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Eagle Mountain - Woodfibre Gas Pipeline Project

BCER Waste Discharge Permit Weekly Report

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Appendix A: BC Rail Point of Discharge from Water Treatment System Documentation

Appendix B: BC Rail Receiving Environment Documentation

Appendix C: Woodfibre Point of Discharge from Water Treatment System Documentation

Appendix D: Woodfibre Receiving Environment Documentation

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Preamble

This weekly report for the British Columbia Energy Regulator (BCER) Waste Discharge Permit (BCER number PE-110163) for the FortisBC Eagle Mountain – Woodfibre Gas Pipeline (EGP) Project includes the results of water quality monitoring and sampling of the receiving environment (upstream and downstream) and point of discharge.

FortisBC has retained Triton Environmental Consultants Ltd. as the Qualified Professional to implement and oversee the monitoring and sampling program in the receiving environments. The data represented below, including laboratory reported exceedances, represent background conditions from the receiving environment sampling as shown on the Waste Discharge Permit.

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 Permit PE-110163 Section 4.2:

The Permittee 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 permit. 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 data 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 the subject permit, and also made publicly available on the FortisBC Eagle Mountain-Woodfibre Gas Pipeline Project | Talking Energy webpage.

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 Permit.

At the receiving environments, real time and daily readings are being monitored at the same time with one piece of equipment, allowing all the daily readings real time. Visible sheen will be monitored with visual inspections during times of discharge or sampling.

At the point of discharge from the WTP, the parameters are being monitored using field equipment 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.

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Table 1. Monitor Details for the Point of Discharge from the Water Treatment System-BC Rail and Woodfibre

Permit Frequency	Parameters	Details
Daily	Visible Sheen	Monitoring using 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 GF Dryloc pH Series NPT
	Temperature	Monitoring using YSI ProDSS
	NTU	Monitoring using Observator NEP9504GPI
	Electrical Conductivity	Monitoring using YSI ProDSS
Weekly (or per batch) Lab Samples	List prescribed in permit	Lab samples

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

Table 2. Monitor Details for the Receiving Environment (upstream and downstream)-BC Rail and Woodfibre

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	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.

Summary-BC Rail Site

Site Activities

- No discharges occurred during this time period.

Point of Discharge from Water Treatment System Monitoring

Table 3 below includes information on water quality and lab sampling during discharges. Appendix A includes a full set of lab results with real time/field samples from discharges.

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Table 3: Discharge from Water Treatment System Information

Location	Date of Discharge	Date of Lab Sample (for the discharge)	Real Time Monitored	Field Samples Taken	Discharge Rate (batch)	Discharge Volume (batch)	Results
BC Rail	No discharges during this time period						

Exceedance details

- No discharges during this reporting period.

Receiving Environment Monitoring

The receiving environment is being monitored as outlined in the permit.

Table 4: Upstream Monitoring Information

Location	Date of Lab Sample	Real Time Monitored	Field Samples Taken	Results
Squamish River Upstream	2024-05-21	Yes *	Yes	Full set of lab sample results, photo and documentation are provided in Appendix B.

Table 5: Downstream Monitoring Information

	Date of Lab Sample	Real Time Monitored	Field Samples Taken	Results
Squamish River Downstream	2023-05-21	Yes *	Yes	Full set of lab sample results, photo and documentation are provided in Appendix B.

* Sondes set up to log temperature, specific conductivity, salinity (in PSU), pH, ORP, DO (mg/L), and turbidity (NTU) at 10 minute intervals.

Receiving Environment Monitoring Details

- Visual sheen checks conducted for days of discharge.
- All receiving environment lab results are in Appendix B.
- Any 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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Summary-Woodfibre

Site Activities

- No discharges during this reporting period.

Point of Discharge from Water Treatment System Monitoring

Table 3 below includes information on the batch test water quality and lab sampling. Appendix C includes a full set of lab results with real time/field samples from the batch discharge.

Table 3: Discharge from Water Treatment System Information

Location	Date of Discharge	Date of Lab Sample (for the discharge)	Real Time Monitored	Field Samples Taken	Discharge Rate (batch)	Discharge Volume (batch)	Results
Woodfibre	No discharges this reporting period						

Exceedance details

- No discharges during this reporting period.

Receiving Environment Monitoring

The receiving environment is being monitored as outlined in the permit.

Table 4: Upstream Monitoring Information

Location	Date of Lab Sample	Real Time Monitored	Field Samples Taken	Results
Woodfibre Upstream	2024-05-22	Yes *	No	Field documentation in Appendix D

Table 5: Downstream Monitoring Information

	Date of Lab Sample	Real Time Monitored	Field Samples Taken	Results
Woodfibre Downstream	2024-05-22	Yes *	No	Field documentation in Appendix D

* Sondes set up to log temperature, specific conductivity, salinity (in PSU), pH, ORP, DO (mg/L), and turbidity (NTU) at 10 minute intervals.

Receiving Environment Monitoring Details



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- Visual sheen checks are conducted during discharges.
- Any 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: BCR Site Point of Discharge from Water Treatment Plant Documentation



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No Discharge this Reporting Period

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Appendix B: BCR Site Receiving Environment Documentation

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BCR Site Receiving Environment Sample Analysis

TRITON		Sample ID				Sample or value notes	BCWQ PAL - Short Term	BCWQ PAL - Long Term	BCWQ MAL - Short Term	BCWQ MAL - Long Term
LAB ID		Reviewed and signed off by			Adam Goodwin R.P. Bio., MSc	BCR USI BCR DS 1 BCR DS 2 BCR DS 3 BCR DS 4	BCR USI	BCR DS 1	BCR DS 2	BCR DS 3
Date Sampled										
Time Sampled		21-May-2024	21-May-2024	8:57	9:24					
Units		Water	Water							
In Situ Parameters										
pH (feld)	pH units	6.5-9.0	6.5-9.0	7.0-8.7	7.0-8.7	7.25	8.15			
Temperature (feld)	°C	-	-	Max < from BCR 1°C, hourly rate of change > 0.5°C ¹	Max < from BCR 1°C, hourly rate of change > 0.5°C ¹	-	9.2	9.6		
Turbidity (feld)	NTU	Varies with background, see note Lowest value/lowest guideline is 3 NTU	Varies with background, see note Lowest value/lowest guideline is 9 NTU	Varies with background, see note Lowest value/lowest guideline is 9 NTU	Varies with background, see note Lowest value/lowest guideline is 3 NTU	8.92	11.90			
Dissolved Oxygen (feld)	mg/L	Varies with stage, see note	Varies with stage, see note	Varies with stage, see note	Varies with stage, see note	-	-			
General Parameters										
Specific Conductance (feld)	µS/cm	-	-	15	15	15	15			
Total Hardness (feld)	mg/L	-	-	32	32					
Total Suspended Solids	mg/L	Varies with background, see note Lowest value/lowest guideline is 3 mg/L	Varies with background, see note Lowest value/lowest guideline is 20mg/L	Varies with background, see note Lowest value/lowest guideline is 20mg/L	Varies with background, see note Lowest value/lowest guideline is 6mg/L	5.1	7.3			
Dissolved Organic Carbon (DOC)	mg/L	-	-	-	-	2.44	1.96			
Total Alkalinity (CaCO ₃)	mg/L	Categorical	-	-	-	11.6	11.2	The upstream and downstream locations have high sensitivity to acid inputs (i.e. low buffering capacity).		
Total Sulfide (as H ₂ S)	mg/L	-	-	-	-	-	-	< 0.0015	< 0.0015	
Total Sulfide (un-ionized as H ₂ S)	mg/L	0.002	-	-	-	-	-	< 0.0015	< 0.0015	
Total Sulfide (as H ₂ S)	mg/L	-	-	-	-	-	-	< 0.0016	< 0.0016	
Nutrients and Nutrients										
Nitrogen	mg/L ammonia-N	Varies with pH and temperature. See note.	Varies with pH and temperature. See note.	Varies with pH, temperature and salinity. See note.	Varies with pH, temperature and salinity. See note.	0.0862	0.0980			
Bromide	mg/L	-	-	-	-	-	-			
Chloride	mg/L	150	600	> 110% of background	< 90% of background	1.16	1.16			
Fluoride	mg/L	-	Varies with hardness	1.5	-	< 0.020	< 0.020			
Total Sulfate (TYS)	mg/L	-	-	-	-	3.7	3.015	3.022	3.023	3.023
Mercury (as Hg)	mg/L	Varies with chloride. See note	Varies with chloride. See note	-	-	< 0.0010	< 0.010	Varies with chloride. Refer to Table 27B in BC WQG for guideline.	Varies with chloride. Refer to Table 27B in BC WQG for guideline.	
Total Nitrogen	mg/L	-	-	-	-	0.94	0.142			
Total Phosphorus	mg/L	0.000 to 0.015	-	-	-	0.0276	0.0273			
Sulfate (as SO ₄)	mg/L	Varies with hardness. See note	-	-	-	4.20	3.81			
Total Metals										
Aluminum (Al)-Total	mg/L	Varies with pH, DOC, hardness	-	-	-	0.369	0.407	The upstream and downstream location exceeds the long-term 5-week average (BCR) for aluminum. No restriction in increase seen in areas with unique flow regimes. These impacts are not attributable to BCR construction activities and may be characteristic of the Squamish River and the local geology.		
Manganese (Mn)-Total	mg/L	0.004	0.25	-	-	0.0125	0.0126			
Boron (B)-Total	mg/L	-	-	-	-	0.0108	0.0104			
Boron (B)-Dissolved	mg/L	-	-	-	-	0.00013	0.00013			
Boron (B)-Total	mg/L	-	-	-	-	0.100	0.092			
Boron (B)-Dissolved	mg/L	-	-	-	-	0.00020	0.00020			
Cadmium (Cd)-Total	mg/L	-	-	-	-	0.00012	0.000081			
Cadmium (Cd)-Dissolved	mg/L	-	-	-	-	0.000007	0.000002			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000002	0.000002			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000001	0.000001			
Copper (Cu)-Total	mg/L	-	-	-	-	0.00012	0.000082			
Copper (Cu)-Dissolved	mg/L	-	-	-	-	0.000012	0.000007			
Lead (Pb)-Total	mg/L	Varies with hardness. See Note	Varies with hardness. See Note	0.14	0.002	0.000083	0.000101	Guideline varies with hardness, refer to BC Water Quality Guidelines for more information. Guideline is 0.003 where hardness < 10 mg/L and < 0.0001 where hardness > 10 mg/L. Lowest value for guideline is 0.003 mg/L.	Guideline varies with hardness, refer to BC Water Quality Guidelines for more information. Guideline is 0.003 where hardness < 10 mg/L and < 0.0001 where hardness > 10 mg/L. Lowest value for guideline is 0.003 mg/L.	
Thallium (Tl)-Total	mg/L	-	-	-	-	0.00010	0.00005			
Manganese (Mn)-Dissolved	mg/L	-	-	-	-	0.000001	0.000001			
Manganese (Mn)-Total	mg/L	-	-	-	-	0.000001	0.000001			
Nickel (Ni)-Total	mg/L	Varies with hardness	-	-	-	0.0003	< 0.0000			
Phosphorus (P)-Total	mg/L	0.000 to 0.015	-	-	-	-	< 0.000			
Ruthenium (Ru)-Total	mg/L	-	-	-	-	0.0004	0.0004			
Selenium (Se)-Total	mg/L	0.002	-	-	-	0.0002	< 0.0000			
Zinc (Zn)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Silver (Ag)-Total	mg/L	Varies with hardness, see note	Varies with hardness, see note	0.003	0.0015	< 0.000010	0.000024	Varies with hardness, refer to BC Water Quality Guidelines for more information. Guideline is 0.003 where hardness < 10 mg/L and < 0.0001 where hardness > 10 mg/L. Lowest value for guideline is 0.003 mg/L.	Varies with hardness, refer to BC Water Quality Guidelines for more information. Guideline is 0.003 where hardness < 10 mg/L and < 0.0001 where hardness > 10 mg/L. Lowest value for guideline is 0.003 mg/L.	
Sodium (Na)-Total	mg/L	-	-	-	-	1.68	1.65			
Boron (B)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Thallium (Tl)-Total	mg/L	0.0008	-	-	-	< 0.000010	0.000010			
Thallium (Tl)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Thallium (Tl)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Thallium (Tl)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Antimony (Sb)-Total	mg/L	0.000000	-	-	-	0.000000	0.000000			
Antimony (Sb)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Antimony (Sb)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Antimony (Sb)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Cadmium (Cd)-Dissolved	mg/L	Varies with hardness, see note	Varies with hardness, see note	-	-	0.000008	0.000070	Guideline varies with hardness. Guideline is applicable to hardness between 7.0 and 145 mg/L. Guideline is calculated using the following formula: Guideline = (EPA(0.174 * (Na/Hardness)) + 0.24) * (ND(G)) If hardness is below the hardness range, the minimum hardness will be applied to the calculation.	Guideline varies with hardness. Guideline is applicable to hardness between 7.0 and 145 mg/L. Guideline is calculated using the following formula: Guideline = (EPA(0.174 * (Na/Hardness)) + 0.24) * (ND(G)) If hardness is below the hardness range, the minimum hardness will be applied to the calculation.	
Cadmium (Cd)-Total	mg/L	Categorical, see note	-	-	-	4.72	4.43	Both locations have high sensitivity to acid inputs (i.e. low buffering capacity).	Both locations have high sensitivity to acid inputs (i.e. low buffering capacity).	
Cesium (Cs)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Cesium (Cs)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Copper (Cu)-Dissolved	mg/L	Guideline varies with other parameters, see note	Guideline varies with other parameters, see note	-	-	0.000078		Guideline varies with other parameters and is calculated using BC simplified model. Temperature, pH, DOC and hardness. Dissolved copper = (EPA(0.174 * (Na/Hardness)) + 0.24) * (ND(G)) If hardness is below the hardness range, the minimum hardness will be applied to the calculation.	Guideline varies with other parameters and is calculated using BC simplified model. Temperature, pH, DOC and hardness. Dissolved copper = (EPA(0.174 * (Na/Hardness)) + 0.24) * (ND(G)) If hardness is below the hardness range, the minimum hardness will be applied to the calculation.	
Copper (Cu)-Total	mg/L	-	-	-	-	-	-			
Iron (Fe)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Iron (Fe)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Lead (Pb)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Lead (Pb)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Mercury (Hg)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Mercury (Hg)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Antimony (Sb)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Antimony (Sb)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Boron (B)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Boron (B)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	0.000000	0.000000			
Chromium (Cr)-Total	mg/L	-	-	-	-	0.000000	0.000000	</td		

