ---- | |
| Selenium, total | 7782-49-2 | E420/VA | 0.000050 | mg/L | <0.000050 | <0.000050 | ---- | ---- | ---- | |
| Silicon, total | 7440-21-3 | E420/VA | 0.10 | mg/L | 3.49 | 3.48 | ---- | ---- | ---- | |
| Silver, total | 7440-22-4 | E420/VA | 0.000010 | mg/L | <0.000010 | <0.000010 | ---- | ---- | ---- | |
| Sodium, total | 7440-23-5 | E420/VA | 0.050 | mg/L | 1.14 | 1.03 | ---- | ---- | ---- | |
| Strontium, total | 7440-24-6 | E420/VA | 0.00020 | mg/L | 0.0164 | 0.00747 | ---- | ---- | ---- | |
| Sulfur, total | 7704-34-9 | E420/VA | 0.50 | mg/L | 0.57 | <0.50 | ---- | ---- | ---- | |
| Tellurium, total | 13494-80-9 | E420/VA | 0.00020 | mg/L | <0.00020 | <0.00020 | ---- | ---- | ---- | |



Analytical Results

| Sub-Matrix: Water | | | | | Client sample ID | WLNG DS 1 | WLNG US 1 | ---- | ---- | ---- |
|-------------------------|------------|------------|-----------|------|-----------------------------|----------------------|----------------------|-------|-------|------|
| (Matrix: Water) | | | | | Client sampling date / time | 05-Feb-2024 10:12 | 05-Feb-2024 09:28 | ---- | ---- | ---- |
| Analyte | CAS Number | Method/Lab | LOR | Unit | VA24A2204-001 | VA24A2204-002 | ----- | ----- | ----- | |
| | | | | | Result | Result | ---- | ---- | ---- | |
| Total Metals | | | | | | | | | | |
| Thallium, total | 7440-28-0 | E420/VA | 0.000010 | mg/L | <0.000010 | <0.000010 | ---- | ---- | ---- | |
| Thorium, total | 7440-29-1 | E420/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Tin, total | 7440-31-5 | E420/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Titanium, total | 7440-32-6 | E420/VA | 0.00030 | mg/L | 0.00162 | 0.00070 | ---- | ---- | ---- | |
| Tungsten, total | 7440-33-7 | E420/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Uranium, total | 7440-61-1 | E420/VA | 0.000010 | mg/L | 0.000145 | 0.000150 | ---- | ---- | ---- | |
| Vanadium, total | 7440-62-2 | E420/VA | 0.00050 | mg/L | <0.00050 | <0.00050 | ---- | ---- | ---- | |
| Zinc, total | 7440-66-6 | E420/VA | 0.0030 | mg/L | <0.0030 | <0.0030 | ---- | ---- | ---- | |
| Zirconium, total | 7440-67-7 | E420/VA | 0.00020 | mg/L | <0.00020 | <0.00020 | ---- | ---- | ---- | |
| Dissolved Metals | | | | | | | | | | |
| Aluminum, dissolved | 7429-90-5 | E421/VA | 0.0010 | mg/L | 0.0652 | 0.0656 | ---- | ---- | ---- | |
| Antimony, dissolved | 7440-36-0 | E421/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Arsenic, dissolved | 7440-38-2 | E421/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Barium, dissolved | 7440-39-3 | E421/VA | 0.00010 | mg/L | 0.00322 | 0.00175 | ---- | ---- | ---- | |
| Beryllium, dissolved | 7440-41-7 | E421/VA | 0.000100 | mg/L | <0.000100 | <0.000100 | ---- | ---- | ---- | |
| Bismuth, dissolved | 7440-69-9 | E421/VA | 0.000050 | mg/L | <0.000050 | <0.000050 | ---- | ---- | ---- | |
| Boron, dissolved | 7440-42-8 | E421/VA | 0.010 | mg/L | <0.010 | <0.010 | ---- | ---- | ---- | |
| Cadmium, dissolved | 7440-43-9 | E421/VA | 0.0000050 | mg/L | 0.0000073 | 0.0000088 | ---- | ---- | ---- | |
| Calcium, dissolved | 7440-70-2 | E421/VA | 0.050 | mg/L | 4.45 | 1.36 | ---- | ---- | ---- | |
| Cesium, dissolved | 7440-46-2 | E421/VA | 0.000010 | mg/L | <0.000010 | <0.000010 | ---- | ---- | ---- | |
| Chromium, dissolved | 7440-47-3 | E421/VA | 0.00050 | mg/L | <0.00050 | <0.00050 | ---- | ---- | ---- | |
| Cobalt, dissolved | 7440-48-4 | E421/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Copper, dissolved | 7440-50-8 | E421/VA | 0.00020 | mg/L | 0.00052 | 0.00058 | ---- | ---- | ---- | |
| Iron, dissolved | 7439-89-6 | E421/VA | 0.010 | mg/L | 0.012 | 0.011 | ---- | ---- | ---- | |
| Lead, dissolved | 7439-92-1 | E421/VA | 0.000050 | mg/L | <0.000050 | <0.000050 | ---- | ---- | ---- | |
| Lithium, dissolved | 7439-93-2 | E421/VA | 0.0010 | mg/L | <0.0010 | <0.0010 | ---- | ---- | ---- | |
| Magnesium, dissolved | 7439-95-4 | E421/VA | 0.0050 | mg/L | 0.324 | 0.142 | ---- | ---- | ---- | |
| Manganese, dissolved | 7439-96-5 | E421/VA | 0.00010 | mg/L | 0.00113 | 0.00033 | ---- | ---- | ---- | |
| Mercury, dissolved | 7439-97-6 | E509/VA | 0.0000050 | mg/L | <0.0000050 | <0.0000050 | ---- | ---- | ---- | |
| Molybdenum, dissolved | 7439-98-7 | E421/VA | 0.000050 | mg/L | 0.000372 | 0.000289 | ---- | ---- | ---- | |



Analytical Results

| Sub-Matrix: Water | | | | | Client sample ID | WLNG DS 1 | WLNG US 1 | ---- | ---- | ---- |
|---|------------|------------|----------|------|-----------------------------|----------------------|----------------------|-------|-------|------|
| (Matrix: Water) | | | | | Client sampling date / time | 05-Feb-2024 10:12 | 05-Feb-2024 09:28 | ---- | ---- | ---- |
| Analyte | CAS Number | Method/Lab | LOR | Unit | VA24A2204-001 | VA24A2204-002 | ----- | ----- | ----- | |
| | | | | | Result | Result | ---- | ---- | ---- | |
| Dissolved Metals | | | | | | | | | | |
| Nickel, dissolved | 7440-02-0 | E421/VA | 0.00050 | mg/L | <0.00050 | <0.00050 | ---- | ---- | ---- | |
| Phosphorus, dissolved | 7723-14-0 | E421/VA | 0.050 | mg/L | <0.050 | <0.050 | ---- | ---- | ---- | |
| Potassium, dissolved | 7440-09-7 | E421/VA | 0.050 | mg/L | 0.171 | 0.111 | ---- | ---- | ---- | |
| Rubidium, dissolved | 7440-17-7 | E421/VA | 0.00020 | mg/L | 0.00025 | <0.00020 | ---- | ---- | ---- | |
| Selenium, dissolved | 7782-49-2 | E421/VA | 0.000050 | mg/L | <0.000050 | <0.000050 | ---- | ---- | ---- | |
| Silicon, dissolved | 7440-21-3 | E421/VA | 0.050 | mg/L | 3.52 | 3.42 | ---- | ---- | ---- | |
| Silver, dissolved | 7440-22-4 | E421/VA | 0.000010 | mg/L | <0.000010 | <0.000010 | ---- | ---- | ---- | |
| Sodium, dissolved | 7440-23-5 | E421/VA | 0.050 | mg/L | 1.08 | 0.949 | ---- | ---- | ---- | |
| Strontium, dissolved | 7440-24-6 | E421/VA | 0.00020 | mg/L | 0.0159 | 0.00725 | ---- | ---- | ---- | |
| Sulfur, dissolved | 7704-34-9 | E421/VA | 0.50 | mg/L | <0.50 | <0.50 | ---- | ---- | ---- | |
| Tellurium, dissolved | 13494-80-9 | E421/VA | 0.00020 | mg/L | <0.00020 | <0.00020 | ---- | ---- | ---- | |
| Thallium, dissolved | 7440-28-0 | E421/VA | 0.000010 | mg/L | <0.000010 | <0.000010 | ---- | ---- | ---- | |
| Thorium, dissolved | 7440-29-1 | E421/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Tin, dissolved | 7440-31-5 | E421/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Titanium, dissolved | 7440-32-6 | E421/VA | 0.00030 | mg/L | <0.00030 | <0.00030 | ---- | ---- | ---- | |
| Tungsten, dissolved | 7440-33-7 | E421/VA | 0.00010 | mg/L | <0.00010 | <0.00010 | ---- | ---- | ---- | |
| Uranium, dissolved | 7440-61-1 | E421/VA | 0.000010 | mg/L | 0.000127 | 0.000127 | ---- | ---- | ---- | |
| Vanadium, dissolved | 7440-62-2 | E421/VA | 0.00050 | mg/L | <0.00050 | <0.00050 | ---- | ---- | ---- | |
| Zinc, dissolved | 7440-66-6 | E421/VA | 0.0010 | mg/L | 0.0014 | 0.0012 | ---- | ---- | ---- | |
| Zirconium, dissolved | 7440-67-7 | E421/VA | 0.00020 | mg/L | <0.00020 | <0.00020 | ---- | ---- | ---- | |
| Dissolved mercury filtration location | ---- | EP509/VA | - | - | Field | Field | ---- | ---- | ---- | |
| Dissolved metals filtration location | ---- | EP421/VA | - | - | Field | Field | ---- | ---- | ---- | |
| Speciated Metals | | | | | | | | | | |
| Chromium, hexavalent [Cr VI], dissolved | 18540-29-9 | E532A/VA | 0.00050 | mg/L | <0.00050 | <0.00214 | RRV, SFPR | ---- | ---- | ---- |
| Chromium, hexavalent [Cr VI], total | 18540-29-9 | E532/VA | 0.00050 | mg/L | <0.00050 | <0.00050 | RRV | ---- | ---- | ---- |
| Chromium, trivalent [Cr III], dissolved | 16065-83-1 | EC535A/VA | 0.00050 | mg/L | <0.00050 | <0.00214 | ---- | ---- | ---- | |
| Chromium, trivalent [Cr III], total | 16065-83-1 | EC535/VA | 0.00050 | mg/L | <0.00050 | <0.00050 | ---- | ---- | ---- | |

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

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



QUALITY CONTROL INTERPRETIVE REPORT

| | |
|--|---|
| <p>Work Order : VA24A2204</p> <p>Client : Triton Environmental Consultants Ltd.</p> <p>Contact : [REDACTED]</p> <p>Address : [REDACTED]</p> <p>Telephone : [REDACTED]</p> <p>Project : 11964</p> <p>PO : 11964 - Task 20 - Phase 3C-4C</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : Water Analysis</p> <p>Quote number : VA23-TRIT100-012</p> <p>No. of samples received : 2</p> <p>No. of samples analysed : 2</p> | <p>Page : 1 of 15</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : [REDACTED]</p> <p>Address : [REDACTED]</p> <p>Telephone : [REDACTED]</p> <p>Date Samples Received : 05-Feb-2024 16:35</p> <p>Issue Date : 12-Feb-2024 12:07</p> |
|--|---|

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

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



Analysis Holding Time Compliance

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

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

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

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

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

| Analyte Group : Analytical Method Container / Client Sample ID(s) | Method | Sampling Date | Extraction / Preparation | | | | Analysis | | | | |
|--|-----------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|--|
| | | | Preparation Date | Holding Times | | Eval | Analysis Date | Holding Times | | Eval | |
| | | | | Rec | Actual | | | Rec | Actual | | |
| Anions and Nutrients : Ammonia by Fluorescence | | | | | | | | | | | |
| Amber glass total (sulfuric acid) WLNG DS 1 | E298 | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✔ | 08-Feb-2024 | 28 days | 3 days | ✔ | |
| Anions and Nutrients : Ammonia by Fluorescence | | | | | | | | | | | |
| Amber glass total (sulfuric acid) WLNG US 1 | E298 | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✔ | 08-Feb-2024 | 28 days | 3 days | ✔ | |
| Anions and Nutrients : Bromide in Water by IC (Low Level) | | | | | | | | | | | |
| HDPE WLNG DS 1 | E235.Br-L | 05-Feb-2024 | 06-Feb-2024 | 28 days | 1 days | ✔ | 06-Feb-2024 | 28 days | 1 days | ✔ | |
| Anions and Nutrients : Bromide in Water by IC (Low Level) | | | | | | | | | | | |
| HDPE WLNG US 1 | E235.Br-L | 05-Feb-2024 | 06-Feb-2024 | 28 days | 1 days | ✔ | 06-Feb-2024 | 28 days | 1 days | ✔ | |
| Anions and Nutrients : Chloride in Water by IC | | | | | | | | | | | |
| HDPE WLNG DS 1 | E235.Cl | 05-Feb-2024 | 06-Feb-2024 | 28 days | 1 days | ✔ | 06-Feb-2024 | 28 days | 1 days | ✔ | |
| Anions and Nutrients : Chloride in Water by IC | | | | | | | | | | | |
| HDPE WLNG US 1 | E235.Cl | 05-Feb-2024 | 06-Feb-2024 | 28 days | 1 days | ✔ | 06-Feb-2024 | 28 days | 1 days | ✔ | |
| Anions and Nutrients : Fluoride in Water by IC | | | | | | | | | | | |
| HDPE WLNG DS 1 | E235.F | 05-Feb-2024 | 06-Feb-2024 | 28 days | 1 days | ✔ | 06-Feb-2024 | 28 days | 1 days | ✔ | |



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

| Analyte Group : Analytical Method Container / Client Sample ID(s) | Method | Sampling Date | Extraction / Preparation | | | | Analysis | | | | |
|--|------------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|--|
| | | | Preparation Date | Holding Times | | Eval | Analysis Date | Holding Times | | Eval | |
| | | | | Rec | Actual | | | Rec | Actual | | |
| Anions and Nutrients : Fluoride in Water by IC | | | | | | | | | | | |
| HDPE WLNG US 1 | E235.F | 05-Feb-2024 | 06-Feb-2024 | 28 days | 1 days | ✓ | 06-Feb-2024 | 28 days | 1 days | ✓ | |
| Anions and Nutrients : Nitrate in Water by IC (Low Level) | | | | | | | | | | | |
| HDPE WLNG DS 1 | E235.NO3-L | 05-Feb-2024 | 06-Feb-2024 | 3 days | 1 days | ✓ | 06-Feb-2024 | 3 days | 1 days | ✓ | |
| Anions and Nutrients : Nitrate in Water by IC (Low Level) | | | | | | | | | | | |
| HDPE WLNG US 1 | E235.NO3-L | 05-Feb-2024 | 06-Feb-2024 | 3 days | 1 days | ✓ | 06-Feb-2024 | 3 days | 1 days | ✓ | |
| Anions and Nutrients : Nitrite in Water by IC (Low Level) | | | | | | | | | | | |
| HDPE WLNG DS 1 | E235.NO2-L | 05-Feb-2024 | 06-Feb-2024 | 3 days | 1 days | ✓ | 06-Feb-2024 | 3 days | 1 days | ✓ | |
| Anions and Nutrients : Nitrite in Water by IC (Low Level) | | | | | | | | | | | |
| HDPE WLNG US 1 | E235.NO2-L | 05-Feb-2024 | 06-Feb-2024 | 3 days | 1 days | ✓ | 06-Feb-2024 | 3 days | 1 days | ✓ | |
| Anions and Nutrients : Sulfate in Water by IC | | | | | | | | | | | |
| HDPE WLNG DS 1 | E235.SO4 | 05-Feb-2024 | 06-Feb-2024 | 28 days | 1 days | ✓ | 06-Feb-2024 | 28 days | 1 days | ✓ | |
| Anions and Nutrients : Sulfate in Water by IC | | | | | | | | | | | |
| HDPE WLNG US 1 | E235.SO4 | 05-Feb-2024 | 06-Feb-2024 | 28 days | 1 days | ✓ | 06-Feb-2024 | 28 days | 1 days | ✓ | |
| Anions and Nutrients : Total Nitrogen by Colourimetry | | | | | | | | | | | |
| Amber glass total (sulfuric acid) WLNG DS 1 | E366 | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 08-Feb-2024 | 28 days | 3 days | ✓ | |
| Anions and Nutrients : Total Nitrogen by Colourimetry | | | | | | | | | | | |
| Amber glass total (sulfuric acid) WLNG US 1 | E366 | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 08-Feb-2024 | 28 days | 3 days | ✓ | |



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

| Analyte Group : Analytical Method Container / Client Sample ID(s) | Method | Sampling Date | Extraction / Preparation | | | | Analysis | | | |
|---|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| | | | Preparation Date | Holding Times | | Eval | Analysis Date | Holding Times | | Eval |
| | | | | Rec | Actual | | | Rec | Actual | |
| Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L) | | | | | | | | | | |
| Amber glass total (sulfuric acid) WLNG DS 1 | E372-U | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 08-Feb-2024 | 28 days | 3 days | ✓ |
| Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L) | | | | | | | | | | |
| Amber glass total (sulfuric acid) WLNG US 1 | E372-U | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 08-Feb-2024 | 28 days | 3 days | ✓ |
| Dissolved Metals : Dissolved Mercury in Water by CVAAS | | | | | | | | | | |
| Glass vial - dissolved (lab preserved) WLNG DS 1 | E509 | 05-Feb-2024 | 09-Feb-2024 | 28 days | 4 days | ✓ | 09-Feb-2024 | 28 days | 4 days | ✓ |
| Dissolved Metals : Dissolved Mercury in Water by CVAAS | | | | | | | | | | |
| Glass vial - dissolved (lab preserved) WLNG US 1 | E509 | 05-Feb-2024 | 09-Feb-2024 | 28 days | 4 days | ✓ | 09-Feb-2024 | 28 days | 4 days | ✓ |
| Dissolved Metals : Dissolved Metals in Water by CRC ICPMS | | | | | | | | | | |
| HDPE - dissolved (lab preserved) WLNG DS 1 | E421 | 05-Feb-2024 | 06-Feb-2024 | 180 days | 1 days | ✓ | 07-Feb-2024 | 180 days | 2 days | ✓ |
| Dissolved Metals : Dissolved Metals in Water by CRC ICPMS | | | | | | | | | | |
| HDPE - dissolved (lab preserved) WLNG US 1 | E421 | 05-Feb-2024 | 06-Feb-2024 | 180 days | 1 days | ✓ | 07-Feb-2024 | 180 days | 2 days | ✓ |
| Field Tests : Field pH,EC,Salinity,Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine | | | | | | | | | | |
| Glass vial - total (lab preserved) WLNG DS 1 | EF001 | 05-Feb-2024 | ---- | ---- | ---- | | 06-Feb-2024 | ---- | 1 days | |
| Field Tests : Field pH,EC,Salinity,Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine | | | | | | | | | | |
| Glass vial - total (lab preserved) WLNG US 1 | EF001 | 05-Feb-2024 | ---- | ---- | ---- | | 06-Feb-2024 | ---- | 1 days | |
| Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level) | | | | | | | | | | |
| Amber glass dissolved (sulfuric acid) WLNG DS 1 | E358-L | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 07-Feb-2024 | 28 days | 2 days | ✓ |



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

| Analyte Group : Analytical Method Container / Client Sample ID(s) | Method | Sampling Date | Extraction / Preparation | | | | Analysis | | | |
|--|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| | | | Preparation Date | Holding Times | | Eval | Analysis Date | Holding Times | | Eval |
| | | | | Rec | Actual | | | Rec | Actual | |
| Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level) | | | | | | | | | | |
| Amber glass dissolved (sulfuric acid) WLNG US 1 | E358-L | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 07-Feb-2024 | 28 days | 2 days | ✓ |
| Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level) | | | | | | | | | | |
| Amber glass total (sulfuric acid) WLNG DS 1 | E355-L | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 07-Feb-2024 | 28 days | 2 days | ✓ |
| Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level) | | | | | | | | | | |
| Amber glass total (sulfuric acid) WLNG US 1 | E355-L | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 07-Feb-2024 | 28 days | 2 days | ✓ |
| Physical Tests : Alkalinity Species by Titration | | | | | | | | | | |
| HDPE WLNG DS 1 | E290 | 05-Feb-2024 | 06-Feb-2024 | 14 days | 1 days | ✓ | 06-Feb-2024 | 14 days | 1 days | ✓ |
| Physical Tests : Alkalinity Species by Titration | | | | | | | | | | |
| HDPE WLNG US 1 | E290 | 05-Feb-2024 | 06-Feb-2024 | 14 days | 1 days | ✓ | 06-Feb-2024 | 14 days | 1 days | ✓ |
| Physical Tests : TDS by Gravimetry | | | | | | | | | | |
| HDPE WLNG DS 1 | E162 | 05-Feb-2024 | ---- | ---- | ---- | | 08-Feb-2024 | 7 days | 3 days | ✓ |
| Physical Tests : TDS by Gravimetry | | | | | | | | | | |
| HDPE WLNG US 1 | E162 | 05-Feb-2024 | ---- | ---- | ---- | | 08-Feb-2024 | 7 days | 3 days | ✓ |
| Physical Tests : TSS by Gravimetry | | | | | | | | | | |
| HDPE WLNG DS 1 | E160 | 05-Feb-2024 | ---- | ---- | ---- | | 08-Feb-2024 | 7 days | 3 days | ✓ |
| Physical Tests : TSS by Gravimetry | | | | | | | | | | |
| HDPE WLNG US 1 | E160 | 05-Feb-2024 | ---- | ---- | ---- | | 08-Feb-2024 | 7 days | 3 days | ✓ |



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

| Analyte Group : Analytical Method Container / Client Sample ID(s) | Method | Sampling Date | Extraction / Preparation | | | | Analysis | | | |
|--|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| | | | Preparation Date | Holding Times | | Eval | Analysis Date | Holding Times | | Eval |
| | | | | Rec | Actual | | | Rec | Actual | |
| Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC | | | | | | | | | | |
| UV-inhibited HDPE - dissolved (sodium hydroxide) WLNG DS 1 | E532A | 05-Feb-2024 | ---- | ---- | ---- | | 05-Feb-2024 | 28 days | 1 days | ✓ |
| Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC | | | | | | | | | | |
| UV-inhibited HDPE - dissolved (sodium hydroxide) WLNG US 1 | E532A | 05-Feb-2024 | ---- | ---- | ---- | | 05-Feb-2024 | 28 days | 1 days | ✓ |
| Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC | | | | | | | | | | |
| UV-inhibited HDPE - total (sodium hydroxide) WLNG DS 1 | E532 | 05-Feb-2024 | ---- | ---- | ---- | | 05-Feb-2024 | 28 days | 1 days | ✓ |
| Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC | | | | | | | | | | |
| UV-inhibited HDPE - total (sodium hydroxide) WLNG US 1 | E532 | 05-Feb-2024 | ---- | ---- | ---- | | 05-Feb-2024 | 28 days | 1 days | ✓ |
| Total Metals : Total Mercury in Water by CVAAS | | | | | | | | | | |
| Glass vial - total (lab preserved) WLNG DS 1 | E508 | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 07-Feb-2024 | 28 days | 2 days | ✓ |
| Total Metals : Total Mercury in Water by CVAAS | | | | | | | | | | |
| Glass vial - total (lab preserved) WLNG US 1 | E508 | 05-Feb-2024 | 07-Feb-2024 | 28 days | 2 days | ✓ | 07-Feb-2024 | 28 days | 2 days | ✓ |
| Total Metals : Total Metals in Water by CRC ICPMS | | | | | | | | | | |
| HDPE - total (lab preserved) WLNG DS 1 | E420 | 05-Feb-2024 | 06-Feb-2024 | 180 days | 1 days | ✓ | 07-Feb-2024 | 180 days | 2 days | ✓ |
| Total Metals : Total Metals in Water by CRC ICPMS | | | | | | | | | | |
| HDPE - total (lab preserved) WLNG US 1 | E420 | 05-Feb-2024 | 06-Feb-2024 | 180 days | 1 days | ✓ | 07-Feb-2024 | 180 days | 2 days | ✓ |
| Total Sulfides : Total Sulfide by Colourimetry (Automated Flow) | | | | | | | | | | |
| HDPE total (zinc acetate+sodium hydroxide) WLNG DS 1 | E395 | 05-Feb-2024 | ---- | ---- | ---- | | 09-Feb-2024 | 7 days | 4 days | ✓ |



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

| Analyte Group : Analytical Method Container / Client Sample ID(s) | Method | Sampling Date | Extraction / Preparation | | | | Analysis | | | |
|--|--------|---------------|--------------------------|---------------|--------|------|---------------|---------------|--------|------|
| | | | Preparation Date | Holding Times | | Eval | Analysis Date | Holding Times | | Eval |
| | | | | Rec | Actual | | | Rec | Actual | |
| Total Sulfides : Total Sulfide by Colourimetry (Automated Flow) | | | | | | | | | | |
| HDPE total (zinc acetate+sodium hydroxide) WLNQ US 1 | E395 | 05-Feb-2024 | ---- | ---- | ---- | | 09-Feb-2024 | 7 days | 4 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 | Method | QC Lot # | Count | | Frequency (%) | | |
|--|------------|----------|-------|---------|---------------|----------|------------|
| | | | QC | Regular | Actual | Expected | Evaluation |
| Analytical Methods | | | | | | | |
| Laboratory Duplicates (DUP) | | | | | | | |
| Alkalinity Species by Titration | E290 | 1323644 | 1 | 10 | 10.0 | 5.0 | ✔ |
| Ammonia by Fluorescence | E298 | 1325571 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Bromide in Water by IC (Low Level) | E235.Br-L | 1323641 | 1 | 13 | 7.6 | 5.0 | ✔ |
| Chloride in Water by IC | E235.Cl | 1323636 | 1 | 16 | 6.2 | 5.0 | ✔ |
| Dissolved Hexavalent Chromium (Cr VI) by IC | E532A | 1323465 | 2 | 22 | 9.0 | 5.0 | ✔ |
| Dissolved Mercury in Water by CVAAS | E509 | 1327462 | 1 | 20 | 5.0 | 5.0 | ✔ |
| Dissolved Metals in Water by CRC ICPMS | E421 | 1324170 | 1 | 19 | 5.2 | 5.0 | ✔ |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L | 1325567 | 1 | 8 | 12.5 | 5.0 | ✔ |
| Fluoride in Water by IC | E235.F | 1323640 | 1 | 15 | 6.6 | 5.0 | ✔ |
| Nitrate in Water by IC (Low Level) | E235.NO3-L | 1323638 | 1 | 5 | 20.0 | 5.0 | ✔ |
| Nitrite in Water by IC (Low Level) | E235.NO2-L | 1323639 | 1 | 15 | 6.6 | 5.0 | ✔ |
| Sulfate in Water by IC | E235.SO4 | 1323637 | 1 | 19 | 5.2 | 5.0 | ✔ |
| TDS by Gravimetry | E162 | 1327082 | 1 | 17 | 5.8 | 5.0 | ✔ |
| Total Hexavalent Chromium (Cr VI) by IC | E532 | 1323472 | 1 | 23 | 4.3 | 5.0 | ✖ |
| Total Mercury in Water by CVAAS | E508 | 1325237 | 1 | 9 | 11.1 | 5.0 | ✔ |
| Total Metals in Water by CRC ICPMS | E420 | 1324164 | 1 | 20 | 5.0 | 5.0 | ✔ |
| Total Nitrogen by Colourimetry | E366 | 1325569 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Total Organic Carbon (Non-Purgeable) by Combustion (Low Level) | E355-L | 1325568 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Total Phosphorus by Colourimetry (0.002 mg/L) | E372-U | 1325570 | 1 | 10 | 10.0 | 5.0 | ✔ |
| Total Sulfide by Colourimetry (Automated Flow) | E395 | 1328350 | 1 | 7 | 14.2 | 5.0 | ✔ |
| TSS by Gravimetry | E160 | 1327071 | 1 | 17 | 5.8 | 5.0 | ✔ |
| Laboratory Control Samples (LCS) | | | | | | | |
| Alkalinity Species by Titration | E290 | 1323644 | 1 | 10 | 10.0 | 5.0 | ✔ |
| Ammonia by Fluorescence | E298 | 1325571 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Bromide in Water by IC (Low Level) | E235.Br-L | 1323641 | 1 | 13 | 7.6 | 5.0 | ✔ |
| Chloride in Water by IC | E235.Cl | 1323636 | 1 | 16 | 6.2 | 5.0 | ✔ |
| Dissolved Hexavalent Chromium (Cr VI) by IC | E532A | 1323465 | 2 | 22 | 9.0 | 5.0 | ✔ |
| Dissolved Mercury in Water by CVAAS | E509 | 1327462 | 1 | 20 | 5.0 | 5.0 | ✔ |
| Dissolved Metals in Water by CRC ICPMS | E421 | 1324170 | 1 | 19 | 5.2 | 5.0 | ✔ |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L | 1325567 | 1 | 8 | 12.5 | 5.0 | ✔ |
| Fluoride in Water by IC | E235.F | 1323640 | 1 | 15 | 6.6 | 5.0 | ✔ |
| Nitrate in Water by IC (Low Level) | E235.NO3-L | 1323638 | 1 | 5 | 20.0 | 5.0 | ✔ |
| Nitrite in Water by IC (Low Level) | E235.NO2-L | 1323639 | 1 | 15 | 6.6 | 5.0 | ✔ |
| Sulfate in Water by IC | E235.SO4 | 1323637 | 1 | 19 | 5.2 | 5.0 | ✔ |
| TDS by Gravimetry | E162 | 1327082 | 1 | 17 | 5.8 | 5.0 | ✔ |
| Total Hexavalent Chromium (Cr VI) by IC | E532 | 1323472 | 2 | 23 | 8.7 | 5.0 | ✔ |