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BCR Site Receiving Environment Lab Documentation

CERTIFICATE OF ANALYSIS

Work Order	: VA24B1284	Page	: 1 of 6
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 21-May-2024 11:25
PO	: 11964-Task 20-Phase 3C-4C	Date Analysis Commenced	: 21-May-2024
C-O-C number	: ----	Issue Date	: 29-May-2024 16:32
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	Position	Laboratory Department
	Lab Assistant	Metals, Burnaby, British Columbia
	Team Leader - Inorganics	Inorganics, Calgary, Alberta
	Department Manager - Metals	Metals, Burnaby, British Columbia
	Account Manager Assistant	Administration, Burnaby, British Columbia
	Analyst	Metals, Burnaby, British Columbia
	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia



General Comments

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

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

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

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

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

LOR: Limit of Reporting (detection limit).

<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.



Analytical Results

Client sample ID				SQU US 1	SQU DS 1	---	---	---	
Client sampling date / time				21-May-2024 08:57	21-May-2024 09:24	---	---	---	
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B1284-001	VA24B1284-002	-----	-----	-----
Field Tests									
Conductivity, field	----	EF001/VA	0.10	µS/cm	52.000	47.000	---	---	---
pH, field	----	EF001/VA	0.10	pH units	7.25	6.96	---	---	---
Temperature, field	----	EF001/VA	0.10	°C	9.20	9.60	---	---	---
Physical Tests									
Hardness (as CaCO ₃), dissolved	----	EC100/VA	0.60	mg/L	13.9	13.1	---	---	---
Hardness (as CaCO ₃), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	15.1	14.6	---	---	---
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	34	34	---	---	---
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	5.1	7.3	---	---	---
Alkalinity, total (as CaCO ₃)	----	E290/VA	2.0	mg/L	11.6	11.2	---	---	---
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0862	0.0680	---	---	---
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	1.16	1.16	---	---	---
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	0.0215	0.0272	---	---	---
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	0.164	0.142	---	---	---
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0276	0.0273	---	---	---
Sulfate (as SO ₄)	14808-79-8	E235.SO4/VA	0.30	mg/L	4.20	3.81	---	---	---
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/CG	0.50	mg/L	1.71	1.37	---	---	---
Total Sulfides									
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	<0.0015	<0.0015	---	---	---
Sulfide, un-ionized (as H ₂ S), from total	7783-06-4	EC395/VA	0.0015	mg/L	<0.0015	<0.0015	---	---	---
Sulfide, total (as H ₂ S)	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	0.369	0.467	---	---	---
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	<0.00010	---	---	---



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	SQU US 1	SQU DS 1	---	---	---
					Client sampling date / time	21-May-2024 08:57	21-May-2024 09:24	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B1284-001	VA24B1284-002	Result	Result	---	---
Total Metals										
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00016	0.00017	---	---	---	---
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.0108	0.0124	---	---	---	---
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	0.0000082	0.0000091	---	---	---	---
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	4.99	4.77	---	---	---	---
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000027	0.000032	---	---	---	---
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	<0.00050	---	---	---	---
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00016	0.00023	---	---	---	---
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00122	0.00146	---	---	---	---
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.345	0.435	---	---	---	---
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000063	0.000101	---	---	---	---
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	0.634	0.646	---	---	---	---
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.0120	0.0145	---	---	---	---
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	0.000471	0.000453	---	---	---	---
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	0.563	0.608	---	---	---	---
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00104	0.00112	---	---	---	---
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	4.13	4.01	---	---	---	---
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	0.000024	---	---	---	---
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	1.68	1.65	---	---	---	---
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0335	0.0314	---	---	---	---
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	0.93	0.81	---	---	---	---
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	---	---	---	---
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	---	---	---	---



Analytical Results

Client sample ID					SQU US 1	SQU DS 1	---	---	---
Client sampling date / time					21-May-2024 08:57	21-May-2024 09:24	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B1284-001	VA24B1284-002	-----	-----	-----
					Result	Result	---	---	---
Total Metals									
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	0.0182	0.0243	---	---	---
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	0.000040	0.000046	---	---	---
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00160	0.00171	---	---	---
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0036	0.0058	---	---	---
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	0.0444	0.0525	---	---	---
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	0.00012	0.00012	---	---	---
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.00645	0.00672	---	---	---
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	0.0000078	0.0000070	---	---	---
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	4.72	4.45	---	---	---
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	0.00078	0.00069	---	---	---
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.067	0.053	---	---	---
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	0.505	0.476	---	---	---
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00484	0.00454	---	---	---
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	0.000456	0.000454	---	---	---
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00050	<0.00050	---	---	---



Analytical Results

					Client sample ID	SQU US 1	SQU DS 1	---	---	---
					Client sampling date / time	21-May-2024 08:57	21-May-2024 09:24	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B1284-001	VA24B1284-002	-----	-----	-----	
				Result	Result	-----	---	---	---	
Dissolved Metals										
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	0.494	0.505	---	---	---	---
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00075	0.00074	---	---	---	---
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	3.54	3.32	---	---	---	---
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	1.60	1.52	---	---	---	---
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.0296	0.0282	---	---	---	---
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	0.80	0.82	---	---	---	---
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	0.00101	0.00149	---	---	---	---
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	0.000032	0.000034	---	---	---	---
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00096	0.00089	---	---	---	---
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0028	0.0022	---	---	---	---
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], total	18540-29-9	E532/VA	0.00050	mg/L	<0.00050	<0.00050	---	---	---	---
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

Work Order	: VA24B1284	Page	: 1 of 14
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 21-May-2024 11:25
PO	: 11964-Task 20-Phase 3C-4C	Issue Date	: 29-May-2024 16:33
C-O-C number	: ----		
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012_V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

Key

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

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

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No 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)		E298	21-May-2024	27-May-2024	28 days	6 days	✓	28-May-2024	28 days	7 days	✓													
SQU DS 1																								
Anions and Nutrients : Ammonia by Fluorescence																								
Amber glass total (sulfuric acid)		E298	21-May-2024	27-May-2024	28 days	6 days	✓	28-May-2024	28 days	7 days	✓													
SQU US 1																								
Anions and Nutrients : Bromide in Water by IC (Low Level)																								
HDPE		E235.Br-L	21-May-2024	24-May-2024	28 days	3 days	✓	24-May-2024	28 days	3 days	✓													
SQU DS 1																								
Anions and Nutrients : Bromide in Water by IC (Low Level)																								
HDPE		E235.Br-L	21-May-2024	24-May-2024	28 days	3 days	✓	24-May-2024	28 days	3 days	✓													
SQU US 1																								
Anions and Nutrients : Chloride in Water by IC																								
HDPE		E235.Cl	21-May-2024	24-May-2024	28 days	3 days	✓	24-May-2024	28 days	3 days	✓													
SQU DS 1																								
Anions and Nutrients : Chloride in Water by IC																								
HDPE		E235.Cl	21-May-2024	24-May-2024	28 days	3 days	✓	24-May-2024	28 days	3 days	✓													
SQU US 1																								
Anions and Nutrients : Fluoride in Water by IC																								
HDPE		E235.F	21-May-2024	24-May-2024	28 days	3 days	✓	24-May-2024	28 days	3 days	✓													
SQU DS 1																								



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

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis		
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual
Anions and Nutrients : Fluoride in Water by IC									
HDPE SQU US 1	E235.F	21-May-2024	24-May-2024	28 days	3 days	✓	24-May-2024	28 days	3 days
Anions and Nutrients : Nitrate in Water by IC (Low Level)									
HDPE SQU DS 1	E235.NO3-L	21-May-2024	24-May-2024	3 days	3 days	✓	24-May-2024	3 days	3 days
Anions and Nutrients : Nitrate in Water by IC (Low Level)									
HDPE SQU US 1	E235.NO3-L	21-May-2024	24-May-2024	3 days	3 days	✓	24-May-2024	3 days	3 days
Anions and Nutrients : Nitrite in Water by IC (Low Level)									
HDPE SQU DS 1	E235.NO2-L	21-May-2024	24-May-2024	3 days	3 days	✓	24-May-2024	3 days	3 days
Anions and Nutrients : Nitrite in Water by IC (Low Level)									
HDPE SQU US 1	E235.NO2-L	21-May-2024	24-May-2024	3 days	3 days	✓	24-May-2024	3 days	3 days
Anions and Nutrients : Sulfate in Water by IC									
HDPE SQU DS 1	E235.SO4	21-May-2024	24-May-2024	28 days	3 days	✓	24-May-2024	28 days	3 days
Anions and Nutrients : Sulfate in Water by IC									
HDPE SQU US 1	E235.SO4	21-May-2024	24-May-2024	28 days	3 days	✓	24-May-2024	28 days	3 days
Anions and Nutrients : Total Nitrogen by Colourimetry									
Amber glass total (sulfuric acid) SQU DS 1	E366	21-May-2024	27-May-2024	28 days	6 days	✓	29-May-2024	28 days	8 days
Anions and Nutrients : Total Nitrogen by Colourimetry									
Amber glass total (sulfuric acid) SQU US 1	E366	21-May-2024	27-May-2024	28 days	6 days	✓	29-May-2024	28 days	8 days



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

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis		
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)									
Amber glass total (sulfuric acid) SQU DS 1	E372-U	21-May-2024	27-May-2024	28 days	6 days	✓	29-May-2024	28 days	8 days
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)									
Amber glass total (sulfuric acid) SQU US 1	E372-U	21-May-2024	27-May-2024	28 days	6 days	✓	29-May-2024	28 days	8 days
Dissolved Metals : Dissolved Mercury in Water by CVAAS									
Glass vial - dissolved (lab preserved) SQU DS 1	E509	21-May-2024	27-May-2024	28 days	6 days	✓	27-May-2024	28 days	6 days
Dissolved Metals : Dissolved Mercury in Water by CVAAS									
Glass vial - dissolved (lab preserved) SQU US 1	E509	21-May-2024	27-May-2024	28 days	6 days	✓	27-May-2024	28 days	6 days
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS									
HDPE - dissolved (lab preserved) SQU US 1	E421	21-May-2024	23-May-2024	180 days	2 days	✓	23-May-2024	180 days	2 days
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS									
HDPE - dissolved (lab preserved) SQU DS 1	E421	21-May-2024	23-May-2024	180 days	2 days	✓	23-May-2024	180 days	7 days
Field Tests : Field pH,EC,Salinity,Cl₂,ClO₂,ORP,DO, Turbidity,T,T-P,o-PO₄,NH₃,Chloramine									
Glass vial - total (lab preserved) SQU DS 1	EF001	21-May-2024	----	----	----		21-May-2024	----	0 days
Field Tests : Field pH,EC,Salinity,Cl₂,ClO₂,ORP,DO, Turbidity,T,T-P,o-PO₄,NH₃,Chloramine									
Glass vial - total (lab preserved) SQU US 1	EF001	21-May-2024	----	----	----		21-May-2024	----	1 days
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)									
Amber glass dissolved (sulfuric acid) SQU DS 1	E358-L	21-May-2024	23-May-2024	28 days	2 days	✓	23-May-2024	28 days	2 days