Matrix: **Water**

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

| Quality Control Sample Type | Method | QC Lot # | Count | | Frequency (%) | | |
|--|------------|----------|-------|---------|---------------|----------|------------|
| | | | QC | Regular | Actual | Expected | Evaluation |
| Analytical Methods | | | | | | | |
| Laboratory Control Samples (LCS) - Continued | | | | | | | |
| Total Mercury in Water by CVAAS | E508 | 1325237 | 1 | 9 | 11.1 | 5.0 | ✔ |
| Total Metals in Water by CRC ICPMS | E420 | 1324164 | 1 | 20 | 5.0 | 5.0 | ✔ |
| Total Nitrogen by Colourimetry | E366 | 1325569 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Total Organic Carbon (Non-Purgeable) by Combustion (Low Level) | E355-L | 1325568 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Total Phosphorus by Colourimetry (0.002 mg/L) | E372-U | 1325570 | 1 | 10 | 10.0 | 5.0 | ✔ |
| Total Sulfide by Colourimetry (Automated Flow) | E395 | 1328350 | 1 | 7 | 14.2 | 5.0 | ✔ |
| TSS by Gravimetry | E160 | 1327071 | 1 | 17 | 5.8 | 5.0 | ✔ |
| Method Blanks (MB) | | | | | | | |
| Alkalinity Species by Titration | E290 | 1323644 | 1 | 10 | 10.0 | 5.0 | ✔ |
| Ammonia by Fluorescence | E298 | 1325571 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Bromide in Water by IC (Low Level) | E235.Br-L | 1323641 | 1 | 13 | 7.6 | 5.0 | ✔ |
| Chloride in Water by IC | E235.Cl | 1323636 | 1 | 16 | 6.2 | 5.0 | ✔ |
| Dissolved Hexavalent Chromium (Cr VI) by IC | E532A | 1323465 | 2 | 22 | 9.0 | 5.0 | ✔ |
| Dissolved Mercury in Water by CVAAS | E509 | 1327462 | 1 | 20 | 5.0 | 5.0 | ✔ |
| Dissolved Metals in Water by CRC ICPMS | E421 | 1324170 | 1 | 19 | 5.2 | 5.0 | ✔ |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L | 1325567 | 1 | 8 | 12.5 | 5.0 | ✔ |
| Fluoride in Water by IC | E235.F | 1323640 | 1 | 15 | 6.6 | 5.0 | ✔ |
| Nitrate in Water by IC (Low Level) | E235.NO3-L | 1323638 | 1 | 5 | 20.0 | 5.0 | ✔ |
| Nitrite in Water by IC (Low Level) | E235.NO2-L | 1323639 | 1 | 15 | 6.6 | 5.0 | ✔ |
| Sulfate in Water by IC | E235.SO4 | 1323637 | 1 | 19 | 5.2 | 5.0 | ✔ |
| TDS by Gravimetry | E162 | 1327082 | 1 | 17 | 5.8 | 5.0 | ✔ |
| Total Hexavalent Chromium (Cr VI) by IC | E532 | 1323472 | 2 | 23 | 8.7 | 5.0 | ✔ |
| Total Mercury in Water by CVAAS | E508 | 1325237 | 1 | 9 | 11.1 | 5.0 | ✔ |
| Total Metals in Water by CRC ICPMS | E420 | 1324164 | 1 | 20 | 5.0 | 5.0 | ✔ |
| Total Nitrogen by Colourimetry | E366 | 1325569 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Total Organic Carbon (Non-Purgeable) by Combustion (Low Level) | E355-L | 1325568 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Total Phosphorus by Colourimetry (0.002 mg/L) | E372-U | 1325570 | 1 | 10 | 10.0 | 5.0 | ✔ |
| Total Sulfide by Colourimetry (Automated Flow) | E395 | 1328350 | 1 | 7 | 14.2 | 5.0 | ✔ |
| TSS by Gravimetry | E160 | 1327071 | 1 | 17 | 5.8 | 5.0 | ✔ |
| Matrix Spikes (MS) | | | | | | | |
| Ammonia by Fluorescence | E298 | 1325571 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Bromide in Water by IC (Low Level) | E235.Br-L | 1323641 | 1 | 13 | 7.6 | 5.0 | ✔ |
| Chloride in Water by IC | E235.Cl | 1323636 | 1 | 16 | 6.2 | 5.0 | ✔ |
| Dissolved Hexavalent Chromium (Cr VI) by IC | E532A | 1323465 | 2 | 22 | 9.0 | 5.0 | ✔ |
| Dissolved Mercury in Water by CVAAS | E509 | 1327462 | 1 | 20 | 5.0 | 5.0 | ✔ |
| Dissolved Metals in Water by CRC ICPMS | E421 | 1324170 | 1 | 19 | 5.2 | 5.0 | ✔ |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L | 1325567 | 1 | 8 | 12.5 | 5.0 | ✔ |
| Fluoride in Water by IC | E235.F | 1323640 | 1 | 15 | 6.6 | 5.0 | ✔ |
| Nitrate in Water by IC (Low Level) | E235.NO3-L | 1323638 | 1 | 5 | 20.0 | 5.0 | ✔ |



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

| Quality Control Sample Type | Method | QC Lot # | Count | | Frequency (%) | | |
|--|------------|----------|-------|---------|---------------|----------|------------|
| | | | QC | Regular | Actual | Expected | Evaluation |
| <i>Analytical Methods</i> | | | | | | | |
| Matrix Spikes (MS) - Continued | | | | | | | |
| Nitrite in Water by IC (Low Level) | E235.NO2-L | 1323639 | 1 | 15 | 6.6 | 5.0 | ✔ |
| Sulfate in Water by IC | E235.SO4 | 1323637 | 1 | 19 | 5.2 | 5.0 | ✔ |
| Total Hexavalent Chromium (Cr VI) by IC | E532 | 1323472 | 1 | 23 | 4.3 | 5.0 | ✖ |
| Total Mercury in Water by CVAAS | E508 | 1325237 | 1 | 9 | 11.1 | 5.0 | ✔ |
| Total Metals in Water by CRC ICPMS | E420 | 1324164 | 1 | 20 | 5.0 | 5.0 | ✔ |
| Total Nitrogen by Colourimetry | E366 | 1325569 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Total Organic Carbon (Non-Purgeable) by Combustion (Low Level) | E355-L | 1325568 | 1 | 12 | 8.3 | 5.0 | ✔ |
| Total Phosphorus by Colourimetry (0.002 mg/L) | E372-U | 1325570 | 1 | 10 | 10.0 | 5.0 | ✔ |
| Total Sulfide by Colourimetry (Automated Flow) | E395 | 1328350 | 1 | 7 | 14.2 | 5.0 | ✔ |



Methodology References and Summaries

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

| Analytical Methods | Method / Lab | Matrix | Method Reference | Method Descriptions |
|------------------------------------|---|--------|-------------------|---|
| TSS by Gravimetry | E160 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 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. |
| Bromide in Water by IC (Low Level) | E235.Br-L ALS Environmental - Vancouver | Water | EPA 300.1 (mod) | Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. |
| Chloride in Water by IC | E235.Cl ALS Environmental - Vancouver | Water | EPA 300.1 (mod) | Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. |
| Fluoride in Water by IC | E235.F ALS Environmental - Vancouver | Water | EPA 300.1 (mod) | Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. |
| Nitrite in Water by IC (Low Level) | E235.NO2-L 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 ALS Environmental - Vancouver | Water | EPA 300.1 (mod) | Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. |
| Sulfate in Water by IC | E235.SO4 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 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. |



| Analytical Methods | Method / Lab | Matrix | Method Reference | Method Descriptions |
|--|---|--------|--|--|
| Ammonia by Fluorescence | E298 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) |
| Total Organic Carbon (Non-Purgeable) by Combustion (Low Level) | E355-L ALS Environmental - Vancouver | Water | APHA 5310 B (mod) | Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC). |
| Dissolved Organic Carbon by Combustion (Low Level) | E358-L 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 ₂ . 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 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). |
| Total Phosphorus by Colourimetry (0.002 mg/L) | E372-U 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 Sulfide by Colourimetry (Automated Flow) | E395 ALS Environmental - Vancouver | Water | APHA 4500 -S E-Auto-Colorimetry | Sulfide is determined using the gas dialysis automated methylene blue colourimetric method. Results expressed "as H ₂ S" if reported represent the maximum possible H ₂ S concentration based on the total sulfide concentration in the sample. The H ₂ S calculation converts Total Sulphide as (S ₂ -) and reports it as Total Sulphide as (H ₂ S) |
| Total Metals in Water by CRC ICPMS | E420 ALS Environmental - Vancouver | Water | EPA 200.2/6020B (mod) | Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |
| Dissolved Metals in Water by CRC ICPMS | E421 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. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. |
| Total Mercury in Water by CVAAS | E508 ALS Environmental - Vancouver | Water | EPA 1631E (mod) | Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS |



| Analytical Methods | Method / Lab | Matrix | Method Reference | Method Descriptions |
|--|---|--------|-------------------------------------|---|
| Dissolved Mercury in Water by CVAAS | E509 ALS Environmental - Vancouver | Water | APHA 3030B/EPA 1631E (mod) | Water samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS. |
| Total Hexavalent Chromium (Cr VI) by IC | E532 ALS Environmental - Vancouver | Water | APHA 3500-Cr C (Ion Chromatography) | Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. Results are based on an un-filtered, field-preserved sample. |
| Dissolved Hexavalent Chromium (Cr VI) by IC | E532A ALS Environmental - Vancouver | Water | APHA 3500-Cr C (Ion Chromatography) | Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. sample pretreatment involved field or lab filtration following by sample preservation. |
| Dissolved Hardness (Calculated) | EC100 ALS Environmental - Vancouver | Water | APHA 2340B | "Hardness (as CaCO ₃), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. |
| Hardness (Calculated) from Total Ca/Mg | EC100A ALS Environmental - Vancouver | Water | APHA 2340B | "Hardness (as CaCO ₃), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca/Mg is normally comparable to Dissolved Hardness in non-turbid waters. |
| Un-ionized Total Hydrogen Sulfide (calculated) | EC395 ALS Environmental - Vancouver | Water | APHA 4500 -S H | Un-ionized sulfide is calculated using results from total sulfide analysis, pH, temperature, and ionic strength of the sample. Calculation of un-ionized sulfide using total sulfide concentrations may be biased high due to particulate forms of sulfide measured during total sulfide testing. |
| Total Trivalent Chromium (Cr III) by Calculation | EC535 ALS Environmental - Vancouver | Water | APHA 3030B/6020A/EPA 7196A (mod) | Chromium (III)-Total is calculated as the difference between the total chromium and the total hexavalent chromium (Cr(VI)) results. The Limit of Reporting for Chromium (III) varies as a function of the test results. |
| Dissolved Trivalent Chromium (Cr III) by Calculation | EC535A ALS Environmental - Vancouver | Water | APHA 3030B/6020A/EPA 7196A (mod) | Dissolved Chromium (III) is calculated as the difference between Dissolved Chromium and Dissolved Hexavalent Chromium (Cr VI) results. The Limit of Reporting for Chromium (III) varies as a function of the test results. |
| Field pH,EC,Salinity,Cl ₂ ,ClO ₂ ,ORP,DO, Turbidity,T,T-P,o-PO ₄ ,NH ₃ ,Chloramine | EF001 ALS Environmental - Vancouver | Water | Field Measurement (Client Supplied) | Field pH,EC,Salinity,Cl ₂ ,ClO ₂ ,ORP,DO, Turbidity,T,T-P,o-PO ₄ ,NH ₃ 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 |
|-------------------------|--|--------|------------------|--|
| Preparation for Ammonia | EP298 ALS Environmental - Vancouver | Water | | Sample preparation for Preserved Nutrients Water Quality Analysis. |



| <i>Preparation Methods</i> | <i>Method / Lab</i> | <i>Matrix</i> | <i>Method Reference</i> | <i>Method Descriptions</i> |
|---|--|---------------|-------------------------|--|
| Preparation for Total Organic Carbon by Combustion | EP355 ALS Environmental - Vancouver | Water | | Preparation for Total Organic Carbon by Combustion |
| Preparation for Dissolved Organic Carbon for Combustion | EP358 ALS Environmental - Vancouver | Water | APHA 5310 B (mod) | Preparation for Dissolved Organic Carbon |
| Digestion for Total Nitrogen in water | EP366 ALS Environmental - Vancouver | Water | APHA 4500-P J (mod) | Samples for total nitrogen analysis are digested using a heated persulfate digestion. Nitrogen compounds are converted to nitrate in this digestion. |
| Digestion for Total Phosphorus in water | EP372 ALS Environmental - Vancouver | Water | APHA 4500-P E (mod). | Samples are heated with a persulfate digestion reagent. |
| Dissolved Metals Water Filtration | EP421 ALS Environmental - Vancouver | Water | APHA 3030B | Water samples are filtered (0.45 um), and preserved with HNO3. |
| Dissolved Mercury Water Filtration | EP509 ALS Environmental - Vancouver | Water | APHA 3030B | Water samples are filtered (0.45 um), and preserved with HCl. |

QUALITY CONTROL REPORT

Work Order : **VA24A2204**
Client : Triton Environmental Consultants Ltd.
Contact : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Project : 11964
PO : 11964 - Task 20 - Phase 3C-4C
C-O-C number : ----
Sampler : [Redacted]
Site : Water Analysis
Quote number : VA23-TRIT100-012
No. of samples received : 2
No. of samples analysed : 2

Page : 1 of 18
Laboratory : ALS Environmental, Vancouver
Account Manager : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Date Samples Received : 05-Feb-2024 16:35
Date Analysis Commenced : 05-Feb-2024
Issue Date : 12-Feb-2024 12:07

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 |
| Ghazaleh Khanmirzaei | Analyst | Vancouver Metals, Burnaby, British Columbia |
| Kevin Duarte | Supervisor - Metals ICP Instrumentation | Vancouver Metals, Burnaby, British Columbia |
| Kim Jensen | Department Manager - Metals | Vancouver Metals, Burnaby, British Columbia |
| Miles Gropen | Department Manager - Inorganics | Vancouver Inorganics, Burnaby, British Columbia |
| Owen Cheng | | Vancouver Metals, Burnaby, British Columbia |
| Paolo Obillo | Account Manager Assistant | Vancouver Administration, Burnaby, British Columbia |



General Comments

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

Key :

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

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

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

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

Workorder Comments

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



Laboratory Duplicate (DUP) Report

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

| Sub-Matrix: Water | | | | | Laboratory Duplicate (DUP) Report | | | | | | |
|---|------------------|---------------------------------|------------|------------|-----------------------------------|------|-----------------|------------------|----------------------|------------------|-----------|
| Laboratory sample ID | Client sample ID | Analyte | CAS Number | Method | LOR | Unit | Original Result | Duplicate Result | RPD(%) or Difference | Duplicate Limits | Qualifier |
| Physical Tests (QC Lot: 1323644) | | | | | | | | | | | |
| VA24A2175-001 | Anonymous | Alkalinity, total (as CaCO3) | ---- | E290 | 1.0 | mg/L | <1.0 | <1.0 | 0 | Diff <2x LOR | ---- |
| Physical Tests (QC Lot: 1327071) | | | | | | | | | | | |
| FJ2400300-001 | Anonymous | Solids, total suspended [TSS] | ---- | E160 | 3.0 | mg/L | 4.1 | <3.0 | 1.1 | Diff <2x LOR | ---- |
| Physical Tests (QC Lot: 1327082) | | | | | | | | | | | |
| FJ2400300-001 | Anonymous | Solids, total dissolved [TDS] | ---- | E162 | 20 | mg/L | 231 | 218 | 5.57% | 20% | ---- |
| Anions and Nutrients (QC Lot: 1323636) | | | | | | | | | | | |
| VA24A2164-011 | Anonymous | Chloride | 16887-00-6 | E235.Cl | 5.00 | mg/L | 17.3 | 17.3 | 0.02 | Diff <2x LOR | ---- |
| Anions and Nutrients (QC Lot: 1323637) | | | | | | | | | | | |
| VA24A2164-011 | Anonymous | Sulfate (as SO4) | 14808-79-8 | E235.SO4 | 3.00 | mg/L | 864 | 868 | 0.493% | 20% | ---- |
| Anions and Nutrients (QC Lot: 1323638) | | | | | | | | | | | |
| VA24A2164-011 | Anonymous | Nitrate (as N) | 14797-55-8 | E235.NO3-L | 0.0500 | mg/L | 27.8 | 27.9 | 0.0969% | 20% | ---- |
| Anions and Nutrients (QC Lot: 1323639) | | | | | | | | | | | |
| VA24A2164-011 | Anonymous | Nitrite (as N) | 14797-65-0 | E235.NO2-L | 0.0100 | mg/L | 0.0254 | 0.0264 | 0.0010 | Diff <2x LOR | ---- |
| Anions and Nutrients (QC Lot: 1323640) | | | | | | | | | | | |
| VA24A2164-011 | Anonymous | Fluoride | 16984-48-8 | E235.F | 0.200 | mg/L | 0.304 | 0.308 | 0.004 | Diff <2x LOR | ---- |
| Anions and Nutrients (QC Lot: 1323641) | | | | | | | | | | | |
| VA24A2164-011 | Anonymous | Bromide | 24959-67-9 | E235.Br-L | 0.500 | mg/L | <0.500 | <0.500 | 0 | Diff <2x LOR | ---- |
| Anions and Nutrients (QC Lot: 1325569) | | | | | | | | | | | |
| VA24A2107-001 | Anonymous | Nitrogen, total | 7727-37-9 | E366 | 0.030 | mg/L | 0.121 | 0.125 | 0.004 | Diff <2x LOR | ---- |
| Anions and Nutrients (QC Lot: 1325570) | | | | | | | | | | | |
| VA24A2107-001 | Anonymous | Phosphorus, total | 7723-14-0 | E372-U | 0.0020 | mg/L | 0.0253 | 0.0253 | 0.158% | 20% | ---- |
| Anions and Nutrients (QC Lot: 1325571) | | | | | | | | | | | |
| VA24A2107-001 | Anonymous | Ammonia, total (as N) | 7664-41-7 | E298 | 0.0050 | mg/L | 0.0312 | 0.0298 | 0.0013 | Diff <2x LOR | ---- |
| Organic / Inorganic Carbon (QC Lot: 1325567) | | | | | | | | | | | |
| VA24A2107-001 | Anonymous | Carbon, dissolved organic [DOC] | ---- | E358-L | 0.50 | mg/L | 2.96 | 2.81 | 0.15 | Diff <2x LOR | ---- |
| Organic / Inorganic Carbon (QC Lot: 1325568) | | | | | | | | | | | |
| VA24A2107-001 | Anonymous | Carbon, total organic [TOC] | ---- | E355-L | 0.50 | mg/L | 2.88 | 2.88 | 0.002 | Diff <2x LOR | ---- |
| Total Sulfides (QC Lot: 1328350) | | | | | | | | | | | |
| FJ2400276-001 | Anonymous | Sulfide, total (as S) | 18496-25-8 | E395 | 0.0015 | mg/L | 0.0357 | 0.0363 | 1.53% | 20% | ---- |
| Total Metals (QC Lot: 1324164) | | | | | | | | | | | |



| 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: 1324164) - continued | | | | | | | | | | | |
| VA24A2195-001 | Anonymous | Aluminum, total | 7429-90-5 | E420 | 0.0030 | mg/L | <0.0030 | <0.0030 | 0 | Diff <2x LOR | ---- |
| | | Antimony, total | 7440-36-0 | E420 | 0.00010 | mg/L | <0.00010 | <0.00010 | 0 | Diff <2x LOR | ---- |
| | | Arsenic, total | 7440-38-2 | E420 | 0.00010 | mg/L | <0.00010 | <0.00010 | 0 | Diff <2x LOR | ---- |
| | | Barium, total | 7440-39-3 | E420 | 0.00010 | mg/L | <0.00010 | <0.00010 | 0 | Diff <2x LOR | ---- |
| | | Beryllium, total | 7440-41-7 | E420 | 0.000020 | mg/L | <0.000020 | <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 | <0.0000050 | 0 | Diff <2x LOR | ---- |
| | | Calcium, total | 7440-70-2 | E420 | 0.050 | mg/L | <0.050 | <0.050 | 0 | Diff <2x LOR | ---- |
| | | 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 | <0.00050 | <0.00050 | 0 | Diff <2x LOR | ---- |
| | | Iron, total | 7439-89-6 | E420 | 0.010 | mg/L | <0.010 | <0.010 | 0 | 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 | 0.0050 | mg/L | <0.0050 | <0.0050 | 0 | Diff <2x LOR | ---- |
| | | Manganese, total | 7439-96-5 | E420 | 0.00010 | mg/L | <0.00010 | <0.00010 | 0 | Diff <2x LOR | ---- |
| | | Molybdenum, total | 7439-98-7 | E420 | 0.000050 | mg/L | <0.000050 | <0.000050 | 0 | Diff <2x LOR | ---- |
| | | 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 | <0.050 | <0.050 | 0 | Diff <2x LOR | ---- |
| | | Potassium, total | 7440-09-7 | E420 | 0.050 | mg/L | <0.050 | <0.050 | 0 | Diff <2x LOR | ---- |
| | | Rubidium, total | 7440-17-7 | E420 | 0.00020 | mg/L | <0.00020 | <0.00020 | 0 | Diff <2x LOR | ---- |
| | | Selenium, total | 7782-49-2 | E420 | 0.000050 | mg/L | <0.000050 | <0.000050 | 0 | Diff <2x LOR | ---- |
| | | Silicon, total | 7440-21-3 | E420 | 0.10 | mg/L | <0.10 | <0.10 | 0 | Diff <2x LOR | ---- |
| | | 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 | <0.050 | <0.050 | 0 | Diff <2x LOR | ---- |
| | | Strontium, total | 7440-24-6 | E420 | 0.00020 | mg/L | <0.00020 | <0.00020 | 0 | Diff <2x LOR | ---- |
| | | Sulfur, total | 7704-34-9 | E420 | 0.50 | mg/L | <0.50 | <0.50 | 0 | Diff <2x LOR | ---- |
| | | 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 | ---- |