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

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis		
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)									
Amber glass dissolved (sulfuric acid) SQU US 1	E358-L	21-May-2024	23-May-2024	28 days	2 days	✓	23-May-2024	28 days	2 days
Physical Tests : Alkalinity Species by Titration									
HDPE SQU DS 1	E290	21-May-2024	24-May-2024	14 days	3 days	✓	24-May-2024	14 days	3 days
Physical Tests : Alkalinity Species by Titration									
HDPE SQU US 1	E290	21-May-2024	24-May-2024	14 days	3 days	✓	24-May-2024	14 days	3 days
Physical Tests : TDS by Gravimetry									
HDPE SQU DS 1	E162	21-May-2024	---	---	---		27-May-2024	7 days	6 days
Physical Tests : TDS by Gravimetry									
HDPE SQU US 1	E162	21-May-2024	---	---	---		27-May-2024	7 days	6 days
Physical Tests : TSS by Gravimetry									
HDPE SQU DS 1	E160	21-May-2024	---	---	---		27-May-2024	7 days	6 days
Physical Tests : TSS by Gravimetry									
HDPE SQU US 1	E160	21-May-2024	---	---	---		27-May-2024	7 days	6 days
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC									
UV-inhibited HDPE - total (sodium hydroxide) SQU DS 1	E532	21-May-2024	---	---	---		23-May-2024	28 days	3 days
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC									
UV-inhibited HDPE - total (sodium hydroxide) SQU US 1	E532	21-May-2024	---	---	---		23-May-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			Eval	Analysis Date	Holding Times	Eval
				Preparation Date	Rec	Actual	Rec	Actual	Rec				
Total Metals : Total Mercury in Water by CVAAS													
Glass vial - total (lab preserved) SQU DS 1		E508	21-May-2024	27-May-2024	28 days	6 days	✓	27-May-2024	28 days	6 days	✓		
Total Metals : Total Mercury in Water by CVAAS													
Glass vial - total (lab preserved) SQU US 1		E508	21-May-2024	27-May-2024	28 days	6 days	✓	27-May-2024	28 days	6 days	✓		
Total Metals : Total Metals in Water by CRC ICPMS													
HDPE - total (lab preserved) SQU DS 1		E420	21-May-2024	22-May-2024	180 days	1 days	✓	24-May-2024	180 days	3 days	✓		
Total Metals : Total Metals in Water by CRC ICPMS													
HDPE - total (lab preserved) SQU US 1		E420	21-May-2024	22-May-2024	180 days	1 days	✓	24-May-2024	180 days	3 days	✓		
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)													
HDPE total (zinc acetate+sodium hydroxide) SQU DS 1		E395	21-May-2024	----	----	----	----	----	27-May-2024	7 days	6 days	✓	
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)													
HDPE total (zinc acetate+sodium hydroxide) SQU US 1		E395	21-May-2024	----	----	----	----	----	27-May-2024	7 days	6 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	Analytical Methods	Method	QC Lot #	Count		Frequency (%)		
				QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)								
Alkalinity Species by Titration		E290	1456871	1	8	12.5	5.0	✓
Ammonia by Fluorescence		E298	1461271	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)		E235.Br-L	1456866	1	8	12.5	5.0	✓
Chloride in Water by IC		E235.Cl	1456865	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS		E509	1461530	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS		E421	1452172	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)		E358-L	1456621	1	17	5.8	5.0	✓
Fluoride in Water by IC		E235.F	1456864	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)		E235.NO3-L	1456867	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)		E235.NO2-L	1456868	1	11	9.0	5.0	✓
Sulfate in Water by IC		E235.SO4	1456869	1	8	12.5	5.0	✓
TDS by Gravimetry		E162	1460724	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC		E532	1456829	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS		E508	1461574	1	11	9.0	5.0	✓
Total Metals in Water by CRC ICPMS		E420	1452177	1	18	5.5	5.0	✓
Total Nitrogen by Colourimetry		E366	1461269	1	14	7.1	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)		E372-U	1461270	1	13	7.6	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)		E395	1461587	1	20	5.0	5.0	✓
TSS by Gravimetry		E160	1460694	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)								
Alkalinity Species by Titration		E290	1456871	1	8	12.5	5.0	✓
Ammonia by Fluorescence		E298	1461271	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)		E235.Br-L	1456866	1	8	12.5	5.0	✓
Chloride in Water by IC		E235.Cl	1456865	1	11	9.0	5.0	✓
Dissolved Mercury in Water by CVAAS		E509	1461530	2	40	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS		E421	1452172	1	19	5.2	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)		E358-L	1456621	1	17	5.8	5.0	✓
Fluoride in Water by IC		E235.F	1456864	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)		E235.NO3-L	1456867	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)		E235.NO2-L	1456868	1	11	9.0	5.0	✓
Sulfate in Water by IC		E235.SO4	1456869	1	8	12.5	5.0	✓
TDS by Gravimetry		E162	1460724	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC		E532	1456829	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS		E508	1461574	1	11	9.0	5.0	✓
Total Metals in Water by CRC ICPMS		E420	1452177	1	18	5.5	5.0	✓
Total Nitrogen by Colourimetry		E366	1461269	1	14	7.1	5.0	✓



Matrix: Water

Evaluation: ✗ = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type	Analytical Methods	Method	QC Lot #	Count		Frequency (%)	
				QC	Regular	Actual	Expected
Laboratory Control Samples (LCS) - Continued							
Total Phosphorus by Colourimetry (0.002 mg/L)		E372-U	1461270	1	13	7.6	5.0
Total Sulfide by Colourimetry (Automated Flow)		E395	1461587	1	20	5.0	5.0
TSS by Gravimetry		E160	1460694	1	20	5.0	5.0
Method Blanks (MB)							
Alkalinity Species by Titration		E290	1456871	1	8	12.5	5.0
Ammonia by Fluorescence		E298	1461271	1	16	6.2	5.0
Bromide in Water by IC (Low Level)		E235.Br-L	1456866	1	8	12.5	5.0
Chloride in Water by IC		E235.Cl	1456865	1	11	9.0	5.0
Dissolved Mercury in Water by CVAAS		E509	1461530	2	40	5.0	5.0
Dissolved Metals in Water by CRC ICPMS		E421	1452172	1	19	5.2	5.0
Dissolved Organic Carbon by Combustion (Low Level)		E358-L	1456621	1	17	5.8	5.0
Fluoride in Water by IC		E235.F	1456864	1	8	12.5	5.0
Nitrate in Water by IC (Low Level)		E235.NO3-L	1456867	1	20	5.0	5.0
Nitrite in Water by IC (Low Level)		E235.NO2-L	1456868	1	11	9.0	5.0
Sulfate in Water by IC		E235.SO4	1456869	1	8	12.5	5.0
TDS by Gravimetry		E162	1460724	1	20	5.0	5.0
Total Hexavalent Chromium (Cr VI) by IC		E532	1456829	1	17	5.8	5.0
Total Mercury in Water by CVAAS		E508	1461574	1	11	9.0	5.0
Total Metals in Water by CRC ICPMS		E420	1452177	1	18	5.5	5.0
Total Nitrogen by Colourimetry		E366	1461269	1	14	7.1	5.0
Total Phosphorus by Colourimetry (0.002 mg/L)		E372-U	1461270	1	13	7.6	5.0
Total Sulfide by Colourimetry (Automated Flow)		E395	1461587	1	20	5.0	5.0
TSS by Gravimetry		E160	1460694	1	20	5.0	5.0
Matrix Spikes (MS)							
Ammonia by Fluorescence		E298	1461271	1	16	6.2	5.0
Bromide in Water by IC (Low Level)		E235.Br-L	1456866	1	8	12.5	5.0
Chloride in Water by IC		E235.Cl	1456865	1	11	9.0	5.0
Dissolved Mercury in Water by CVAAS		E509	1461530	2	40	5.0	5.0
Dissolved Metals in Water by CRC ICPMS		E421	1452172	1	19	5.2	5.0
Dissolved Organic Carbon by Combustion (Low Level)		E358-L	1456621	1	17	5.8	5.0
Fluoride in Water by IC		E235.F	1456864	1	8	12.5	5.0
Nitrate in Water by IC (Low Level)		E235.NO3-L	1456867	1	20	5.0	5.0
Nitrite in Water by IC (Low Level)		E235.NO2-L	1456868	1	11	9.0	5.0
Sulfate in Water by IC		E235.SO4	1456869	1	8	12.5	5.0
Total Hexavalent Chromium (Cr VI) by IC		E532	1456829	1	17	5.8	5.0
Total Mercury in Water by CVAAS		E508	1461574	1	11	9.0	5.0
Total Metals in Water by CRC ICPMS		E420	1452177	1	18	5.5	5.0
Total Nitrogen by Colourimetry		E366	1461269	0	14	0.0	5.0
Total Phosphorus by Colourimetry (0.002 mg/L)		E372-U	1461270	0	13	0.0	5.0

Matrix: Water

Evaluation: **x** = QC frequency outside specification; **✓** = QC frequency within specification.

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Matrix Spikes (MS) - Continued							
Total Sulfide by Colourimetry (Automated Flow)	E395	1461587	1	20	5.0	5.0	✓



Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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)
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Calgary	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)	<p>Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.</p> <p>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.</p>
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	<p>Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.</p> <p>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.</p>
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
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.



Analytical Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
Total Hexavalent Chromium (Cr VI) by IC		E532 ALS Environmental - Vancouver	Water	APHA 3500-Cr C (Ion Chromatography)	<p>Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection.</p> <p>Results are based on an un-filtered, field-preserved sample.</p>
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.
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.
Preparation for Dissolved Organic Carbon for Combustion		EP358 ALS Environmental - Calgary	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.



Preparation Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
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	: VA24B1284	Page	: 1 of 17
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 21-May-2024 11:25
PO	: 11964-Task 20-Phase 3C-4C	Date Analysis Commenced	: 21-May-2024
C-O-C number	: ----	Issue Date	: 29-May-2024 16:33
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

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

Signatories	Position	Laboratory Department
	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
	Team Leader - Inorganics	Calgary Inorganics, Calgary, Alberta
	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
	Account Manager Assistant	Vancouver Administration, Burnaby, British Columbia
	Analyst	Vancouver Metals, Burnaby, British Columbia
	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, 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: 1456871)											
FJ2401425-003	Anonymous	Alkalinity, total (as CaCO ₃)	---	E290	1.0	mg/L	35.8	35.0	2.26%	20%	---
Physical Tests (QC Lot: 1460694)											
FJ2401390-001	Anonymous	Solids, total suspended [TSS]	---	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	---
Physical Tests (QC Lot: 1460724)											
FJ2401390-001	Anonymous	Solids, total dissolved [TDS]	---	E162	20	mg/L	1960	2030	3.56%	20%	---
Anions and Nutrients (QC Lot: 1456864)											
FJ2401425-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.088	0.086	0.001	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1456865)											
FJ2401425-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1456866)											
FJ2401425-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1456867)											
FJ2401425-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1456868)											
FJ2401425-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1456869)											
FJ2401425-001	Anonymous	Sulfate (as SO ₄)	14808-79-8	E235.SO4	0.30	mg/L	23.7	23.6	0.291%	20%	---
Anions and Nutrients (QC Lot: 1461269)											
VA24B1209-001	Anonymous	Nitrogen, total	7727-37-9	E366	0.150	mg/L	5.45	5.44	0.114%	20%	---
Anions and Nutrients (QC Lot: 1461270)											
VA24B1214-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.337	0.334	1.04%	20%	---
Anions and Nutrients (QC Lot: 1461271)											
VA24B1214-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.500	mg/L	9.43	8.98	4.94%	20%	---
Organic / Inorganic Carbon (QC Lot: 1456621)											
RG2400713-001	Anonymous	Carbon, dissolved organic [DOC]	---	E358-L	0.50	mg/L	12.7	11.8	7.53%	20%	---
Total Sulfides (QC Lot: 1461587)											
CG2406732-010	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	<0.0015	0	Diff <2x LOR	---
Total Metals (QC Lot: 1452177)											
VA24B1237-036	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	---



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: 1452177) - continued											
VA24B1237-036	Anonymous	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	---
		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	---



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: 1452177) - continued											
VA24B1237-036	Anonymous	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: 1461574)											
VA24B1247-021	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	0.0052 µg/L	<0.0000050	0.0000002	Diff <2x LOR	---
Dissolved Metals (QC Lot: 1452172)											
VA24B1249-004	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	1.51	1.52	0.452%	20%	---
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00010	<0.00010	0.000006	Diff <2x LOR	---
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00056	0.00043	0.00014	Diff <2x LOR	---
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0208	0.0206	1.22%	20%	---
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	0.000275	0.000278	0.991%	20%	---
		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	0.155	0.156	0.554%	20%	---
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	---
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	13.2	13.4	1.60%	20%	---
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000014	0.000016	0.000002	Diff <2x LOR	---
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00055	0.00052	0.00002	Diff <2x LOR	---
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.504	0.470	6.96%	20%	---
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	0.000072	0.000062	0.000009	Diff <2x LOR	---
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0014	0.0014	0.00003	Diff <2x LOR	---
		Magnesium, dissolved	7439-95-4	E421	0.100	mg/L	13.1	13.4	1.83%	20%	---
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0988	0.101	2.03%	20%	---
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00064	0.00052	0.00011	Diff <2x LOR	---
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	0.212	0.220	0.008	Diff <2x LOR	---
		Potassium, dissolved	7440-09-7	E421	0.100	mg/L	7.70	7.71	0.0358%	20%	---
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00225	0.00243	7.56%	20%	---
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	10.2	10.3	1.52%	20%	---
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	0.000014	<0.000010	0.000004	Diff <2x LOR	---
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	222	231	3.77%	20%	---
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.100	0.0999	0.357%	20%	---
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	5.88	5.44	7.82%	20%	---
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	---
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	0.00013	<0.00010	0.00003	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: 1452172) - continued												
VA24B1249-004	Anonymous	Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	0.0675	0.0590	13.4%	20%	---	
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	0.00063	0.00047	0.00016	Diff <2x LOR	---	
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000860	0.000805	6.57%	20%	---	
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.0298	0.0296	0.782%	20%	---	
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0011	<0.0010	0.00006	Diff <2x LOR	---	
Dissolved Metals (QC Lot: 1461530)												
VA24B1247-017	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	---	
Dissolved Metals (QC Lot: 1461531)												
VA24B1284-002	SQU DS 1	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	---	
Speciated Metals (QC Lot: 1456829)												
FJ2401402-001	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L	<0.00050	<0.00050	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: 1456871)						
Alkalinity, total (as CaCO ₃)	---	E290	1	mg/L	<1.0	---
Physical Tests (QCLot: 1460694)						
Solids, total suspended [TSS]	---	E160	3	mg/L	<3.0	---
Physical Tests (QCLot: 1460724)						
Solids, total dissolved [TDS]	---	E162	10	mg/L	<10	---
Anions and Nutrients (QCLot: 1456864)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	---
Anions and Nutrients (QCLot: 1456865)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	---
Anions and Nutrients (QCLot: 1456866)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	---
Anions and Nutrients (QCLot: 1456867)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	---
Anions and Nutrients (QCLot: 1456868)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	---
Anions and Nutrients (QCLot: 1456869)						
Sulfate (as SO ₄)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	---
Anions and Nutrients (QCLot: 1461269)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	---
Anions and Nutrients (QCLot: 1461270)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	---
Anions and Nutrients (QCLot: 1461271)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	---
Organic / Inorganic Carbon (QCLot: 1456621)						
Carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	<0.50	---
Total Sulfides (QCLot: 1461587)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	---
Total Metals (QCLot: 1452177)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	---
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	---
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	---
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	---