| 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: 1324164) - continued | | | | | | | | | | | |
| VA24A2195-001 | Anonymous | 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 | <0.000010 | <0.000010 | 0 | Diff <2x LOR | ---- |
| | | Vanadium, total | 7440-62-2 | E420 | 0.00050 | mg/L | <0.00050 | <0.00050 | 0 | 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 | ---- |
| Total Metals (QC Lot: 1325237) | | | | | | | | | | | |
| FJ2400269-017 | Anonymous | Mercury, total | 7439-97-6 | E508 | 0.0000050 | mg/L | <0.0000050 | <0.0000050 | 0 | Diff <2x LOR | ---- |
| Dissolved Metals (QC Lot: 1324170) | | | | | | | | | | | |
| VA24A1922-001 | Anonymous | Aluminum, dissolved | 7429-90-5 | E421 | 0.0010 | mg/L | 0.0331 | 0.0342 | 3.42% | 20% | ---- |
| | | Antimony, dissolved | 7440-36-0 | E421 | 0.00010 | mg/L | <0.00010 | <0.00010 | 0 | Diff <2x LOR | ---- |
| | | Arsenic, dissolved | 7440-38-2 | E421 | 0.00010 | mg/L | 0.00028 | 0.00030 | 0.00002 | Diff <2x LOR | ---- |
| | | Barium, dissolved | 7440-39-3 | E421 | 0.00010 | mg/L | 0.00946 | 0.00947 | 0.178% | 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 | 0.011 | 0.011 | 0.0001 | Diff <2x LOR | ---- |
| | | Cadmium, dissolved | 7440-43-9 | E421 | 0.0000050 | mg/L | 0.0000105 | 0.0000115 | 0.0000010 | Diff <2x LOR | ---- |
| | | Calcium, dissolved | 7440-70-2 | E421 | 0.050 | mg/L | 8.08 | 7.97 | 1.43% | 20% | ---- |
| | | Cesium, dissolved | 7440-46-2 | E421 | 0.000010 | mg/L | 0.000011 | 0.000010 | 0.0000003 | 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 | <0.00010 | <0.00010 | 0 | Diff <2x LOR | ---- |
| | | Copper, dissolved | 7440-50-8 | E421 | 0.00020 | mg/L | 0.00220 | 0.00221 | 0.0538% | 20% | ---- |
| | | Iron, dissolved | 7439-89-6 | E421 | 0.010 | mg/L | 0.049 | 0.049 | 0.00009 | Diff <2x LOR | ---- |
| | | Lead, dissolved | 7439-92-1 | E421 | 0.000050 | mg/L | 0.000269 | 0.000269 | 0.0000004 | Diff <2x LOR | ---- |
| | | Lithium, dissolved | 7439-93-2 | E421 | 0.0010 | mg/L | <0.0010 | <0.0010 | 0 | Diff <2x LOR | ---- |
| | | Magnesium, dissolved | 7439-95-4 | E421 | 0.0050 | mg/L | 1.62 | 1.64 | 1.07% | 20% | ---- |
| | | Manganese, dissolved | 7439-96-5 | E421 | 0.00010 | mg/L | 0.0109 | 0.0110 | 0.912% | 20% | ---- |
| | | Molybdenum, dissolved | 7439-98-7 | E421 | 0.000050 | mg/L | 0.000614 | 0.000611 | 0.494% | 20% | ---- |
| | | Nickel, dissolved | 7440-02-0 | E421 | 0.00050 | mg/L | 0.00056 | 0.00058 | 0.00002 | Diff <2x LOR | ---- |
| | | Phosphorus, dissolved | 7723-14-0 | E421 | 0.050 | mg/L | 0.056 | <0.050 | 0.006 | Diff <2x LOR | ---- |
| | | Potassium, dissolved | 7440-09-7 | E421 | 0.050 | mg/L | 1.08 | 1.09 | 1.35% | 20% | ---- |
| | | Rubidium, dissolved | 7440-17-7 | E421 | 0.00020 | mg/L | 0.00096 | 0.00103 | 0.00007 | Diff <2x LOR | ---- |
| | | Selenium, dissolved | 7782-49-2 | E421 | 0.000050 | mg/L | 0.000064 | 0.000068 | 0.000004 | Diff <2x LOR | ---- |
| | | Silicon, dissolved | 7440-21-3 | E421 | 0.050 | mg/L | 2.44 | 2.47 | 1.20% | 20% | ---- |
| | | Silver, dissolved | 7440-22-4 | E421 | 0.000010 | mg/L | <0.000010 | <0.000010 | 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: 1324170) - continued | | | | | | | | | | | |
| VA24A1922-001 | Anonymous | Sodium, dissolved | 7440-23-5 | E421 | 0.050 | mg/L | 3.95 | 4.11 | 3.83% | 20% | ---- |
| | | Strontium, dissolved | 7440-24-6 | E421 | 0.00020 | mg/L | 0.0434 | 0.0410 | 5.82% | 20% | ---- |
| | | Sulfur, dissolved | 7704-34-9 | E421 | 0.50 | mg/L | 1.60 | 1.80 | 0.20 | Diff <2x LOR | ---- |
| | | Tellurium, dissolved | 13494-80-9 | E421 | 0.00020 | mg/L | <0.00020 | <0.00020 | 0 | Diff <2x LOR | ---- |
| | | Thallium, dissolved | 7440-28-0 | E421 | 0.00010 | mg/L | <0.00010 | <0.00010 | 0 | 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 | 0.00017 | 0.00018 | 0.000004 | Diff <2x LOR | ---- |
| | | Titanium, dissolved | 7440-32-6 | E421 | 0.00030 | mg/L | 0.00043 | 0.00053 | 0.00010 | 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 | 0.00010 | mg/L | 0.000080 | 0.000077 | 0.000003 | Diff <2x LOR | ---- |
| | | 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 | 0.0019 | 0.0020 | 0.00008 | Diff <2x LOR | ---- |
| | | Zirconium, dissolved | 7440-67-7 | E421 | 0.00030 | mg/L | <0.00030 | <0.00030 | 0 | Diff <2x LOR | ---- |
| Dissolved Metals (QC Lot: 1327462) | | | | | | | | | | | |
| VA24A2204-001 | WLNG DS 1 | Mercury, dissolved | 7439-97-6 | E509 | 0.0000050 | mg/L | <0.0000050 | <0.0000050 | 0 | Diff <2x LOR | ---- |
| Speciated Metals (QC Lot: 1323465) | | | | | | | | | | | |
| VA24A1984-001 | Anonymous | Chromium, hexavalent [Cr VI], dissolved | 18540-29-9 | E532A | 0.00050 | mg/L | <0.00050 | <0.00050 | 0 | Diff <2x LOR | ---- |
| Speciated Metals (QC Lot: 1323472) | | | | | | | | | | | |
| KS2400331-001 | Anonymous | Chromium, hexavalent [Cr VI], total | 18540-29-9 | E532 | 0.00050 | mg/L | <0.00050 | <0.00050 | 0 | Diff <2x LOR | ---- |
| Speciated Metals (QC Lot: 1326126) | | | | | | | | | | | |
| VA24A2133-001 | Anonymous | Chromium, hexavalent [Cr VI], dissolved | 18540-29-9 | E532A | 0.0500 | mg/L | <50.0 µg/L | <0.0500 | 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 |
|--|------------|------------|--------|------|----------|-----------|
| Physical Tests (QCLot: 1323644) | | | | | | |
| Alkalinity, total (as CaCO ₃) | --- | E290 | 1 | mg/L | <1.0 | --- |
| Physical Tests (QCLot: 1327071) | | | | | | |
| Solids, total suspended [TSS] | --- | E160 | 3 | mg/L | <3.0 | --- |
| Physical Tests (QCLot: 1327082) | | | | | | |
| Solids, total dissolved [TDS] | --- | E162 | 10 | mg/L | <10 | --- |
| Anions and Nutrients (QCLot: 1323636) | | | | | | |
| Chloride | 16887-00-6 | E235.Cl | 0.5 | mg/L | <0.50 | --- |
| Anions and Nutrients (QCLot: 1323637) | | | | | | |
| Sulfate (as SO ₄) | 14808-79-8 | E235.SO4 | 0.3 | mg/L | <0.30 | --- |
| Anions and Nutrients (QCLot: 1323638) | | | | | | |
| Nitrate (as N) | 14797-55-8 | E235.NO3-L | 0.005 | mg/L | <0.0050 | --- |
| Anions and Nutrients (QCLot: 1323639) | | | | | | |
| Nitrite (as N) | 14797-65-0 | E235.NO2-L | 0.001 | mg/L | <0.0010 | --- |
| Anions and Nutrients (QCLot: 1323640) | | | | | | |
| Fluoride | 16984-48-8 | E235.F | 0.02 | mg/L | <0.020 | --- |
| Anions and Nutrients (QCLot: 1323641) | | | | | | |
| Bromide | 24959-67-9 | E235.Br-L | 0.05 | mg/L | <0.050 | --- |
| Anions and Nutrients (QCLot: 1325569) | | | | | | |
| Nitrogen, total | 7727-37-9 | E366 | 0.03 | mg/L | <0.030 | --- |
| Anions and Nutrients (QCLot: 1325570) | | | | | | |
| Phosphorus, total | 7723-14-0 | E372-U | 0.002 | mg/L | <0.0020 | --- |
| Anions and Nutrients (QCLot: 1325571) | | | | | | |
| Ammonia, total (as N) | 7664-41-7 | E298 | 0.005 | mg/L | <0.0050 | --- |
| Organic / Inorganic Carbon (QCLot: 1325567) | | | | | | |
| Carbon, dissolved organic [DOC] | --- | E358-L | 0.5 | mg/L | <0.50 | --- |
| Organic / Inorganic Carbon (QCLot: 1325568) | | | | | | |
| Carbon, total organic [TOC] | --- | E355-L | 0.5 | mg/L | <0.50 | --- |
| Total Sulfides (QCLot: 1328350) | | | | | | |
| Sulfide, total (as S) | 18496-25-8 | E395 | 0.0015 | mg/L | <0.0015 | --- |
| Total Metals (QCLot: 1324164) | | | | | | |
| Aluminum, total | 7429-90-5 | E420 | 0.003 | mg/L | <0.0030 | --- |
| Antimony, total | 7440-36-0 | E420 | 0.0001 | mg/L | <0.00010 | --- |



Sub-Matrix: **Water**

| Analyte | CAS Number | Method | LOR | Unit | Result | Qualifier |
|--|------------|--------|----------|------|------------|-----------|
| Total Metals (QCLot: 1324164) - continued | | | | | | |
| Arsenic, total | 7440-38-2 | E420 | 0.0001 | mg/L | <0.00010 | ---- |
| Barium, total | 7440-39-3 | E420 | 0.0001 | mg/L | <0.00010 | ---- |
| Beryllium, total | 7440-41-7 | E420 | 0.00002 | mg/L | <0.000020 | ---- |
| Bismuth, total | 7440-69-9 | E420 | 0.00005 | mg/L | <0.000050 | ---- |
| Boron, total | 7440-42-8 | E420 | 0.01 | mg/L | <0.010 | ---- |
| Cadmium, total | 7440-43-9 | E420 | 0.000005 | mg/L | <0.0000050 | ---- |
| Calcium, total | 7440-70-2 | E420 | 0.05 | mg/L | <0.050 | ---- |
| Cesium, total | 7440-46-2 | E420 | 0.00001 | mg/L | <0.000010 | ---- |
| Chromium, total | 7440-47-3 | E420 | 0.0005 | mg/L | <0.00050 | ---- |
| Cobalt, total | 7440-48-4 | E420 | 0.0001 | mg/L | <0.00010 | ---- |
| Copper, total | 7440-50-8 | E420 | 0.0005 | mg/L | <0.00050 | ---- |
| Iron, total | 7439-89-6 | E420 | 0.01 | mg/L | <0.010 | ---- |
| Lead, total | 7439-92-1 | E420 | 0.00005 | mg/L | <0.000050 | ---- |
| Lithium, total | 7439-93-2 | E420 | 0.001 | mg/L | <0.0010 | ---- |
| Magnesium, total | 7439-95-4 | E420 | 0.005 | mg/L | <0.0050 | ---- |
| Manganese, total | 7439-96-5 | E420 | 0.0001 | mg/L | <0.00010 | ---- |
| Molybdenum, total | 7439-98-7 | E420 | 0.00005 | mg/L | <0.000050 | ---- |
| Nickel, total | 7440-02-0 | E420 | 0.0005 | mg/L | <0.00050 | ---- |
| Phosphorus, total | 7723-14-0 | E420 | 0.05 | mg/L | <0.050 | ---- |
| Potassium, total | 7440-09-7 | E420 | 0.05 | mg/L | <0.050 | ---- |
| Rubidium, total | 7440-17-7 | E420 | 0.0002 | mg/L | <0.00020 | ---- |
| Selenium, total | 7782-49-2 | E420 | 0.00005 | mg/L | <0.000050 | ---- |
| Silicon, total | 7440-21-3 | E420 | 0.1 | mg/L | <0.10 | ---- |
| Silver, total | 7440-22-4 | E420 | 0.00001 | mg/L | <0.000010 | ---- |
| Sodium, total | 7440-23-5 | E420 | 0.05 | mg/L | <0.050 | ---- |
| Strontium, total | 7440-24-6 | E420 | 0.0002 | mg/L | <0.00020 | ---- |
| Sulfur, total | 7704-34-9 | E420 | 0.5 | mg/L | <0.50 | ---- |
| Tellurium, total | 13494-80-9 | E420 | 0.0002 | mg/L | <0.00020 | ---- |
| Thallium, total | 7440-28-0 | E420 | 0.00001 | mg/L | <0.000010 | ---- |
| Thorium, total | 7440-29-1 | E420 | 0.0001 | mg/L | <0.00010 | ---- |
| 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 | ---- |



Sub-Matrix: **Water**

| Analyte | CAS Number | Method | LOR | Unit | Result | Qualifier |
|--|------------|--------|----------|------|------------|-----------|
| Total Metals (QCLot: 1324164) - continued | | | | | | |
| Zinc, total | 7440-66-6 | E420 | 0.003 | mg/L | <0.0030 | ---- |
| Zirconium, total | 7440-67-7 | E420 | 0.0002 | mg/L | <0.00020 | ---- |
| Total Metals (QCLot: 1325237) | | | | | | |
| Mercury, total | 7439-97-6 | E508 | 0.000005 | mg/L | <0.0000050 | ---- |
| Dissolved Metals (QCLot: 1324170) | | | | | | |
| 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 | ---- |



Sub-Matrix: **Water**

| Analyte | CAS Number | Method | LOR | Unit | Result | Qualifier |
|--|------------|--------|----------|------|------------|-----------|
| Dissolved Metals (QCLot: 1324170) - continued | | | | | | |
| 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 | ---- |
| 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 | ---- |
| Dissolved Metals (QCLot: 1327462) | | | | | | |
| Mercury, dissolved | 7439-97-6 | E509 | 0.000005 | mg/L | <0.0000050 | ---- |
| Speciated Metals (QCLot: 1323465) | | | | | | |
| Chromium, hexavalent [Cr VI], dissolved | 18540-29-9 | E532A | 0.0005 | mg/L | <0.00050 | ---- |
| Speciated Metals (QCLot: 1323472) | | | | | | |
| Chromium, hexavalent [Cr VI], total | 18540-29-9 | E532 | 0.0005 | mg/L | <0.00050 | ---- |
| Speciated Metals (QCLot: 1326126) | | | | | | |
| Chromium, hexavalent [Cr VI], dissolved | 18540-29-9 | E532A | 0.0005 | mg/L | <0.00050 | ---- |
| Speciated Metals (QCLot: 1326138) | | | | | | |
| Chromium, hexavalent [Cr VI], total | 18540-29-9 | E532 | 0.0005 | mg/L | <0.00050 | ---- |



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 | | | | |
|--|------------|------------|--------|------|--|--------------|---------------------|------|-----------|
| Analyte | CAS Number | Method | LOR | Unit | Spike | Recovery (%) | Recovery Limits (%) | | Qualifier |
| | | | | | Concentration | LCS | Low | High | |
| Physical Tests (QCLot: 1323644) | | | | | | | | | |
| Alkalinity, total (as CaCO3) | ---- | E290 | 1 | mg/L | 500 mg/L | 111 | 85.0 | 115 | ---- |
| Physical Tests (QCLot: 1327071) | | | | | | | | | |
| Solids, total suspended [TSS] | ---- | E160 | 3 | mg/L | 150 mg/L | 89.8 | 85.0 | 115 | ---- |
| Physical Tests (QCLot: 1327082) | | | | | | | | | |
| Solids, total dissolved [TDS] | ---- | E162 | 10 | mg/L | 1000 mg/L | 95.0 | 85.0 | 115 | ---- |
| Anions and Nutrients (QCLot: 1323636) | | | | | | | | | |
| Chloride | 16887-00-6 | E235.Cl | 0.5 | mg/L | 100 mg/L | 103 | 90.0 | 110 | ---- |
| Anions and Nutrients (QCLot: 1323637) | | | | | | | | | |
| Sulfate (as SO4) | 14808-79-8 | E235.SO4 | 0.3 | mg/L | 100 mg/L | 104 | 90.0 | 110 | ---- |
| Anions and Nutrients (QCLot: 1323638) | | | | | | | | | |
| Nitrate (as N) | 14797-55-8 | E235.NO3-L | 0.005 | mg/L | 2.5 mg/L | 103 | 90.0 | 110 | ---- |
| Anions and Nutrients (QCLot: 1323639) | | | | | | | | | |
| Nitrite (as N) | 14797-65-0 | E235.NO2-L | 0.001 | mg/L | 0.5 mg/L | 101 | 90.0 | 110 | ---- |
| Anions and Nutrients (QCLot: 1323640) | | | | | | | | | |
| Fluoride | 16984-48-8 | E235.F | 0.02 | mg/L | 1 mg/L | 102 | 90.0 | 110 | ---- |
| Anions and Nutrients (QCLot: 1323641) | | | | | | | | | |
| Bromide | 24959-67-9 | E235.Br-L | 0.05 | mg/L | 0.5 mg/L | 105 | 85.0 | 115 | ---- |
| Anions and Nutrients (QCLot: 1325569) | | | | | | | | | |
| Nitrogen, total | 7727-37-9 | E366 | 0.03 | mg/L | 0.5 mg/L | 99.1 | 75.0 | 125 | ---- |
| Anions and Nutrients (QCLot: 1325570) | | | | | | | | | |
| Phosphorus, total | 7723-14-0 | E372-U | 0.002 | mg/L | 0.05 mg/L | 88.8 | 80.0 | 120 | ---- |
| Anions and Nutrients (QCLot: 1325571) | | | | | | | | | |
| Ammonia, total (as N) | 7664-41-7 | E298 | 0.005 | mg/L | 0.2 mg/L | 89.4 | 85.0 | 115 | ---- |
| Organic / Inorganic Carbon (QCLot: 1325567) | | | | | | | | | |
| Carbon, dissolved organic [DOC] | ---- | E358-L | 0.5 | mg/L | 8.57 mg/L | 100 | 80.0 | 120 | ---- |
| Organic / Inorganic Carbon (QCLot: 1325568) | | | | | | | | | |
| Carbon, total organic [TOC] | ---- | E355-L | 0.5 | mg/L | 8.57 mg/L | 103 | 80.0 | 120 | ---- |
| Total Sulfides (QCLot: 1328350) | | | | | | | | | |
| Sulfide, total (as S) | 18496-25-8 | E395 | 0.0015 | mg/L | 0.08 mg/L | 103 | 80.0 | 120 | ---- |