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1452177) - continued						
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	---
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	---
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	---
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	---
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	---
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	---
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	---
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	---
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	---
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	---
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	---
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	---
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	---
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	---
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	---
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	---
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	---
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	---
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	---
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	---
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	---
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	---
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	---
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	---
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	---
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	---
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	---
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	---
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	---
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	---
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	---
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	---

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QC Lot: 1461574)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	---
Dissolved Metals (QC Lot: 1452172)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	---
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	---
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	---
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	---
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	---
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	---
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	---
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	---
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	---
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	---
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	---
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	---
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	---
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	---
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	---
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	---
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	---
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	---
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	---
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	---
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	---
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	---
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	---
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	---
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	---
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	---
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	---
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	---
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	---
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	---
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	---
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	---
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	---

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1452172) - continued						
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: 1461530)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	---
Dissolved Metals (QCLot: 1461531)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	---
Speciated Metals (QCLot: 1456829)						
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								
		Spike	Recovery (%)	Recovery Limits (%)					
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1456871)									
Alkalinity, total (as CaCO ₃)	---	E290	1	mg/L	500 mg/L	103	85.0	115	---
Physical Tests (QCLot: 1460694)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	91.5	85.0	115	---
Physical Tests (QCLot: 1460724)									
Solids, total dissolved [TDS]	---	E162	10	mg/L	1000 mg/L	103	85.0	115	---
Anions and Nutrients (QCLot: 1456864)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	---
Anions and Nutrients (QCLot: 1456865)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.6	90.0	110	---
Anions and Nutrients (QCLot: 1456866)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	104	85.0	115	---
Anions and Nutrients (QCLot: 1456867)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	101	90.0	110	---
Anions and Nutrients (QCLot: 1456868)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	100	90.0	110	---
Anions and Nutrients (QCLot: 1456869)									
Sulfate (as SO ₄)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	---
Anions and Nutrients (QCLot: 1461269)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	100	75.0	125	---
Anions and Nutrients (QCLot: 1461270)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	92.8	80.0	120	---
Anions and Nutrients (QCLot: 1461271)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.3	85.0	115	---
Organic / Inorganic Carbon (QCLot: 1456621)									
Carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	8.57 mg/L	93.2	80.0	120	---
Total Sulfides (QCLot: 1461587)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	82.6	80.0	120	---
Total Metals (QCLot: 1452177)									



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
Total Metals (QCLot: 1452177) - continued									
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	103	80.0	120	---
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	105	80.0	120	---
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	---
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	97.5	80.0	120	---
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	95.1	80.0	120	---
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	97.0	80.0	120	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	99.9	80.0	120	---
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	101	80.0	120	---
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	101	80.0	120	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	---
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	---
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	100	80.0	120	---
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	102	80.0	120	---
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	96.9	80.0	120	---
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	97.0	80.0	120	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	104	80.0	120	---
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	---
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	102	80.0	120	---
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	---
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	80.0	120	---
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	102	80.0	120	---
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	96.8	80.0	120	---
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	102	80.0	120	---
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	110	80.0	120	---
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	94.9	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	104	80.0	120	---
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	89.6	80.0	120	---
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	---
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	97.6	80.0	120	---
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	95.8	80.0	120	---
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	101	80.0	120	---
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	102	80.0	120	---
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	94.5	80.0	120	---
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	99.1	80.0	120	---



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report					
					Spike	Recovery (%)	Recovery Limits (%)			
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier	
Total Metals (QC Lot: 1452177) - continued										
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	104	80.0	120	----	
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	100	80.0	120	----	
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.4	80.0	120	----	
Total Metals (QC Lot: 1461574)										
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	98.7	80.0	120	----	
Dissolved Metals (QC Lot: 1452172)										
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	103	80.0	120	----	
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	99.0	80.0	120	----	
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	101	80.0	120	----	
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	98.8	80.0	120	----	
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	97.5	80.0	120	----	
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	95.5	80.0	120	----	
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	92.4	80.0	120	----	
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	96.5	80.0	120	----	
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	98.5	80.0	120	----	
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	96.2	80.0	120	----	
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	96.6	80.0	120	----	
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	96.5	80.0	120	----	
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	95.2	80.0	120	----	
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	99.5	80.0	120	----	
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	96.0	80.0	120	----	
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	103	80.0	120	----	
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	103	80.0	120	----	
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.8	80.0	120	----	
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	99.1	80.0	120	----	
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	95.8	80.0	120	----	
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	103	80.0	120	----	
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----	
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	100	80.0	120	----	
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	98.0	80.0	120	----	
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	112	80.0	120	----	
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	91.0	80.0	120	----	
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	101	80.0	120	----	
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	101	80.0	120	----	
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	90.4	80.0	120	----	



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report					
					Spike	Recovery (%)	Recovery Limits (%)			
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier	
Dissolved Metals (QC Lot: 1452172) - continued										
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	105	80.0	120	----	
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	95.1	80.0	120	----	
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	93.2	80.0	120	----	
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.3	80.0	120	----	
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	99.0	80.0	120	----	
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	93.8	80.0	120	----	
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	96.8	80.0	120	----	
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	100	80.0	120	----	
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	95.2	80.0	120	----	
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	94.0	80.0	120	----	
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	96.6	80.0	120	----	
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	81.3	80.0	120	----	
Speciated Metals (QC Lot: 1456829)										
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.25 mg/L	104	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										
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Anions and Nutrients (QC Lot: 1456864)										
FJ2401425-002	Anonymous	Fluoride	16984-48-8	E235.F	1.02 mg/L	1 mg/L	102	75.0	125	---
Anions and Nutrients (QC Lot: 1456865)										
FJ2401425-002	Anonymous	Chloride	16887-00-6	E235.Cl	100.0 mg/L	100 mg/L	100.0	75.0	125	---
Anions and Nutrients (QC Lot: 1456866)										
FJ2401425-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.503 mg/L	0.5 mg/L	101	75.0	125	---
Anions and Nutrients (QC Lot: 1456867)										
FJ2401425-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.53 mg/L	2.5 mg/L	101	75.0	125	---
Anions and Nutrients (QC Lot: 1456868)										
FJ2401425-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.498 mg/L	0.5 mg/L	99.6	75.0	125	---
Anions and Nutrients (QC Lot: 1456869)										
FJ2401425-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	98.7 mg/L	100 mg/L	98.7	75.0	125	---
Anions and Nutrients (QC Lot: 1461271)										
VA24B1242-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.1000 mg/L	0.1 mg/L	100.0	75.0	125	---
Organic / Inorganic Carbon (QC Lot: 1456621)										
RG2400713-001	Anonymous	Carbon, dissolved organic [DOC]	---	E358-L	ND mg/L	---	ND	70.0	130	---
Total Sulfides (QC Lot: 1461587)										
CG2406732-011	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.196 mg/L	0.2 mg/L	98.0	75.0	125	---
Total Metals (QC Lot: 1452177)										
VA24B1246-001	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	---	ND	70.0	130	---
		Antimony, total	7440-36-0	E420	0.0199 mg/L	0.02 mg/L	99.3	70.0	130	---
		Arsenic, total	7440-38-2	E420	0.0206 mg/L	0.02 mg/L	103	70.0	130	---
		Barium, total	7440-39-3	E420	ND mg/L	---	ND	70.0	130	---
		Beryllium, total	7440-41-7	E420	0.0357 mg/L	0.04 mg/L	89.2	70.0	130	---
		Bismuth, total	7440-69-9	E420	0.00901 mg/L	0.01 mg/L	90.1	70.0	130	---
		Boron, total	7440-42-8	E420	0.097 mg/L	0.1 mg/L	97.1	70.0	130	---
		Cadmium, total	7440-43-9	E420	0.00395 mg/L	0.004 mg/L	98.8	70.0	130	---
		Calcium, total	7440-70-2	E420	ND mg/L	---	ND	70.0	130	---
		Cesium, total	7440-46-2	E420	0.00992 mg/L	0.01 mg/L	99.2	70.0	130	---
		Chromium, total	7440-47-3	E420	0.0380 mg/L	0.04 mg/L	94.9	70.0	130	---
		Cobalt, total	7440-48-4	E420	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	---
		Copper, total	7440-50-8	E420	ND mg/L	---	ND	70.0	130	---
		Iron, total	7439-89-6	E420	ND mg/L	---	ND	70.0	130	---
		Lead, total	7439-92-1	E420	0.0176 mg/L	0.02 mg/L	88.2	70.0	130	---
		Lithium, total	7439-93-2	E420	0.0919 mg/L	0.1 mg/L	91.9	70.0	130	---



Sub-Matrix: Water

					Matrix Spike (MS) Report					
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target		Low	High	
Total Metals (QC Lot: 1452177) - continued										
VA24B1246-001	Anonymous	Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	---
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	---
		Molybdenum, total	7439-98-7	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	---
		Nickel, total	7440-02-0	E420	0.0377 mg/L	0.04 mg/L	94.3	70.0	130	---
		Phosphorus, total	7723-14-0	E420	9.68 mg/L	10 mg/L	96.8	70.0	130	---
		Potassium, total	7440-09-7	E420	3.83 mg/L	4 mg/L	95.8	70.0	130	---
		Rubidium, total	7440-17-7	E420	0.0196 mg/L	0.02 mg/L	98.2	70.0	130	---
		Selenium, total	7782-49-2	E420	0.0409 mg/L	0.04 mg/L	102	70.0	130	---
		Silicon, total	7440-21-3	E420	ND mg/L	----	ND	70.0	130	---
		Silver, total	7440-22-4	E420	0.00398 mg/L	0.004 mg/L	99.5	70.0	130	---
		Sodium, total	7440-23-5	E420	1.98 mg/L	2 mg/L	99.0	70.0	130	---
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	---
		Sulfur, total	7704-34-9	E420	19.9 mg/L	20 mg/L	99.6	70.0	130	---
		Tellurium, total	13494-80-9	E420	0.0426 mg/L	0.04 mg/L	106	70.0	130	---
		Thallium, total	7440-28-0	E420	0.00348 mg/L	0.004 mg/L	87.0	70.0	130	---
		Thorium, total	7440-29-1	E420	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	---
		Tin, total	7440-31-5	E420	0.0198 mg/L	0.02 mg/L	99.1	70.0	130	---
		Titanium, total	7440-32-6	E420	ND mg/L	----	ND	70.0	130	---
		Tungsten, total	7440-33-7	E420	0.0185 mg/L	0.02 mg/L	92.5	70.0	130	---
		Uranium, total	7440-61-1	E420	0.00372 mg/L	0.004 mg/L	93.1	70.0	130	---
		Vanadium, total	7440-62-2	E420	0.0983 mg/L	0.1 mg/L	98.3	70.0	130	---
		Zinc, total	7440-66-6	E420	0.381 mg/L	0.4 mg/L	95.3	70.0	130	---
		Zirconium, total	7440-67-7	E420	0.0413 mg/L	0.04 mg/L	103	70.0	130	---
Total Metals (QC Lot: 1461574)										
VA24B1262-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000983 mg/L	0 mg/L	98.3	70.0	130	---
Dissolved Metals (QC Lot: 1452172)										
VA24B1249-010	Anonymous	Aluminum, dissolved	7429-90-5	E421	ND mg/L	----	ND	70.0	130	---
		Antimony, dissolved	7440-36-0	E421	0.0190 mg/L	0.02 mg/L	94.9	70.0	130	---
		Arsenic, dissolved	7440-38-2	E421	0.0204 mg/L	0.02 mg/L	102	70.0	130	---
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	---
		Beryllium, dissolved	7440-41-7	E421	0.0400 mg/L	0.04 mg/L	100.0	70.0	130	---
		Bismuth, dissolved	7440-69-9	E421	0.00856 mg/L	0.01 mg/L	85.6	70.0	130	---
		Boron, dissolved	7440-42-8	E421	0.093 mg/L	0.1 mg/L	92.6	70.0	130	---
		Cadmium, dissolved	7440-43-9	E421	0.00379 mg/L	0.004 mg/L	94.8	70.0	130	---
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	---
		Cesium, dissolved	7440-46-2	E421	0.00950 mg/L	0.01 mg/L	95.0	70.0	130	---
		Chromium, dissolved	7440-47-3	E421	0.0378 mg/L	0.04 mg/L	94.5	70.0	130	---
		Cobalt, dissolved	7440-48-4	E421	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	---
		Copper, dissolved	7440-50-8	E421	0.0181 mg/L	0.02 mg/L	90.6	70.0	130	---
		Iron, dissolved	7439-89-6	E421	1.88 mg/L	2 mg/L	94.2	70.0	130	---
		Lead, dissolved	7439-92-1	E421	0.0172 mg/L	0.02 mg/L	86.2	70.0	130	---
		Lithium, dissolved	7439-93-2	E421	ND mg/L	----	ND	70.0	130	---
		Magnesium, dissolved	7439-95-4	E421	0.962 mg/L	1 mg/L	96.2	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 (QC Lot: 1452172) - continued										
VA24B1249-010	Anonymous	Manganese, dissolved	7439-96-5	E421	ND mg/L	---	ND	70.0	130	---
		Molybdenum, dissolved	7439-98-7	E421	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	---
		Nickel, dissolved	7440-02-0	E421	0.0371 mg/L	0.04 mg/L	92.7	70.0	130	---
		Phosphorus, dissolved	7723-14-0	E421	10.6 mg/L	10 mg/L	106	70.0	130	---
		Potassium, dissolved	7440-09-7	E421	3.94 mg/L	4 mg/L	98.6	70.0	130	---
		Rubidium, dissolved	7440-17-7	E421	0.0193 mg/L	0.02 mg/L	96.7	70.0	130	---
		Selenium, dissolved	7782-49-2	E421	0.0383 mg/L	0.04 mg/L	95.8	70.0	130	---
		Silicon, dissolved	7440-21-3	E421	10.3 mg/L	10 mg/L	103	70.0	130	---
		Silver, dissolved	7440-22-4	E421	0.00369 mg/L	0.004 mg/L	92.3	70.0	130	---
		Sodium, dissolved	7440-23-5	E421	ND mg/L	---	ND	70.0	130	---
		Strontium, dissolved	7440-24-6	E421	ND mg/L	---	ND	70.0	130	---
		Sulfur, dissolved	7704-34-9	E421	22.1 mg/L	20 mg/L	110	70.0	130	---
		Tellurium, dissolved	13494-80-9	E421	0.0401 mg/L	0.04 mg/L	100	70.0	130	---
		Thallium, dissolved	7440-28-0	E421	0.00336 mg/L	0.004 mg/L	84.0	70.0	130	---
		Thorium, dissolved	7440-29-1	E421	0.0184 mg/L	0.02 mg/L	92.1	70.0	130	---
		Tin, dissolved	7440-31-5	E421	0.0192 mg/L	0.02 mg/L	95.8	70.0	130	---
		Titanium, dissolved	7440-32-6	E421	0.0409 mg/L	0.04 mg/L	102	70.0	130	---
		Tungsten, dissolved	7440-33-7	E421	0.0181 mg/L	0.02 mg/L	90.4	70.0	130	---
		Uranium, dissolved	7440-61-1	E421	0.00365 mg/L	0.004 mg/L	91.3	70.0	130	---
		Vanadium, dissolved	7440-62-2	E421	0.100 mg/L	0.1 mg/L	100	70.0	130	---
		Zinc, dissolved	7440-66-6	E421	0.372 mg/L	0.4 mg/L	93.0	70.0	130	---
		Zirconium, dissolved	7440-67-7	E421	0.0403 mg/L	0.04 mg/L	101	70.0	130	---
Dissolved Metals (QC Lot: 1461530)										
VA24B1247-018	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000981 mg/L	0 mg/L	98.1	70.0	130	---
Dissolved Metals (QC Lot: 1461531)										
VA24B1308-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000890 mg/L	0 mg/L	89.0	70.0	130	---
Speciated Metals (QC Lot: 1456829)										
FJ2401402-002	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.253 mg/L	0.25 mg/L	101	70.0	130	---



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 17 -

Affix ALS barcode label here

(lab use only)

Page 1 of

Report To Contact and company name below will appear on the final report		Report Format / Distribution			Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)																
Company:	Triton Environmental	Select Report Format: <input type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) Quality Control (QC) Report with Report <input checked="" type="checkbox"/> <input type="checkbox"/> NO <input checked="" type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			PRIORITY (Business Days) Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply 4 day [P4-20%] <input type="checkbox"/> 3 day [P3-25%] <input type="checkbox"/> 2 day [P2-50%] <input type="checkbox"/> EMERGENCY 1 Business day [E1 - 100%] <input type="checkbox"/> Same Day, Weekend or Statutory holiday [E2 - 200% (Laboratory opening fees may apply)] <input type="checkbox"/> Date and Time Required for all E&P TATs: dd-mm-yy hh:mm:ss <small>or tests that can not be performed according to the service level selected, you will be contacted.</small>																
Street:	1e final report	Email 1 or Fax	Email 2	Email 3																	
City/Province:																					
Postal Code:																					
Invoice To	Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Invoice Distribution			Analysis Request																
Company:	Copy of Invoice with Report <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																
Contact:		Email 1 or Fax	Email 2	Email 3	F				P	P			F/P								
Project Information					Oil and Gas Required Fields (client use)																
ALS Account # / Quote #:	VA23-TRIT100-005/02	AFE/Cost Center:	PO#																		
Job #:	11964	Major/Minor Code:	Routing Code:																		
PO / AFE:	11964 - Task 20 - Phase 3C-4C	Requisitioner:																			
LSD:		Location:																			
ALS Lab Work Order # (lab use only): B1284		ALS Contact:	Sampler:																		
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)			Date (dd-mm-yy)	Time (hh:mm)	Sample Type	Total metals + mercury	Dissolved metals + mercury	Total hexavalent chromium	Total trivalent chromium	TSS	TDS	Nutrients (ammonia, ammonium, total nitrogen, total phosphorus)	Total sulfide (as H2S), Unionized Sulfide (Lew)	Anions scan (Br, Cl, F, NO2, NO3, SO4)	General parameters (alkalinity)	DOC			SAMPLES ON HOLD	NUMBER OF CONTAINERS
SQU US 1				21 May 24	08:57	Water	R	R	R	R	R	R	R	R	R	R	R			N	9
pH: 7.25 cond: 52 temp: 9.1																				N	9
SQU DS 1				21 May 24	09:24	Water	R	R	R	R	R	R	R	R	R	R	R			N	9
pH: 6.96 cond: 47 temp: 9.6																				N	9
Duplicate n/a						Water	R	R	R	R	R	R	R	R	R	R	R			N	9
Field Blank n/a						Water	R	R	R	R	R	R	R	R	R	R	R			N	9
Trip Blank n/a						Water	R	R	R	R	R	R	R	R	R	R	R			N	6
Environmental Division Vancouver Work Order Reference VA24B1284																					
Drinking Water (DW) Samples¹ (client use)		Special Instructions / Specify			Own list below SAMPLE CONDITION AS RECEIVED (lab use only) Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/> Ice Packs <input checked="" type="checkbox"/> Ice Cubes <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/> Cooling Initiated <input type="checkbox"/> INITIAL COOLER TEMPERATURES °C 9°C																
Are samples taken from a Regulated DW System? <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES																					
Are samples for human consumption/ use? <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES		Triton Project # 11964			FINAL COOLER TEMPERATURES °C 9°C																
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)													FINAL SHIPMENT RECEPTION (lab use only)						
F	21 May 24	Time: 13:00	Received by:	Date:	Time:	Received by:	SP	Date:	25/5/24	Time:	11:25										

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

 FORTIS BC™	Eagle Mountain - Woodfibre Gas Pipeline Project	May 20th to May 26th, 2024
	Report #	9
	Appendix B	B-4

BCR Site Receiving Environment Field Notes and Logs

Project Component:	Tunnel	Site Name:	Receiving Environment - Downstream of Discharge	
Inspection Date:	05/21/2024	Location:	BC Rail Site	
Triton QP:	Wade Britz	Latitude/Longitude:	49.725282	-123.165175
Temperature(c):	Low 7	High 12	Permit: AE 111824	
Weather Conditions:	Light Rain	Ground Conditions:	Wet	

Observations

Time: 09:22:28 **Flow Volume (visual):** high

Notes: Flow rate/turbidity higher than usual due to rain

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:
Dissolved Metals + Mercury	Yes	Total Sulfide, Unionized Sulfide	Yes	Total CrVI
TSS	Yes	Anions	Yes	
TDS	Yes	VOC/VPH	N/A	QA Samples: No
Nutrients	Yes	EPH, PAH, LEPH/HEPH	N/A	Total CrVI
DOC	Yes	Trout LC50	N/A	

Logger Maintenance

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

Describe Logger Maintenance

Cleaned sensor and scrubbed casing

Photos



Photo: 1

Location: SQU DS1

Description: Upstream view



Photo: 2

Location: SQU DS1

Description: Across view

Photos



Photo: 3
Location: SQU DS1
Description: Downstream view

 Environmental www.als-enviro.com		May 21, 2024 at 9:58:05 AM	
Chain of Custody (COC) Analytical Request Form			
Canada Toll Free: 1 800 688 9878		Affix ALS barcode (lab use only)	
75 NE			
Report To Company: <input type="text" value="Triton Environmental"/> Contact: <input type="text" value="Miranda Lewis"/> Phone: <input type="text" value="604-356-9218"/>		Report Format / Distribution Select Report Format: <input checked="" type="checkbox"/> PDF <input type="checkbox"/> EXCEL <input type="checkbox"/> WORD <input type="checkbox"/> XLSX Quality Control (QC) Report With Results: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO Report Type: <input type="checkbox"/> Final <input type="checkbox"/> Preliminary <input type="checkbox"/> Draft <input type="checkbox"/> Re-work Select Distribution: <input type="checkbox"/> EMS <input type="checkbox"/> EMA <input type="checkbox"/> FAX Report Distribution: <input type="checkbox"/> Email <input type="checkbox"/> Fax <input type="checkbox"/> Mail	
Triton Environmental will receive an copy on the final report		Triton Environmental will receive an copy on the final report	
Street: <input type="text" value="11944 - 108th West Georgia Street"/>		Email 1: <input type="text" value="miranda@triton-enviro.com"/>	
City/Province: <input type="text" value="Vancouver, BC"/>		Email 2: <input type="text" value="srarhan@triton-enviro.com; osm@triton-enviro.com"/>	
Postal Code: <input type="text" value="V6E 1M5"/>		Email 3: <input type="text" value="ecarter@triton-enviro.com; jay@triton-enviro.com"/>	
Invoce To Same as Report To: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO Copy of Invoice with Report: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Select Invoice Distribution Select Invoice Distribution: <input type="checkbox"/> Email <input type="checkbox"/> Fax <input type="checkbox"/> Mail	
Comments Project Information: AHS Account #: <input type="text" value="11944 - TA02-VATR100-549052"/> Job #: <input type="text" value="11944 - TA02-VATR100-549052"/> EAF #: <input type="text" value="11944 - Tans 20 - Phase 3C-4C"/> L202		Email 1 or Fax: <input type="text" value="miranda@triton-enviro.com"/> Email 2: <input type="text" value="srarhan@triton-enviro.com; osm@triton-enviro.com"/> Email 3: <input type="text" value="ecarter@triton-enviro.com; jay@triton-enviro.com"/>	
ALS Lab Work Order # (lab use only):		ALS Contact: Can Dang Sample:	
ALS Sample # (lab use only) (This description will appear on the report)		Date: <input type="text" value="21 May 24"/> Time: <input type="text" value="08:57"/> Sample Type: <input type="checkbox"/> Water <input type="checkbox"/> R ₁ <input type="checkbox"/> R ₂ <input type="checkbox"/> R ₃ <input type="checkbox"/> R ₄ <input type="checkbox"/> R ₅ <input type="checkbox"/> R ₆ <input type="checkbox"/> R ₇ <input type="checkbox"/> R ₈ <input type="checkbox"/> R ₉ <input type="checkbox"/> R ₁₀ <input type="checkbox"/> R ₁₁ <input type="checkbox"/> R ₁₂ <input type="checkbox"/> R ₁₃ <input type="checkbox"/> R ₁₄ <input type="checkbox"/> R ₁₅ <input type="checkbox"/> R ₁₆ <input type="checkbox"/> R ₁₇ <input type="checkbox"/> R ₁₈ <input type="checkbox"/> R ₁₉ <input type="checkbox"/> R ₂₀ <input type="checkbox"/> R ₂₁ <input type="checkbox"/> R ₂₂ <input type="checkbox"/> R ₂₃ <input type="checkbox"/> R ₂₄ <input type="checkbox"/> R ₂₅ <input type="checkbox"/> R ₂₆ <input type="checkbox"/> 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Photo: 4
Location: SQU
Description: CoC

Sign Off

Report Prepared By: Wade Britz

Report Reviewer:

Name:

Designation:

Designation Number:

Report Reviewed:

Professional(s) of Record:

Project Component:	Tunnel	Site Name:	Receiving Environment - Upstream of Discharge	
Inspection Date:	05/21/2024	Location:	BC Rail Site	
Triton QP:	Wade Britz	Latitude/Longitude:	49.726866	-123.163912
Temperature(c):	Low 7	High 12	Permit: AE 111824	
Weather Conditions:	Light Rain	Ground Conditions:	Wet	

Observations

Time: 08:39:43 **Flow Volume (visual):** high

Notes: Flow rate and turbidity higher than usual from rain

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:
Dissolved Metals + Mercury	Yes	Total Sulfide, Unionized Sulfide	Yes	
TSS	Yes	Anions	Yes	
TDS	Yes	VOC/VPH	N/A	QA Samples: No
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

Cleaned sensor and scrubbed casing

Photos



Photo:

1

Location:

SQU US1

Description:

Upstream view

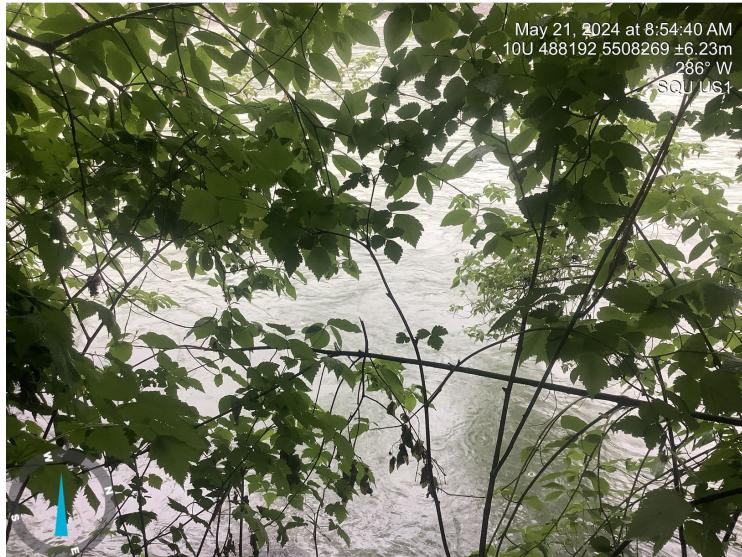


Photo:

2

Location:

SQU US1

Description:

Across view

Photos



Photo: 3
Location: SQU US1
Description: Downstream view

Photo: 4
Location: SQU
Description: CoC

Sign Off

Report Prepared By: Wade Britz

Report Reviewer:

Name:

Designation:

Designation Number:

Report Reviewed:

Professional(s) of Record:

 FORTIS BC™	Eagle Mountain - Woodfibre Gas Pipeline Project	May 20th to May 26th, 2024
	Report #	9
	Appendix C	C-1

Appendix C: Woodfibre Site Point of Discharge from Water Treatment Plant Documentation



**Eagle Mountain - Woodfibre Gas Pipeline Project
Waste Discharge Permit PE-110163 Report**

Reporting Week	May 20 th to May 26 th , 2024
Report #	9
Appendix C	C-2

No Discharge this Reporting Period

 FORTIS BC™	Eagle Mountain - Woodfibre Gas Pipeline Project	May 20th to May 26th, 2024
	Report #	9
	Appendix D	D-1

Appendix D: Woodfibre Site Receiving Environment Documentation

 FORTIS BC™	Eagle Mountain - Woodfibre Gas Pipeline Project Waste Discharge Permit PE-110163 Report	Reporting Week	May 20 th to May 26 th , 2024
	Report #	9	
	Appendix D	D-2	

Woodfibre Site Receiving Environment Sample Analysis

 FORTIS BC™	Eagle Mountain - Woodfibre Gas Pipeline Project Waste Discharge Permit PE-110163 Report	Reporting Week	May 20th to May 26th, 2024
	Report #	9	
	Appendix D	D-3	

Woodfibre Site Receiving Environment Lab Documentation

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	: VA24B1537	Page	: 1 of 8
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact	: 	Account Manager	: 
Address	: 	Address	:
Telephone	:	Telephone	:
Project	: 11964	Date Samples Received	: 22-May-2024 17:25
PO	: 11964- Task 20 - Phase 3C - 4C	Date Analysis Commenced	: 23-May-2024
C-O-C number	: ----	Issue Date	: 04-Jun-2024 11:20
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012_V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

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

Signatories

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

Signatories	Position	Laboratory Department
Cindy Tang	Team Leader - Inorganics	Inorganics, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Kate Dimitrova	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario
Owen Cheng		Metals, Burnaby, British Columbia
Paolo Obillo	Account Manager Assistant	Administration, Burnaby, British Columbia
Sam Silveira	Analyst	Metals, Burnaby, British Columbia

No Breaches Found

General Comments

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

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

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

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

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

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

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

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

>: greater than.

<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).

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



Analytical Results Evaluation

Matrix: Water	Client sample ID	Sampling date/time	WLNG DS 1	WLNG US 1	---	---	---	---	---	---	---
			22-May-2024 10:45	22-May-2024 09:55	---	---	---	---	---	---	---
			Sub-Matrix	Water	Water	---	---	---	---	---	---
Analyte	CAS Number	Method/Lab	Unit	VA24B1537-001	VA24B1537-002	-----	-----	-----	-----	-----	-----
Field Tests											
Conductivity, field	---	EF001/VA	µS/cm	26.000	22.000	---	---	---	---	---	---
pH, field	---	EF001/VA	pH units	7.24	7.28	---	---	---	---	---	---
Temperature, field	---	EF001/VA	°C	10.1	9.70	---	---	---	---	---	---
Physical Tests											
Hardness (as CaCO ₃), dissolved	---	EC100/VA	mg/L	7.58	7.06	---	---	---	---	---	---
Hardness (as CaCO ₃), from total Ca/Mg	---	EC100A/VA	mg/L	8.03	7.54	---	---	---	---	---	---
Solids, total dissolved [TDS]	---	E162/VA	mg/L	26	25	---	---	---	---	---	---
Solids, total suspended [TSS]	---	E160/VA	mg/L	3.0	<3.0	---	---	---	---	---	---
Alkalinity, total (as CaCO ₃)	---	E290/VA	mg/L	7.6	6.7	---	---	---	---	---	---
Anions and Nutrients											
Ammonia, total (as N)	7664-41-7	E298/VA	mg/L	<0.0050	<0.0050	---	---	---	---	---	---
Bromide	24959-67-9	E235.Br-L/VA	mg/L	<0.050	<0.050	---	---	---	---	---	---
Chloride	16887-00-6	E235.Cl/VA	mg/L	0.58	1.85	---	---	---	---	---	---
Fluoride	16984-48-8	E235.F/VA	mg/L	0.020	<0.020	---	---	---	---	---	---
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	mg/L	0.0264	0.0312	---	---	---	---	---	---
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	mg/L	<0.0010	<0.0010	---	---	---	---	---	---
Nitrogen, total	7727-37-9	E366/VA	mg/L	0.101	0.106	---	---	---	---	---	---
Phosphorus, total	7723-14-0	E372-U/VA	mg/L	0.0090	0.0123	---	---	---	---	---	---
Sulfate (as SO ₄)	14808-79-8	E235.SO4/VA	mg/L	2.39	2.69	---	---	---	---	---	---
Organic / Inorganic Carbon											
Carbon, dissolved organic [DOC]	---	E358-L/CG	mg/L	2.72	3.29	---	---	---	---	---	---
Total Sulfides											
Sulfide, total (as S)	18496-25-8	E395/VA	mg/L	<0.0015	<0.0015	---	---	---	---	---	---
Sulfide, un-ionized (as H ₂ S), from total	7783-06-4	EC395/VA	mg/L	<0.0015	<0.0015	---	---	---	---	---	---
Sulfide, total (as H ₂ S)	7783-06-4	E395/VA	mg/L	<0.0016	<0.0016	---	---	---	---	---	---
Total Metals											
Aluminum, total	7429-90-5	E420/VA	mg/L	0.156	0.221	---	---	---	---	---	---



Analytical Results Evaluation

Matrix: Water	Client sample ID	Sampling date/time	WLNG DS 1	WLNG US 1	---	---	---	---	---	---
			22-May-2024 10:45	22-May-2024 09:55	---	---	---	---	---	---
			Water	Water	---	---	---	---	---	---
Analyte	CAS Number	Method/Lab	Unit	VA24B1537-001	VA24B1537-002	-----	-----	-----	-----	-----
Total Metals										
Antimony, total	7440-36-0	E420/VA	mg/L	<0.00010	<0.00010	---	---	---	---	---
Arsenic, total	7440-38-2	E420/VA	mg/L	0.00015	0.00018	---	---	---	---	---
Barium, total	7440-39-3	E420/VA	mg/L	0.00481	0.00356	---	---	---	---	---
Beryllium, total	7440-41-7	E420/VA	mg/L	<0.000100	<0.000100	---	---	---	---	---
Bismuth, total	7440-69-9	E420/VA	mg/L	<0.000050	<0.000050	---	---	---	---	---
Boron, total	7440-42-8	E420/VA	mg/L	<0.010	<0.010	---	---	---	---	---
Cadmium, total	7440-43-9	E420/VA	mg/L	0.0000091	0.0000070	---	---	---	---	---
Calcium, total	7440-70-2	E420/VA	mg/L	2.77	2.56	---	---	---	---	---
Cesium, total	7440-46-2	E420/VA	mg/L	<0.000010	<0.000010	---	---	---	---	---
Chromium, total	7440-47-3	E420/VA	mg/L	<0.00050	<0.00050	---	---	---	---	---
Cobalt, total	7440-48-4	E420/VA	mg/L	<0.00010	<0.00010	---	---	---	---	---
Copper, total	7440-50-8	E420/VA	mg/L	0.00076	0.00091	---	---	---	---	---
Iron, total	7439-89-6	E420/VA	mg/L	0.066	0.102	---	---	---	---	---
Lead, total	7439-92-1	E420/VA	mg/L	0.000096	0.000171	---	---	---	---	---
Lithium, total	7439-93-2	E420/VA	mg/L	<0.0010	<0.0010	---	---	---	---	---
Magnesium, total	7439-95-4	E420/VA	mg/L	0.271	0.279	---	---	---	---	---
Manganese, total	7439-96-5	E420/VA	mg/L	0.00345	0.00455	---	---	---	---	---
Mercury, total	7439-97-6	E508/VA	mg/L	<0.0000050	<0.0000050	---	---	---	---	---
Molybdenum, total	7439-98-7	E420/VA	mg/L	0.000745	0.000613	---	---	---	---	---
Nickel, total	7440-02-0	E420/VA	mg/L	<0.00050	<0.00050	---	---	---	---	---
Phosphorus, total	7723-14-0	E420/VA	mg/L	<0.050	<0.050	---	---	---	---	---
Potassium, total	7440-09-7	E420/VA	mg/L	0.184	0.170	---	---	---	---	---
Rubidium, total	7440-17-7	E420/VA	mg/L	0.00041	0.00032	---	---	---	---	---
Selenium, total	7782-49-2	E420/VA	mg/L	<0.000050	<0.000050	---	---	---	---	---
Silicon, total	7440-21-3	E420/VA	mg/L	3.78	3.88	---	---	---	---	---
Silver, total	7440-22-4	E420/VA	mg/L	<0.000010	<0.000010	---	---	---	---	---
Sodium, total	7440-23-5	E420/VA	mg/L	1.44	1.45	---	---	---	---	---
Strontium, total	7440-24-6	E420/VA	mg/L	0.0125	0.0123	---	---	---	---	---
Sulfur, total	7704-34-9	E420/VA	mg/L	0.50	<0.50	---	---	---	---	---



Analytical Results Evaluation

Matrix: Water	Client sample ID	Sampling date/time	WLNG DS 1	WLNG US 1	---	---	---	---	---	---
			22-May-2024 10:45	22-May-2024 09:55	---	---	---	---	---	---
			Water	Water	---	---	---	---	---	---
Analyte	CAS Number	Method/Lab	Unit	VA24B1537-001	VA24B1537-002	-----	-----	-----	-----	-----
Total Metals										
Tellurium, total	13494-80-9	E420/VA	mg/L	<0.00020	<0.00020	---	---	---	---	---
Thallium, total	7440-28-0	E420/VA	mg/L	<0.000010	<0.000010	---	---	---	---	---
Thorium, total	7440-29-1	E420/VA	mg/L	<0.000010	<0.000010	---	---	---	---	---
Tin, total	7440-31-5	E420/VA	mg/L	<0.000010	<0.000010	---	---	---	---	---
Titanium, total	7440-32-6	E420/VA	mg/L	0.00251	0.00416	---	---	---	---	---
Tungsten, total	7440-33-7	E420/VA	mg/L	<0.000010	<0.000010	---	---	---	---	---
Uranium, total	7440-61-1	E420/VA	mg/L	0.000111	0.000116	---	---	---	---	---
Vanadium, total	7440-62-2	E420/VA	mg/L	<0.00050	<0.00050	---	---	---	---	---
Zinc, total	7440-66-6	E420/VA	mg/L	<0.0030	<0.0030	---	---	---	---	---
Zirconium, total	7440-67-7	E420/VA	mg/L	<0.00020	<0.00020	---	---	---	---	---
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/VA	mg/L	0.0831	0.0980	---	---	---	---	---
Antimony, dissolved	7440-36-0	E421/VA	mg/L	<0.00010	<0.00010	---	---	---	---	---
Arsenic, dissolved	7440-38-2	E421/VA	mg/L	0.00012	0.00012	---	---	---	---	---
Barium, dissolved	7440-39-3	E421/VA	mg/L	0.00383	0.00262	---	---	---	---	---
Beryllium, dissolved	7440-41-7	E421/VA	mg/L	<0.000100	<0.000100	---	---	---	---	---
Bismuth, dissolved	7440-69-9	E421/VA	mg/L	<0.000050	<0.000050	---	---	---	---	---
Boron, dissolved	7440-42-8	E421/VA	mg/L	<0.010	<0.010	---	---	---	---	---
Cadmium, dissolved	7440-43-9	E421/VA	mg/L	0.0000096	0.0000050	---	---	---	---	---
Calcium, dissolved	7440-70-2	E421/VA	mg/L	2.61	2.39	---	---	---	---	---
Cesium, dissolved	7440-46-2	E421/VA	mg/L	<0.000010	<0.000010	---	---	---	---	---
Chromium, dissolved	7440-47-3	E421/VA	mg/L	<0.00050	<0.00050	---	---	---	---	---
Cobalt, dissolved	7440-48-4	E421/VA	mg/L	<0.00010	<0.00010	---	---	---	---	---
Copper, dissolved	7440-50-8	E421/VA	mg/L	0.00067	0.00074	---	---	---	---	---
Iron, dissolved	7439-89-6	E421/VA	mg/L	0.028	0.032	---	---	---	---	---
Lead, dissolved	7439-92-1	E421/VA	mg/L	<0.000050	<0.000050	---	---	---	---	---
Lithium, dissolved	7439-93-2	E421/VA	mg/L	<0.0010	<0.0010	---	---	---	---	---
Magnesium, dissolved	7439-95-4	E421/VA	mg/L	0.258	0.265	---	---	---	---	---



Analytical Results Evaluation

Matrix: Water	Client sample ID		WLNG DS 1	WLNG US 1	---	---	---	---	---	---
			22-May-2024 10:45	22-May-2024 09:55	---	---	---	---	---	---
	Sampling date/time		Sub-Matrix	Water	Water	---	---	---	---	---
Analyte	CAS Number	Method/Lab	Unit	VA24B1537-001	VA24B1537-002	-----	-----	-----	-----	-----
Dissolved Metals										
Manganese, dissolved	7439-96-5	E421/VA	mg/L	0.00242	0.00275	---	---	---	---	---
Mercury, dissolved	7439-97-6	E509/VA	mg/L	<0.0000050	<0.0000050	---	---	---	---	---
Molybdenum, dissolved	7439-98-7	E421/VA	mg/L	0.000689	0.000559	---	---	---	---	---
Nickel, dissolved	7440-02-0	E421/VA	mg/L	<0.00050	<0.00050	---	---	---	---	---
Phosphorus, dissolved	7723-14-0	E421/VA	mg/L	<0.050	<0.050	---	---	---	---	---
Potassium, dissolved	7440-09-7	E421/VA	mg/L	0.188	0.177	---	---	---	---	---
Rubidium, dissolved	7440-17-7	E421/VA	mg/L	0.00037	0.00026	---	---	---	---	---
Selenium, dissolved	7782-49-2	E421/VA	mg/L	<0.000050	<0.000050	---	---	---	---	---
Silicon, dissolved	7440-21-3	E421/VA	mg/L	4.01	3.95	---	---	---	---	---
Silver, dissolved	7440-22-4	E421/VA	mg/L	<0.000010	<0.000010	---	---	---	---	---
Sodium, dissolved	7440-23-5	E421/VA	mg/L	1.40	1.38	---	---	---	---	---
Strontium, dissolved	7440-24-6	E421/VA	mg/L	0.0123	0.0120	---	---	---	---	---
Sulfur, dissolved	7704-34-9	E421/VA	mg/L	0.60	0.57	---	---	---	---	---
Tellurium, dissolved	13494-80-9	E421/VA	mg/L	<0.00020	<0.00020	---	---	---	---	---
Thallium, dissolved	7440-28-0	E421/VA	mg/L	<0.000010	<0.000010	---	---	---	---	---
Thorium, dissolved	7440-29-1	E421/VA	mg/L	<0.00010	<0.00010	---	---	---	---	---
Tin, dissolved	7440-31-5	E421/VA	mg/L	<0.00010	<0.00010	---	---	---	---	---
Titanium, dissolved	7440-32-6	E421/VA	mg/L	0.00049	0.00077	---	---	---	---	---
Tungsten, dissolved	7440-33-7	E421/VA	mg/L	<0.00010	<0.00010	---	---	---	---	---
Uranium, dissolved	7440-61-1	E421/VA	mg/L	0.000095	0.000092	---	---	---	---	---
Vanadium, dissolved	7440-62-2	E421/VA	mg/L	<0.00050	<0.00050	---	---	---	---	---
Zinc, dissolved	7440-66-6	E421/VA	mg/L	0.0018	0.0016	---	---	---	---	---
Zirconium, dissolved	7440-67-7	E421/VA	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], total	18540-29-9	E532/WT	mg/L	<0.00050	<0.00050	---	---	---	---	---
Chromium, trivalent [Cr III], total	16065-83-1	EC535/WT	mg/L	<0.00050	<0.00050	---	---	---	---	---

Page : 8 of 8
Work Order : VA24B1537
Client : Triton Environmental Consultants Ltd.
Project : 11964



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.

Key:

CERTIFICATE OF ANALYSIS

Work Order	: VA24B1537	Page	: 1 of 6
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact	: [REDACTED]	Account Manager	: [REDACTED]
Address	: [REDACTED]	Address	: [REDACTED]
Telephone	: [REDACTED]	Telephone	: [REDACTED]
Project	: 11964	Date Samples Received	: 22-May-2024 17:25
PO	: 11964- Task 20 - Phase 3C - 4C	Date Analysis Commenced	: 23-May-2024
C-O-C number	: ----	Issue Date	: 04-Jun-2024 11:20
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012_V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	Position	Laboratory Department
Cindy Tang	Team Leader - Inorganics	Inorganics, Burnaby, British Columbia
Dan Gebert	Laboratory Analyst	Metals, Burnaby, British Columbia
Ghazaleh Khanmirzaei	Analyst	Metals, Burnaby, British Columbia
Harpreet Chawla	Team Leader - Inorganics	Inorganics, Calgary, Alberta
Kate Dimitrova	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario
Owen Cheng		Metals, Burnaby, British Columbia
Paolo Obillo	Account Manager Assistant	Administration, Burnaby, British Columbia
Sam Silveira	Analyst	Metals, 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.



Analytical Results

Client sample ID				WLNG DS 1	WLNG US 1	---	---	---
Client sampling date / time				22-May-2024 10:45	22-May-2024 09:55	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B1537-001	VA24B1537-002	-----	-----
					Result	Result	---	---
Field Tests								
Conductivity, field	----	EF001/VA	0.10	µS/cm	26.000	22.000	---	---
pH, field	----	EF001/VA	0.10	pH units	7.24	7.28	---	---
Temperature, field	----	EF001/VA	0.10	°C	10.1	9.70	---	---
Physical Tests								
Hardness (as CaCO ₃), dissolved	----	EC100/VA	0.60	mg/L	7.58	7.06	---	---
Hardness (as CaCO ₃), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	8.03	7.54	---	---
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	26	25	---	---
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	3.0	<3.0	---	---
Alkalinity, total (as CaCO ₃)	----	E290/VA	2.0	mg/L	7.6	6.7	---	---
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	0.58	1.85	---	---
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	0.0264	0.0312	---	---
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	0.101	0.106	---	---
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0090	0.0123	---	---
Sulfate (as SO ₄)	14808-79-8	E235.SO4/VA	0.30	mg/L	2.39	2.69	---	---
Organic / Inorganic Carbon								
Carbon, dissolved organic [DOC]	----	E358-L/CG	0.50	mg/L	2.72	3.29	---	---
Total Sulfides								
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	<0.0015	<0.0015	---	---
Sulfide, un-ionized (as H ₂ S), from total	7783-06-4	EC395/VA	0.0015	mg/L	<0.0015	<0.0015	---	---
Sulfide, total (as H ₂ S)	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	0.156	0.221	---	---
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	<0.00010	---	---



Analytical Results

					Client sample ID	WLNG DS 1	WLNG US 1	---	---	---
					Client sampling date / time	22-May-2024 10:45	22-May-2024 09:55	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B1537-001	VA24B1537-002	-----	-----	-----	-----
Total Metals										
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00015	0.00018	---	---	---	---
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00481	0.00356	---	---	---	---
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	0.0000091	0.0000070	---	---	---	---
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	2.77	2.56	---	---	---	---
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	---	---	---	---
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	0.00076	0.00091	---	---	---	---
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.066	0.102	---	---	---	---
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000096	0.000171	---	---	---	---
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	0.271	0.279	---	---	---	---
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00345	0.00455	---	---	---	---
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	0.000745	0.000613	---	---	---	---
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	0.170	---	---	---	---
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00041	0.00032	---	---	---	---
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	3.78	3.88	---	---	---	---
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	1.44	1.45	---	---	---	---
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0125	0.0123	---	---	---	---
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	0.50	<0.50	---	---	---	---
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	<0.00020	---	---	---	---
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	<0.000010	---	---	---	---



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	WLNG DS 1	WLNG US 1	---	---	---
					Client sampling date / time	22-May-2024 10:45	22-May-2024 09:55	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B1537-001	VA24B1537-002	-----	-----	-----	
					Result	Result	---	---	---	
Total Metals										
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	0.00251	0.00416	---	---	---	---
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	0.000111	0.000116	---	---	---	---
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	0.0831	0.0980	---	---	---	---
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	0.00012	0.00012	---	---	---	---
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.00383	0.00262	---	---	---	---
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	0.0000096	0.0000050	---	---	---	---
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	2.61	2.39	---	---	---	---
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	0.00067	0.00074	---	---	---	---
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.028	0.032	---	---	---	---
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	0.258	0.265	---	---	---	---
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00242	0.00275	---	---	---	---
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	0.000689	0.000559	---	---	---	---
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00050	<0.00050	---	---	---	---



Analytical Results

					Client sample ID	WLNG DS 1	WLNG US 1	---	---	---
					Client sampling date / time	22-May-2024 10:45	22-May-2024 09:55	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24B1537-001	VA24B1537-002	-----	-----	-----	
					Result	Result	---	---	---	
Dissolved Metals										
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	0.188	0.177	---	---	---	---
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00037	0.00026	---	---	---	---
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	4.01	3.95	---	---	---	---
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	1.40	1.38	---	---	---	---
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.0123	0.0120	---	---	---	---
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	0.60	0.57	---	---	---	---
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	0.00049	0.00077	---	---	---	---
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	0.000095	0.000092	---	---	---	---
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	0.0018	0.0016	---	---	---	---
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], total	18540-29-9	E532/WT	0.00050	mg/L	<0.00050	<0.00050	---	---	---	---
Chromium, trivalent [Cr III], total	16065-83-1	EC535/WT	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

Work Order	: VA24B1537	Page	: 1 of 14
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 22-May-2024 17:25
PO	: 11964- Task 20 - Phase 3C - 4C	Issue Date	: 04-Jun-2024 11:21
C-O-C number	: ----		
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012_V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

Key

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

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

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

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

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Analysis Holding Time Compliance

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

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

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

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

Matrix: Water											Evaluation: ✗ = Holding time exceedance ; ✓ = Within Holding Time				
Analyte Group : Analytical Method	Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			Analysis Date	Holding Times			
				Preparation Date	Holding Times		Eval	Analysis Date	Holding Times			Rec	Actual	Eval	
Anions and Nutrients : Ammonia by Fluorescence															
Amber glass total (sulfuric acid) WLNG DS 1		E298	22-May-2024	31-May-2024	28 days	10 days	✓	01-Jun-2024	28 days	10 days				✓	
Anions and Nutrients : Ammonia by Fluorescence															
Amber glass total (sulfuric acid) WLNG US 1		E298	22-May-2024	31-May-2024	28 days	10 days	✓	01-Jun-2024	28 days	10 days				✓	
Anions and Nutrients : Bromide in Water by IC (Low Level)															
HDPE WLNG DS 1		E235.Br-L	22-May-2024	24-May-2024	28 days	2 days	✓	24-May-2024	28 days	2 days				✓	
Anions and Nutrients : Bromide in Water by IC (Low Level)															
HDPE WLNG US 1		E235.Br-L	22-May-2024	24-May-2024	28 days	2 days	✓	24-May-2024	28 days	2 days				✓	
Anions and Nutrients : Chloride in Water by IC															
HDPE WLNG DS 1		E235.Cl	22-May-2024	24-May-2024	28 days	2 days	✓	24-May-2024	28 days	2 days				✓	
Anions and Nutrients : Chloride in Water by IC															
HDPE WLNG US 1		E235.Cl	22-May-2024	24-May-2024	28 days	2 days	✓	24-May-2024	28 days	2 days				✓	
Anions and Nutrients : Fluoride in Water by IC															
HDPE WLNG DS 1		E235.F	22-May-2024	24-May-2024	28 days	2 days	✓	24-May-2024	28 days	2 days				✓	



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

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE WLNG US 1	E235.F	22-May-2024	24-May-2024	28 days	2 days	✓	24-May-2024	28 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE WLNG DS 1	E235.NO3-L	22-May-2024	24-May-2024	3 days	2 days	✓	24-May-2024	3 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE WLNG US 1	E235.NO3-L	22-May-2024	24-May-2024	3 days	2 days	✓	24-May-2024	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE WLNG DS 1	E235.NO2-L	22-May-2024	24-May-2024	3 days	2 days	✓	24-May-2024	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE WLNG US 1	E235.NO2-L	22-May-2024	24-May-2024	3 days	2 days	✓	24-May-2024	3 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE WLNG DS 1	E235.SO4	22-May-2024	24-May-2024	28 days	2 days	✓	24-May-2024	28 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE WLNG US 1	E235.SO4	22-May-2024	24-May-2024	28 days	2 days	✓	24-May-2024	28 days	2 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) WLNG DS 1	E366	22-May-2024	31-May-2024	28 days	10 days	✓	03-Jun-2024	28 days	12 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) WLNG US 1	E366	22-May-2024	31-May-2024	28 days	10 days	✓	03-Jun-2024	28 days	12 days	✓



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

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times	Eval	Analysis Date	Holding Times	Eval		
Container / Client Sample ID(s)			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	22-May-2024	31-May-2024	28 days	10 days	✓	03-Jun-2024	28 days	12 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) WLNG US 1	E372-U	22-May-2024	31-May-2024	28 days	10 days	✓	03-Jun-2024	28 days	12 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved) WLNG US 1	E509	22-May-2024	29-May-2024	28 days	7 days	✓	29-May-2024	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved) WLNG DS 1	E509	22-May-2024	31-May-2024	28 days	9 days	✓	31-May-2024	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) WLNG DS 1	E421	22-May-2024	27-May-2024	180 days	5 days	✓	28-May-2024	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) WLNG US 1	E421	22-May-2024	27-May-2024	180 days	5 days	✓	28-May-2024	180 days	6 days	✓
Field Tests : Field pH,EC,Salinity,Cl₂,ClO₂,ORP,DO, Turbidity,T,T-P,o-PO₄,NH₃,Chloramine										
Glass vial - total (lab preserved) WLNG DS 1	EF001	22-May-2024	----	----	----		23-May-2024	----	1 days	
Field Tests : Field pH,EC,Salinity,Cl₂,ClO₂,ORP,DO, Turbidity,T,T-P,o-PO₄,NH₃,Chloramine										
Glass vial - total (lab preserved) WLNG US 1	EF001	22-May-2024	----	----	----		23-May-2024	----	1 days	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) WLNG DS 1	E358-L	22-May-2024	24-May-2024	28 days	2 days	✓	26-May-2024	28 days	4 days	✓



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

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation			Eval	Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual		Analysis Date	Holding Times Rec	Holding Times Actual	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) WLNG US 1	E358-L	22-May-2024	24-May-2024	28 days	2 days	✓	26-May-2024	28 days	4 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE WLNG DS 1	E290	22-May-2024	24-May-2024	14 days	2 days	✓	27-May-2024	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE WLNG US 1	E290	22-May-2024	24-May-2024	14 days	2 days	✓	27-May-2024	14 days	5 days	✓
Physical Tests : TDS by Gravimetry										
HDPE WLNG DS 1	E162	22-May-2024	---	---	---		29-May-2024	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE WLNG US 1	E162	22-May-2024	---	---	---		29-May-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE WLNG DS 1	E160	22-May-2024	---	---	---		29-May-2024	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE WLNG US 1	E160	22-May-2024	---	---	---		29-May-2024	7 days	7 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
UV-inhibited HDPE - total (sodium hydroxide) WLNG DS 1	E532	22-May-2024	---	---	---		28-May-2024	28 days	6 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
UV-inhibited HDPE - total (sodium hydroxide) WLNG US 1	E532	22-May-2024	---	---	---		28-May-2024	28 days	6 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
Total Metals : Total Mercury in Water by CVAAS													
Glass vial - total (lab preserved) WLNG DS 1		E508	22-May-2024	28-May-2024	28 days	6 days	✓	28-May-2024	28 days	6 days	✓		
Total Metals : Total Mercury in Water by CVAAS													
Glass vial - total (lab preserved) WLNG US 1		E508	22-May-2024	28-May-2024	28 days	6 days	✓	28-May-2024	28 days	6 days	✓		
Total Metals : Total Metals in Water by CRC ICPMS													
HDPE - total (lab preserved) WLNG DS 1		E420	22-May-2024	24-May-2024	180 days	2 days	✓	27-May-2024	180 days	5 days	✓		
Total Metals : Total Metals in Water by CRC ICPMS													
HDPE - total (lab preserved) WLNG US 1		E420	22-May-2024	24-May-2024	180 days	2 days	✓	27-May-2024	180 days	5 days	✓		
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)													
HDPE total (zinc acetate+sodium hydroxide) WLNG DS 1		E395	22-May-2024	----	----	----		28-May-2024	7 days	6 days	✓		
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)													
HDPE total (zinc acetate+sodium hydroxide) WLNG US 1		E395	22-May-2024	----	----	----		28-May-2024	7 days	6 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	Analytical Methods	Method	QC Lot #	Count		Frequency (%)	
				QC	Regular	Actual	Expected
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration		E290	1458132	1	20	5.0	5.0
Ammonia by Fluorescence		E298	1470562	1	19	5.2	5.0
Bromide in Water by IC (Low Level)		E235.Br-L	1458137	1	20	5.0	5.0
Chloride in Water by IC		E235.Cl	1458136	1	20	5.0	5.0
Dissolved Mercury in Water by CVAAS		E509	1464685	2	5	40.0	5.0
Dissolved Metals in Water by CRC ICPMS		E421	1456412	1	20	5.0	5.0
Dissolved Organic Carbon by Combustion (Low Level)		E358-L	1458545	1	20	5.0	5.0
Fluoride in Water by IC		E235.F	1458135	1	20	5.0	5.0
Nitrate in Water by IC (Low Level)		E235.NO3-L	1458138	1	20	5.0	5.0
Nitrite in Water by IC (Low Level)		E235.NO2-L	1458139	1	20	5.0	5.0
Sulfate in Water by IC		E235.SO4	1458140	1	20	5.0	5.0
TDS by Gravimetry		E162	1463864	1	19	5.2	5.0
Total Hexavalent Chromium (Cr VI) by IC		E532	1462354	1	19	5.2	5.0
Total Mercury in Water by CVAAS		E508	1462941	1	3	33.3	5.0
Total Metals in Water by CRC ICPMS		E420	1456369	1	20	5.0	5.0
Total Nitrogen by Colourimetry		E366	1470560	1	2	50.0	5.0
Total Phosphorus by Colourimetry (0.002 mg/L)		E372-U	1470561	1	10	10.0	5.0
Total Sulfide by Colourimetry (Automated Flow)		E395	1463630	1	20	5.0	5.0
TSS by Gravimetry		E160	1463853	1	19	5.2	5.0
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration		E290	1458132	1	20	5.0	5.0
Ammonia by Fluorescence		E298	1470562	1	19	5.2	5.0
Bromide in Water by IC (Low Level)		E235.Br-L	1458137	1	20	5.0	5.0
Chloride in Water by IC		E235.Cl	1458136	1	20	5.0	5.0
Dissolved Mercury in Water by CVAAS		E509	1464685	2	5	40.0	5.0
Dissolved Metals in Water by CRC ICPMS		E421	1456412	1	20	5.0	5.0
Dissolved Organic Carbon by Combustion (Low Level)		E358-L	1458545	1	20	5.0	5.0
Fluoride in Water by IC		E235.F	1458135	1	20	5.0	5.0
Nitrate in Water by IC (Low Level)		E235.NO3-L	1458138	1	20	5.0	5.0
Nitrite in Water by IC (Low Level)		E235.NO2-L	1458139	1	20	5.0	5.0
Sulfate in Water by IC		E235.SO4	1458140	1	20	5.0	5.0
TDS by Gravimetry		E162	1463864	1	19	5.2	5.0
Total Hexavalent Chromium (Cr VI) by IC		E532	1462354	1	19	5.2	5.0
Total Mercury in Water by CVAAS		E508	1462941	1	3	33.3	5.0
Total Metals in Water by CRC ICPMS		E420	1456369	1	20	5.0	5.0
Total Nitrogen by Colourimetry		E366	1470560	1	2	50.0	5.0



Matrix: Water

Evaluation: ✗ = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type	Analytical Methods	Method	QC Lot #	Count		Frequency (%)		
				QC	Regular	Actual	Expected	Evaluation
Laboratory Control Samples (LCS) - Continued								
Total Phosphorus by Colourimetry (0.002 mg/L)		E372-U	1470561	1	10	10.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)		E395	1463630	1	20	5.0	5.0	✓
TSS by Gravimetry		E160	1463853	1	19	5.2	5.0	✓
Method Blanks (MB)								
Alkalinity Species by Titration		E290	1458132	1	20	5.0	5.0	✓
Ammonia by Fluorescence		E298	1470562	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)		E235.Br-L	1458137	1	20	5.0	5.0	✓
Chloride in Water by IC		E235.Cl	1458136	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS		E509	1464685	2	5	40.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS		E421	1456412	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)		E358-L	1458545	1	20	5.0	5.0	✓
Fluoride in Water by IC		E235.F	1458135	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)		E235.NO3-L	1458138	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)		E235.NO2-L	1458139	1	20	5.0	5.0	✓
Sulfate in Water by IC		E235.SO4	1458140	1	20	5.0	5.0	✓
TDS by Gravimetry		E162	1463864	1	19	5.2	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC		E532	1462354	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS		E508	1462941	1	3	33.3	5.0	✓
Total Metals in Water by CRC ICPMS		E420	1456369	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry		E366	1470560	1	2	50.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)		E372-U	1470561	1	10	10.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)		E395	1463630	1	20	5.0	5.0	✓
TSS by Gravimetry		E160	1463853	1	19	5.2	5.0	✓
Matrix Spikes (MS)								
Ammonia by Fluorescence		E298	1470562	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)		E235.Br-L	1458137	1	20	5.0	5.0	✓
Chloride in Water by IC		E235.Cl	1458136	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS		E509	1464685	2	5	40.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS		E421	1456412	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)		E358-L	1458545	1	20	5.0	5.0	✓
Fluoride in Water by IC		E235.F	1458135	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)		E235.NO3-L	1458138	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)		E235.NO2-L	1458139	1	20	5.0	5.0	✓
Sulfate in Water by IC		E235.SO4	1458140	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC		E532	1462354	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS		E508	1462941	1	3	33.3	5.0	✓
Total Metals in Water by CRC ICPMS		E420	1456369	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry		E366	1470560	1	2	50.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)		E372-U	1470561	1	10	10.0	5.0	✓



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Work Order : VA24B1537
Client : Triton Environmental Consultants Ltd.
Project : 11964

Matrix: Water		Evaluation: ✗ = QC frequency outside specification; ✓ = QC frequency within specification.					
Quality Control Sample Type	Analytical Methods	Method	QC Lot #	Count		Frequency (%)	
				QC	Regular	Actual	Expected
Matrix Spikes (MS) - Continued							
Total Sulfide by Colourimetry (Automated Flow)		E395	1463630	1	20	5.0	5.0



Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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)
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Calgary	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)	<p>Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.</p> <p>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.</p>
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	<p>Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.</p> <p>Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.</p>
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
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.



Analytical Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
Total Hexavalent Chromium (Cr VI) by IC		E532 ALS Environmental - Waterloo	Water	APHA 3500-Cr C (Ion Chromatography)	<p>Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection.</p> <p>Results are based on an un-filtered, field-preserved sample.</p>
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 - Waterloo	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.
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.
Preparation for Dissolved Organic Carbon for Combustion		EP358 ALS Environmental - Calgary	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.



Preparation Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
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	: VA24B1537	Page	: 1 of 17
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 22-May-2024 17:25
PO	: 11964- Task 20 - Phase 3C - 4C	Date Analysis Commenced	: 23-May-2024
C-O-C number	: ----	Issue Date	: 04-Jun-2024 11:21
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

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

Signatories	Position	Laboratory Department
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Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Paolo Obillo	Account Manager Assistant	Vancouver Administration, Burnaby, British Columbia
Sam Silveira	Analyst	Vancouver Metals, 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: 1458132)											
VA24B1540-001	Anonymous	Alkalinity, total (as CaCO ₃)	---	E290	1.0	mg/L	89.0	88.7	0.341%	20%	---
Physical Tests (QC Lot: 1463853)											
KS2401893-014	Anonymous	Solids, total suspended [TSS]	---	E160	3.0	mg/L	<3.0	4.0	1.0	Diff <2x LOR	---
Physical Tests (QC Lot: 1463864)											
KS2401893-014	Anonymous	Solids, total dissolved [TDS]	---	E162	10	mg/L	181	192	5.89%	20%	---
Anions and Nutrients (QC Lot: 1458135)											
VA24B1537-001	WLNG DS 1	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.020	0.020	0.0003	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1458136)											
VA24B1537-001	WLNG DS 1	Chloride	16887-00-6	E235.Cl	0.50	mg/L	0.58	0.58	0.001	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1458137)											
VA24B1537-001	WLNG DS 1	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1458138)											
VA24B1537-001	WLNG DS 1	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0264	0.0264	0.00002	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1458139)											
VA24B1537-001	WLNG DS 1	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1458140)											
VA24B1537-001	WLNG DS 1	Sulfate (as SO ₄)	14808-79-8	E235.SO4	0.30	mg/L	2