Sub-Matrix: **Water**

Laboratory Control Sample (LCS) Report

| Analyte | CAS Number | Method | LOR | Unit | Spike | Recovery (%) | Recovery Limits (%) | | Qualifier |
|--------------------------------------|------------|--------|----------|------|---------------|--------------|---------------------|------|-----------|
| | | | | | Concentration | LCS | Low | High | |
| Total Metals (QCLot: 1324164) | | | | | | | | | |
| Aluminum, total | 7429-90-5 | E420 | 0.003 | mg/L | 2 mg/L | 104 | 80.0 | 120 | ---- |
| Antimony, total | 7440-36-0 | E420 | 0.0001 | mg/L | 1 mg/L | 107 | 80.0 | 120 | ---- |
| Arsenic, total | 7440-38-2 | E420 | 0.0001 | mg/L | 1 mg/L | 106 | 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 | 106 | 80.0 | 120 | ---- |
| Bismuth, total | 7440-69-9 | E420 | 0.00005 | mg/L | 1 mg/L | 103 | 80.0 | 120 | ---- |
| Boron, total | 7440-42-8 | E420 | 0.01 | mg/L | 1 mg/L | 102 | 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 | 104 | 80.0 | 120 | ---- |
| Cesium, total | 7440-46-2 | E420 | 0.00001 | mg/L | 0.05 mg/L | 104 | 80.0 | 120 | ---- |
| Chromium, total | 7440-47-3 | E420 | 0.0005 | mg/L | 0.25 mg/L | 106 | 80.0 | 120 | ---- |
| Cobalt, total | 7440-48-4 | E420 | 0.0001 | mg/L | 0.25 mg/L | 104 | 80.0 | 120 | ---- |
| Copper, total | 7440-50-8 | E420 | 0.0005 | mg/L | 0.25 mg/L | 99.9 | 80.0 | 120 | ---- |
| Iron, total | 7439-89-6 | E420 | 0.01 | mg/L | 1 mg/L | 106 | 80.0 | 120 | ---- |
| Lead, total | 7439-92-1 | E420 | 0.00005 | mg/L | 0.5 mg/L | 105 | 80.0 | 120 | ---- |
| Lithium, total | 7439-93-2 | E420 | 0.001 | mg/L | 0.25 mg/L | 105 | 80.0 | 120 | ---- |
| Magnesium, total | 7439-95-4 | E420 | 0.005 | mg/L | 50 mg/L | 103 | 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 | 103 | 80.0 | 120 | ---- |
| Nickel, total | 7440-02-0 | E420 | 0.0005 | mg/L | 0.5 mg/L | 103 | 80.0 | 120 | ---- |
| Phosphorus, total | 7723-14-0 | E420 | 0.05 | mg/L | 10 mg/L | 109 | 80.0 | 120 | ---- |
| Potassium, total | 7440-09-7 | E420 | 0.05 | mg/L | 50 mg/L | 109 | 80.0 | 120 | ---- |
| Rubidium, total | 7440-17-7 | E420 | 0.0002 | mg/L | 0.1 mg/L | 102 | 80.0 | 120 | ---- |
| Selenium, total | 7782-49-2 | E420 | 0.00005 | mg/L | 1 mg/L | 108 | 80.0 | 120 | ---- |
| Silicon, total | 7440-21-3 | E420 | 0.1 | mg/L | 10 mg/L | 111 | 80.0 | 120 | ---- |
| Silver, total | 7440-22-4 | E420 | 0.00001 | mg/L | 0.1 mg/L | 99.6 | 80.0 | 120 | ---- |
| Sodium, total | 7440-23-5 | E420 | 0.05 | mg/L | 50 mg/L | 109 | 80.0 | 120 | ---- |
| Strontium, total | 7440-24-6 | E420 | 0.0002 | mg/L | 0.25 mg/L | 105 | 80.0 | 120 | ---- |
| Sulfur, total | 7704-34-9 | E420 | 0.5 | mg/L | 50 mg/L | 92.8 | 80.0 | 120 | ---- |
| Tellurium, total | 13494-80-9 | E420 | 0.0002 | mg/L | 0.1 mg/L | 102 | 80.0 | 120 | ---- |
| Thallium, total | 7440-28-0 | E420 | 0.00001 | mg/L | 1 mg/L | 104 | 80.0 | 120 | ---- |
| Thorium, total | 7440-29-1 | E420 | 0.0001 | mg/L | 0.1 mg/L | 103 | 80.0 | 120 | ---- |
| Tin, total | 7440-31-5 | E420 | 0.0001 | mg/L | 0.5 mg/L | 106 | 80.0 | 120 | ---- |
| Titanium, total | 7440-32-6 | E420 | 0.0003 | mg/L | 0.25 mg/L | 104 | 80.0 | 120 | ---- |
| Tungsten, total | 7440-33-7 | E420 | 0.0001 | mg/L | 0.1 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: 1324164) - continued | | | | | | | | | |
| Uranium, total | 7440-61-1 | E420 | 0.00001 | mg/L | 0.005 mg/L | 105 | 80.0 | 120 | ---- |
| Vanadium, total | 7440-62-2 | E420 | 0.0005 | mg/L | 0.5 mg/L | 106 | 80.0 | 120 | ---- |
| Zinc, total | 7440-66-6 | E420 | 0.003 | mg/L | 0.5 mg/L | 105 | 80.0 | 120 | ---- |
| Zirconium, total | 7440-67-7 | E420 | 0.0002 | mg/L | 0.1 mg/L | 102 | 80.0 | 120 | ---- |
| Total Metals (QCLot: 1325237) | | | | | | | | | |
| Mercury, total | 7439-97-6 | E508 | 0.000005 | mg/L | 0.0001 mg/L | 97.8 | 80.0 | 120 | ---- |
| Dissolved Metals (QCLot: 1324170) | | | | | | | | | |
| Aluminum, dissolved | 7429-90-5 | E421 | 0.001 | mg/L | 2 mg/L | 106 | 80.0 | 120 | ---- |
| Antimony, dissolved | 7440-36-0 | E421 | 0.0001 | mg/L | 1 mg/L | 100 | 80.0 | 120 | ---- |
| Arsenic, dissolved | 7440-38-2 | E421 | 0.0001 | mg/L | 1 mg/L | 107 | 80.0 | 120 | ---- |
| Barium, dissolved | 7440-39-3 | E421 | 0.0001 | mg/L | 0.25 mg/L | 103 | 80.0 | 120 | ---- |
| Beryllium, dissolved | 7440-41-7 | E421 | 0.00002 | mg/L | 0.1 mg/L | 102 | 80.0 | 120 | ---- |
| Bismuth, dissolved | 7440-69-9 | E421 | 0.00005 | mg/L | 1 mg/L | 101 | 80.0 | 120 | ---- |
| Boron, dissolved | 7440-42-8 | E421 | 0.01 | mg/L | 1 mg/L | 104 | 80.0 | 120 | ---- |
| Cadmium, dissolved | 7440-43-9 | E421 | 0.000005 | mg/L | 0.1 mg/L | 103 | 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 | 98.3 | 80.0 | 120 | ---- |
| Chromium, dissolved | 7440-47-3 | E421 | 0.0005 | mg/L | 0.25 mg/L | 102 | 80.0 | 120 | ---- |
| Cobalt, dissolved | 7440-48-4 | E421 | 0.0001 | mg/L | 0.25 mg/L | 103 | 80.0 | 120 | ---- |
| Copper, dissolved | 7440-50-8 | E421 | 0.0002 | mg/L | 0.25 mg/L | 101 | 80.0 | 120 | ---- |
| Iron, dissolved | 7439-89-6 | E421 | 0.01 | mg/L | 1 mg/L | 97.5 | 80.0 | 120 | ---- |
| Lead, dissolved | 7439-92-1 | E421 | 0.00005 | mg/L | 0.5 mg/L | 100 | 80.0 | 120 | ---- |
| Lithium, dissolved | 7439-93-2 | E421 | 0.001 | mg/L | 0.25 mg/L | 99.0 | 80.0 | 120 | ---- |
| Magnesium, dissolved | 7439-95-4 | E421 | 0.005 | mg/L | 50 mg/L | 105 | 80.0 | 120 | ---- |
| Manganese, dissolved | 7439-96-5 | E421 | 0.0001 | mg/L | 0.25 mg/L | 102 | 80.0 | 120 | ---- |
| Molybdenum, dissolved | 7439-98-7 | E421 | 0.00005 | mg/L | 0.25 mg/L | 103 | 80.0 | 120 | ---- |
| Nickel, dissolved | 7440-02-0 | E421 | 0.0005 | mg/L | 0.5 mg/L | 102 | 80.0 | 120 | ---- |
| Phosphorus, dissolved | 7723-14-0 | E421 | 0.05 | mg/L | 10 mg/L | 108 | 80.0 | 120 | ---- |
| Potassium, dissolved | 7440-09-7 | E421 | 0.05 | mg/L | 50 mg/L | 103 | 80.0 | 120 | ---- |
| Rubidium, dissolved | 7440-17-7 | E421 | 0.0002 | mg/L | 0.1 mg/L | 101 | 80.0 | 120 | ---- |
| Selenium, dissolved | 7782-49-2 | E421 | 0.00005 | mg/L | 1 mg/L | 100.0 | 80.0 | 120 | ---- |
| Silicon, dissolved | 7440-21-3 | E421 | 0.05 | mg/L | 10 mg/L | 110 | 80.0 | 120 | ---- |
| Silver, dissolved | 7440-22-4 | E421 | 0.00001 | mg/L | 0.1 mg/L | 96.3 | 80.0 | 120 | ---- |
| Sodium, dissolved | 7440-23-5 | E421 | 0.05 | mg/L | 50 mg/L | 108 | 80.0 | 120 | ---- |
| Strontium, dissolved | 7440-24-6 | E421 | 0.0002 | mg/L | 0.25 mg/L | 101 | 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: 1324170) - continued | | | | | | | | | |
| Sulfur, dissolved | 7704-34-9 | E421 | 0.5 | mg/L | 50 mg/L | 92.0 | 80.0 | 120 | ---- |
| Tellurium, dissolved | 13494-80-9 | E421 | 0.0002 | mg/L | 0.1 mg/L | 104 | 80.0 | 120 | ---- |
| Thallium, dissolved | 7440-28-0 | E421 | 0.00001 | mg/L | 1 mg/L | 99.8 | 80.0 | 120 | ---- |
| Thorium, dissolved | 7440-29-1 | E421 | 0.0001 | mg/L | 0.1 mg/L | 95.2 | 80.0 | 120 | ---- |
| Tin, dissolved | 7440-31-5 | E421 | 0.0001 | mg/L | 0.5 mg/L | 103 | 80.0 | 120 | ---- |
| Titanium, dissolved | 7440-32-6 | E421 | 0.0003 | mg/L | 0.25 mg/L | 96.5 | 80.0 | 120 | ---- |
| Tungsten, dissolved | 7440-33-7 | E421 | 0.0001 | mg/L | 0.1 mg/L | 102 | 80.0 | 120 | ---- |
| Uranium, dissolved | 7440-61-1 | E421 | 0.00001 | mg/L | 0.005 mg/L | 99.3 | 80.0 | 120 | ---- |
| Vanadium, dissolved | 7440-62-2 | E421 | 0.0005 | mg/L | 0.5 mg/L | 107 | 80.0 | 120 | ---- |
| Zinc, dissolved | 7440-66-6 | E421 | 0.001 | mg/L | 0.5 mg/L | 102 | 80.0 | 120 | ---- |
| Zirconium, dissolved | 7440-67-7 | E421 | 0.0002 | mg/L | 0.1 mg/L | 98.9 | 80.0 | 120 | ---- |
| Mercury, dissolved | 7439-97-6 | E509 | 0.000005 | mg/L | 0.0001 mg/L | 96.1 | 80.0 | 120 | ---- |
| Speciated Metals (QCLot: 1323465) | | | | | | | | | |
| Chromium, hexavalent [Cr VI], dissolved | 18540-29-9 | E532A | 0.0005 | mg/L | 0.25 mg/L | 102 | 80.0 | 120 | ---- |
| Speciated Metals (QCLot: 1323472) | | | | | | | | | |
| Chromium, hexavalent [Cr VI], total | 18540-29-9 | E532 | 0.0005 | mg/L | 0.25 mg/L | 102 | 80.0 | 120 | ---- |
| Speciated Metals (QCLot: 1326126) | | | | | | | | | |
| Chromium, hexavalent [Cr VI], dissolved | 18540-29-9 | E532A | 0.0005 | mg/L | 0.25 mg/L | 105 | 80.0 | 120 | ---- |
| Speciated Metals (QCLot: 1326138) | | | | | | | | | |
| Chromium, hexavalent [Cr VI], total | 18540-29-9 | E532 | 0.0005 | mg/L | 0.25 mg/L | 105 | 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: 1323636) | | | | | | | | | | |
| VA24A2164-012 | Anonymous | Chloride | 16887-00-6 | E235.Cl | 1020 mg/L | 1000 mg/L | 102 | 75.0 | 125 | ---- |
| Anions and Nutrients (QCLot: 1323637) | | | | | | | | | | |
| VA24A2164-012 | Anonymous | Sulfate (as SO4) | 14808-79-8 | E235.SO4 | 1010 mg/L | 1000 mg/L | 101 | 75.0 | 125 | ---- |
| Anions and Nutrients (QCLot: 1323638) | | | | | | | | | | |
| VA24A2164-012 | Anonymous | Nitrate (as N) | 14797-55-8 | E235.NO3-L | ND mg/L | 25 mg/L | ND | 75.0 | 125 | ---- |
| Anions and Nutrients (QCLot: 1323639) | | | | | | | | | | |
| VA24A2164-012 | Anonymous | Nitrite (as N) | 14797-65-0 | E235.NO2-L | 4.92 mg/L | 5 mg/L | 98.4 | 75.0 | 125 | ---- |
| Anions and Nutrients (QCLot: 1323640) | | | | | | | | | | |
| VA24A2164-012 | Anonymous | Fluoride | 16984-48-8 | E235.F | 9.94 mg/L | 10 mg/L | 99.4 | 75.0 | 125 | ---- |
| Anions and Nutrients (QCLot: 1323641) | | | | | | | | | | |
| VA24A2164-012 | Anonymous | Bromide | 24959-67-9 | E235.Br-L | 5.08 mg/L | 5 mg/L | 102 | 75.0 | 125 | ---- |
| Anions and Nutrients (QCLot: 1325569) | | | | | | | | | | |
| VA24A2107-002 | Anonymous | Nitrogen, total | 7727-37-9 | E366 | 0.400 mg/L | 0.4 mg/L | 100 | 70.0 | 130 | ---- |
| Anions and Nutrients (QCLot: 1325570) | | | | | | | | | | |
| VA24A2107-002 | Anonymous | Phosphorus, total | 7723-14-0 | E372-U | 0.0464 mg/L | 0.05 mg/L | 92.8 | 70.0 | 130 | ---- |
| Anions and Nutrients (QCLot: 1325571) | | | | | | | | | | |
| VA24A2107-002 | Anonymous | Ammonia, total (as N) | 7664-41-7 | E298 | 0.0943 mg/L | 0.1 mg/L | 94.3 | 75.0 | 125 | ---- |
| Organic / Inorganic Carbon (QCLot: 1325567) | | | | | | | | | | |
| VA24A2107-002 | Anonymous | Carbon, dissolved organic [DOC] | ---- | E358-L | 4.86 mg/L | 5 mg/L | 97.1 | 70.0 | 130 | ---- |
| Organic / Inorganic Carbon (QCLot: 1325568) | | | | | | | | | | |
| VA24A2107-002 | Anonymous | Carbon, total organic [TOC] | ---- | E355-L | 5.34 mg/L | 5 mg/L | 107 | 70.0 | 130 | ---- |
| Total Sulfides (QCLot: 1328350) | | | | | | | | | | |
| FJ2400276-002 | Anonymous | Sulfide, total (as S) | 18496-25-8 | E395 | 0.239 mg/L | 0.2 mg/L | 120 | 75.0 | 125 | ---- |
| Total Metals (QCLot: 1324164) | | | | | | | | | | |
| VA24A2195-002 | Anonymous | Aluminum, total | 7429-90-5 | E420 | 0.201 mg/L | 0.2 mg/L | 100 | 70.0 | 130 | ---- |
| | | Antimony, total | 7440-36-0 | E420 | 0.0204 mg/L | 0.02 mg/L | 102 | 70.0 | 130 | ---- |
| | | Arsenic, total | 7440-38-2 | E420 | 0.0196 mg/L | 0.02 mg/L | 97.8 | 70.0 | 130 | ---- |
| | | Barium, total | 7440-39-3 | E420 | 0.0200 mg/L | 0.02 mg/L | 100 | 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: 1324164) - continued | | | | | | | | | | |
| VA24A2195-002 | Anonymous | Beryllium, total | 7440-41-7 | E420 | 0.0393 mg/L | 0.04 mg/L | 98.2 | 70.0 | 130 | ---- |
| | | Bismuth, total | 7440-69-9 | E420 | 0.0104 mg/L | 0.01 mg/L | 104 | 70.0 | 130 | ---- |
| | | Boron, total | 7440-42-8 | E420 | 0.101 mg/L | 0.1 mg/L | 101 | 70.0 | 130 | ---- |
| | | Cadmium, total | 7440-43-9 | E420 | 0.00408 mg/L | 0.004 mg/L | 102 | 70.0 | 130 | ---- |
| | | Calcium, total | 7440-70-2 | E420 | 3.95 mg/L | 4 mg/L | 98.8 | 70.0 | 130 | ---- |
| | | Cesium, total | 7440-46-2 | E420 | 0.0102 mg/L | 0.01 mg/L | 102 | 70.0 | 130 | ---- |
| | | Chromium, total | 7440-47-3 | E420 | 0.0403 mg/L | 0.04 mg/L | 101 | 70.0 | 130 | ---- |
| | | Cobalt, total | 7440-48-4 | E420 | 0.0204 mg/L | 0.02 mg/L | 102 | 70.0 | 130 | ---- |
| | | Copper, total | 7440-50-8 | E420 | 0.0199 mg/L | 0.02 mg/L | 99.5 | 70.0 | 130 | ---- |
| | | Iron, total | 7439-89-6 | E420 | 2.01 mg/L | 2 mg/L | 100 | 70.0 | 130 | ---- |
| | | Lead, total | 7439-92-1 | E420 | 0.0206 mg/L | 0.02 mg/L | 103 | 70.0 | 130 | ---- |
| | | Lithium, total | 7439-93-2 | E420 | 0.0980 mg/L | 0.1 mg/L | 98.0 | 70.0 | 130 | ---- |
| | | Magnesium, total | 7439-95-4 | E420 | 0.982 mg/L | 1 mg/L | 98.2 | 70.0 | 130 | ---- |
| | | Manganese, total | 7439-96-5 | E420 | 0.0205 mg/L | 0.02 mg/L | 102 | 70.0 | 130 | ---- |
| | | Molybdenum, total | 7439-98-7 | E420 | 0.0199 mg/L | 0.02 mg/L | 99.5 | 70.0 | 130 | ---- |
| | | Nickel, total | 7440-02-0 | E420 | 0.0407 mg/L | 0.04 mg/L | 102 | 70.0 | 130 | ---- |
| | | Phosphorus, total | 7723-14-0 | E420 | 9.79 mg/L | 10 mg/L | 97.9 | 70.0 | 130 | ---- |
| | | Potassium, total | 7440-09-7 | E420 | 3.97 mg/L | 4 mg/L | 99.4 | 70.0 | 130 | ---- |
| | | Rubidium, total | 7440-17-7 | E420 | 0.0207 mg/L | 0.02 mg/L | 103 | 70.0 | 130 | ---- |
| | | Selenium, total | 7782-49-2 | E420 | 0.0414 mg/L | 0.04 mg/L | 104 | 70.0 | 130 | ---- |
| | | Silicon, total | 7440-21-3 | E420 | 10.4 mg/L | 10 mg/L | 104 | 70.0 | 130 | ---- |
| | | Silver, total | 7440-22-4 | E420 | 0.00407 mg/L | 0.004 mg/L | 102 | 70.0 | 130 | ---- |
| | | Sodium, total | 7440-23-5 | E420 | 2.02 mg/L | 2 mg/L | 101 | 70.0 | 130 | ---- |
| | | Strontium, total | 7440-24-6 | E420 | 0.0199 mg/L | 0.02 mg/L | 99.4 | 70.0 | 130 | ---- |
| | | Sulfur, total | 7704-34-9 | E420 | 19.4 mg/L | 20 mg/L | 96.8 | 70.0 | 130 | ---- |
| | | Tellurium, total | 13494-80-9 | E420 | 0.0418 mg/L | 0.04 mg/L | 104 | 70.0 | 130 | ---- |
| | | Thallium, total | 7440-28-0 | E420 | 0.00406 mg/L | 0.004 mg/L | 101 | 70.0 | 130 | ---- |
| | | Thorium, total | 7440-29-1 | E420 | 0.0199 mg/L | 0.02 mg/L | 99.3 | 70.0 | 130 | ---- |
| | | Tin, total | 7440-31-5 | E420 | 0.0205 mg/L | 0.02 mg/L | 103 | 70.0 | 130 | ---- |
| | | Titanium, total | 7440-32-6 | E420 | 0.0422 mg/L | 0.04 mg/L | 105 | 70.0 | 130 | ---- |
| | | Tungsten, total | 7440-33-7 | E420 | 0.0205 mg/L | 0.02 mg/L | 103 | 70.0 | 130 | ---- |
| | | Uranium, total | 7440-61-1 | E420 | 0.00401 mg/L | 0.004 mg/L | 100 | 70.0 | 130 | ---- |
| | | Vanadium, total | 7440-62-2 | E420 | 0.0996 mg/L | 0.1 mg/L | 99.6 | 70.0 | 130 | ---- |
| | | Zinc, total | 7440-66-6 | E420 | 0.405 mg/L | 0.4 mg/L | 101 | 70.0 | 130 | ---- |
| | | Zirconium, total | 7440-67-7 | E420 | 0.0393 mg/L | 0.04 mg/L | 98.3 | 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: 1325237) | | | | | | | | | | |
| VA24A0952-002 | Anonymous | Mercury, total | 7439-97-6 | E508 | 0.000105 mg/L | 0.0001 mg/L | 105 | 70.0 | 130 | ---- |
| Dissolved Metals (QCLot: 1324170) | | | | | | | | | | |
| VA24A1922-002 | Anonymous | Aluminum, dissolved | 7429-90-5 | E421 | 0.188 mg/L | 0.2 mg/L | 93.8 | 70.0 | 130 | ---- |
| | | Antimony, dissolved | 7440-36-0 | E421 | 0.0201 mg/L | 0.02 mg/L | 101 | 70.0 | 130 | ---- |
| | | Arsenic, dissolved | 7440-38-2 | E421 | 0.0195 mg/L | 0.02 mg/L | 97.3 | 70.0 | 130 | ---- |
| | | Barium, dissolved | 7440-39-3 | E421 | 0.0200 mg/L | 0.02 mg/L | 100 | 70.0 | 130 | ---- |
| | | Beryllium, dissolved | 7440-41-7 | E421 | 0.0393 mg/L | 0.04 mg/L | 98.2 | 70.0 | 130 | ---- |
| | | Bismuth, dissolved | 7440-69-9 | E421 | 0.00930 mg/L | 0.01 mg/L | 93.0 | 70.0 | 130 | ---- |
| | | Boron, dissolved | 7440-42-8 | E421 | 0.108 mg/L | 0.1 mg/L | 108 | 70.0 | 130 | ---- |
| | | Cadmium, dissolved | 7440-43-9 | E421 | 0.00393 mg/L | 0.004 mg/L | 98.3 | 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 | 0.00969 mg/L | 0.01 mg/L | 96.9 | 70.0 | 130 | ---- |
| | | Chromium, dissolved | 7440-47-3 | E421 | 0.0388 mg/L | 0.04 mg/L | 96.9 | 70.0 | 130 | ---- |
| | | Cobalt, dissolved | 7440-48-4 | E421 | 0.0196 mg/L | 0.02 mg/L | 98.0 | 70.0 | 130 | ---- |
| | | Copper, dissolved | 7440-50-8 | E421 | 0.0189 mg/L | 0.02 mg/L | 94.6 | 70.0 | 130 | ---- |
| | | Iron, dissolved | 7439-89-6 | E421 | 1.91 mg/L | 2 mg/L | 95.3 | 70.0 | 130 | ---- |
| | | Lead, dissolved | 7439-92-1 | E421 | 0.0193 mg/L | 0.02 mg/L | 96.6 | 70.0 | 130 | ---- |
| | | Lithium, dissolved | 7439-93-2 | E421 | 0.0972 mg/L | 0.1 mg/L | 97.2 | 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 | 0.0197 mg/L | 0.02 mg/L | 98.5 | 70.0 | 130 | ---- |
| | | Molybdenum, dissolved | 7439-98-7 | E421 | 0.0200 mg/L | 0.02 mg/L | 100.0 | 70.0 | 130 | ---- |
| | | Nickel, dissolved | 7440-02-0 | E421 | 0.0388 mg/L | 0.04 mg/L | 97.1 | 70.0 | 130 | ---- |
| | | Phosphorus, dissolved | 7723-14-0 | E421 | 9.79 mg/L | 10 mg/L | 97.9 | 70.0 | 130 | ---- |
| | | Potassium, dissolved | 7440-09-7 | E421 | 3.80 mg/L | 4 mg/L | 95.1 | 70.0 | 130 | ---- |
| | | Rubidium, dissolved | 7440-17-7 | E421 | 0.0191 mg/L | 0.02 mg/L | 95.4 | 70.0 | 130 | ---- |
| | | Selenium, dissolved | 7782-49-2 | E421 | 0.0399 mg/L | 0.04 mg/L | 99.7 | 70.0 | 130 | ---- |
| | | Silicon, dissolved | 7440-21-3 | E421 | 10.1 mg/L | 10 mg/L | 101 | 70.0 | 130 | ---- |
| | | Silver, dissolved | 7440-22-4 | E421 | 0.00392 mg/L | 0.004 mg/L | 98.0 | 70.0 | 130 | ---- |
| | | Sodium, dissolved | 7440-23-5 | E421 | ND mg/L | 2 mg/L | ND | 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 | 20.3 mg/L | 20 mg/L | 102 | 70.0 | 130 | ---- |
| | | Tellurium, dissolved | 13494-80-9 | E421 | 0.0425 mg/L | 0.04 mg/L | 106 | 70.0 | 130 | ---- |
| | | Thallium, dissolved | 7440-28-0 | E421 | 0.00372 mg/L | 0.004 mg/L | 93.0 | 70.0 | 130 | ---- |
| | | Thorium, dissolved | 7440-29-1 | E421 | 0.0167 mg/L | 0.02 mg/L | 83.3 | 70.0 | 130 | ---- |
| | | Tin, dissolved | 7440-31-5 | E421 | 0.0198 mg/L | 0.02 mg/L | 99.0 | 70.0 | 130 | ---- |



Sub-Matrix: **Water**

| | | | | | Matrix Spike (MS) Report | | | | | |
|--|------------------|---|------------|--------|--------------------------|-------------|--------------|---------------------|------|-----------|
| | | | | | Spike | | Recovery (%) | Recovery Limits (%) | | |
| Laboratory sample ID | Client sample ID | Analyte | CAS Number | Method | Concentration | Target | MS | Low | High | Qualifier |
| Dissolved Metals (QCLot: 1324170) - continued | | | | | | | | | | |
| VA24A1922-002 | Anonymous | Titanium, dissolved | 7440-32-6 | E421 | 0.0354 mg/L | 0.04 mg/L | 88.6 | 70.0 | 130 | ---- |
| | | Tungsten, dissolved | 7440-33-7 | E421 | 0.0195 mg/L | 0.02 mg/L | 97.4 | 70.0 | 130 | ---- |
| | | Uranium, dissolved | 7440-61-1 | E421 | 0.00370 mg/L | 0.004 mg/L | 92.5 | 70.0 | 130 | ---- |
| | | Vanadium, dissolved | 7440-62-2 | E421 | 0.0996 mg/L | 0.1 mg/L | 99.6 | 70.0 | 130 | ---- |
| | | Zinc, dissolved | 7440-66-6 | E421 | 0.395 mg/L | 0.4 mg/L | 98.7 | 70.0 | 130 | ---- |
| | | Zirconium, dissolved | 7440-67-7 | E421 | 0.0397 mg/L | 0.04 mg/L | 99.4 | 70.0 | 130 | ---- |
| Dissolved Metals (QCLot: 1327462) | | | | | | | | | | |
| VA24A2204-002 | WLNG US 1 | Mercury, dissolved | 7439-97-6 | E509 | 0.0000979 mg/L | 0.0001 mg/L | 97.9 | 70.0 | 130 | ---- |
| Speciated Metals (QCLot: 1323465) | | | | | | | | | | |
| VA24A1984-002 | Anonymous | Chromium, hexavalent [Cr VI], dissolved | 18540-29-9 | E532A | 0.260 mg/L | 0.25 mg/L | 104 | 70.0 | 130 | ---- |
| Speciated Metals (QCLot: 1323472) | | | | | | | | | | |
| KS2400334-001 | Anonymous | Chromium, hexavalent [Cr VI], total | 18540-29-9 | E532 | 0.260 mg/L | 0.25 mg/L | 104 | 70.0 | 130 | ---- |
| Speciated Metals (QCLot: 1326126) | | | | | | | | | | |
| VA24A2133-002 | Anonymous | Chromium, hexavalent [Cr VI], dissolved | 18540-29-9 | E532A | 26.2 mg/L | 25 mg/L | 105 | 70.0 | 130 | ---- |

| | | |
|---|----------------|--|
|  Eagle Mountain - Woodfibre Gas Pipeline Project Woodfibre Site Waste Discharge Approval AE-111973 Report | Reporting Week | Feb 5 th to Feb 11 th , 2024 |
| | Report # | 7 |
| | Appendix | B |

Receiving Environment Field Notes and Logs



FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-2-5-Blanchard-2A5D7

| | | | |
|----------------------------|---------------|----------------------------|---|
| Project Component: | Tunnel | Site Name: | Receiving Environment - Downstream of Discharge |
| Inspection Date: | 02/05/2024 | Location: | WLNG |
| Triton QP: | Sam Blanchard | Latitude/Longitude: | 49.6683 -123.247958 |
| Temperature(c): | Low -2 High 8 | Permit: | PE 110136 |
| Weather Conditions: | Clear | Ground Conditions: | Damp |

Observations

Time: 09:55:48 **Flow Volume (visual):** moderate

Notes:

Odour Detected?: No **Notes:**

Unusual Colour?: No **Notes:**

Unusual Observations?: No **Notes:**

Sheen on Water?: No **Notes:**

Samples Collected - Parameters

| | | | | |
|-----------------------------------|-----|---|-----|---|
| Total Metals + Mercury | Yes | General Parameters (Alkalinity) | Yes | Other Sample: Phenols and Chromium |
| Dissolved Metals + Mercury | Yes | Total Sulfide, Unionized Sulfide | Yes | |
| TSS | Yes | Anions | Yes | QA Samples: No Phenols and Chromium |
| TDS | Yes | VOC/VPH | N/A | |
| Nutrients | Yes | EPH, PAH, LEPH/HEPH | N/A | |
| DOC | Yes | Trout LC50 | N/A | |

Logger Maintenance

| | | | |
|--------------------------------------|-----|---|-----|
| Logger Maintenance Performed? | Yes | Photo of COC with Lab Signature? | Yes |
|--------------------------------------|-----|---|-----|

Describe Logger Maintenance

Small rocks were wedged between logger and casing and blocking sensors. Rocks were removed.

Photos



Photo: 1
Location: Downstream
Description: DS location - US View



Photo: 2
Location: Downstream
Description: DS location - DS View



2024-2-5-Blanchard-2A5D7

Sign Off

Report Prepared By: Sam Blanchard

Report Reviewed: Yes

Report Reviewer: Miranda Lewis

Professional(s) of Record: N/A

Name:

Designation:

Designation Number:



FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-2-5-Blanchard-2A5D7

| | | | |
|----------------------------|---------------|----------------------------|---|
| Project Component: | Tunnel | Site Name: | Receiving Environment - Upstream of Discharge |
| Inspection Date: | 02/05/2024 | Location: | WLNG |
| Triton QP: | Sam Blanchard | Latitude/Longitude: | 49.6683 -123.247958 |
| Temperature(c): | Low -2 High 8 | Permit: | PE 110136 |
| Weather Conditions: | Clear | Ground Conditions: | Damp |

Observations

Time: 09:55:48 **Flow Volume (visual):** moderate

Notes:

Odour Detected?: No **Notes:**

Unusual Colour?: No **Notes:**

Unusual Observations?: No **Notes:**

Sheen on Water?: No **Notes:**

Samples Collected - Parameters

| | | | | |
|-----------------------------------|-----|---|-----|---|
| Total Metals + Mercury | Yes | General Parameters (Alkalinity) | Yes | Other Sample: Phenols and Chromium |
| Dissolved Metals + Mercury | Yes | Total Sulfide, Unionized Sulfide | Yes | |
| TSS | Yes | Anions | Yes | |
| TDS | Yes | VOC/VPH | N/A | QA Samples: No Phenols and Chromium |
| Nutrients | Yes | EPH, PAH, LEPH/HEPH | N/A | |
| DOC | Yes | Trout LC50 | N/A | |

Logger Maintenance

| | | | |
|--------------------------------------|-----|---|-----|
| Logger Maintenance Performed? | Yes | Photo of COC with Lab Signature? | Yes |
|--------------------------------------|-----|---|-----|

Describe Logger Maintenance

Small rocks were wedged between logger and casing and blocking sensors. Rocks were removed.

Photos



Photo: 1
Location: Downstream
Description: DS location - US View

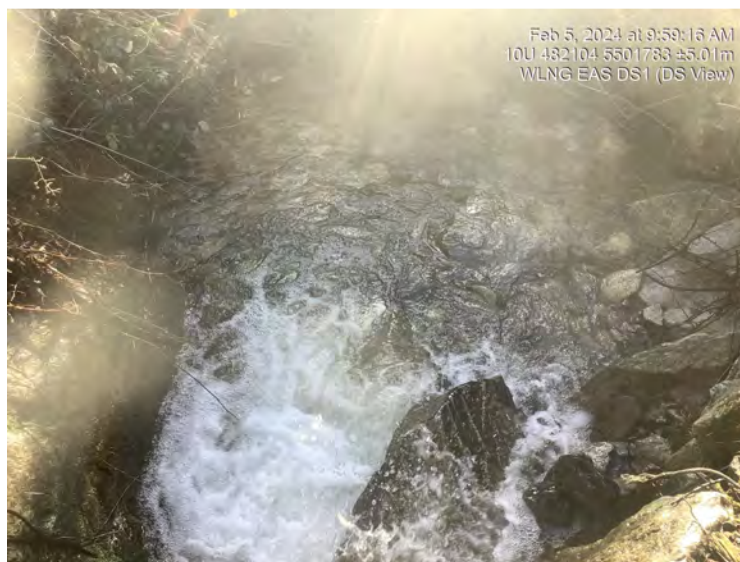


Photo: 2
Location: Downstream
Description: DS location - DS View

Photos



Feb 5, 2024 at 9:59:42 AM
10U 482104 5501783 ±3.01m
WLNG EAS DS1 (Across View)

Photo: 3
Location: Downstream
Description: DS location - Across View

ALS Environmental
Chain of Custody (COC) / Analytical Request Form
Canada Toll Free: 1 800 968 9519

Feb 5, 2024 at 12:08:53 PM
10U 482104 5501783 ±3.33m
Lab COC

Report To: Client Environmental
Company: Richards Lewis
Phone: 504 388 0718
Address: 1750-1111 West Georgia Street
City/Province: Vancouver BC
Postal Code: V6L 4K3
Sample To: [] YES [] NO
Copy of Invoice with Report: [] YES [] NO

Report Format / Distribution:
 Direct Report Format [] YES [] NO
 Quality Control (QC) Report with Report [] YES [] NO
 Copies Made to Client as Request (copies made before final release)
 Labels Distribution [] YES [] NO
 Email 1st Fax info@als-env.com
 Email 2nd info@als-env.com
 Email 3rd info@als-env.com

Sample Services Level Below - Contact your ALS to confirm if any of the following may apply:
 Regular []
 4 day (P4-20%) []
 1 day (P1-20%) []
 2 day (P2-20%) []
 Business day (B1 - 10%) []
 Same Day, Weekend or Statutory holiday (S1 - 20%) (Laboratory opening time may apply) []

Project Information:
ALS Account # / Quote #: VAS1707160-012
Lab #: 11964
PCS LABS: 11964 - Test 21 - Phase 3C-4C
ALS Lab Work Order # (lab use only):
ALS Account # / Quote # (lab use only):
ALS Contact: Can Ding
Sampler:

Sample Identification and/or Coordinates (This description will appear on the report):

| ALS Sample # (lab use only) | Sample Identification and/or Coordinates (This description will appear on the report) | Date (mm/dd/yyyy) | Time (mm:ss) | Sample Type |
|-----------------------------|---|-------------------|--------------|-------------|
| WLNG DS 1 | WLNG DS 1 | 05-Feb-24 | 16:19 | Water |
| PH 3-05 | PH 3-05 | 05-Feb-24 | 16:21 | Water |
| WLNG DS 1 | WLNG DS 1 | 05-Feb-24 | 16:22 | Water |
| PH 3-04 | PH 3-04 | 05-Feb-24 | 16:23 | Water |
| PH 3-03 | PH 3-03 | 05-Feb-24 | 16:24 | Water |
| PH 3-02 | PH 3-02 | 05-Feb-24 | 16:25 | Water |
| PH 3-01 | PH 3-01 | 05-Feb-24 | 16:26 | Water |
| PH 3-00 | PH 3-00 | 05-Feb-24 | 16:27 | Water |
| PH 2-09 | PH 2-09 | 05-Feb-24 | 16:28 | Water |
| PH 2-08 | PH 2-08 | 05-Feb-24 | 16:29 | Water |
| PH 2-07 | PH 2-07 | 05-Feb-24 | 16:30 | Water |
| PH 2-06 | PH 2-06 | 05-Feb-24 | 16:31 | Water |
| PH 2-05 | PH 2-05 | 05-Feb-24 | 16:32 | Water |
| PH 2-04 | PH 2-04 | 05-Feb-24 | 16:33 | Water |
| PH 2-03 | PH 2-03 | 05-Feb-24 | 16:34 | Water |
| PH 2-02 | PH 2-02 | 05-Feb-24 | 16:35 | Water |
| PH 2-01 | PH 2-01 | 05-Feb-24 | 16:36 | Water |
| PH 1-00 | PH 1-00 | 05-Feb-24 | 16:37 | Water |

Special instructions: Specify Criteria to Add on report by checking on the Stop-down list below (minimum COC only)

SAMPLE CONDITION AS RECEIVED (lab use only)

Ice Packs Ice Cubes Safety seal intact Yes No

Cooling Initiated Yes No

SPONSOR RELEASE (client use)

SUBMITTER'S RECEIPT (lab use only)

Photo: 4
Location: Downstream
Description: Lab COC



2024-2-5-Blanchard-2A5D7

Sign Off

Report Prepared By: Sam Blanchard

Report Reviewed: Yes

Report Reviewer: Miranda Lewis

Professional(s) of Record: N/A

Name:

Designation:

Designation Number: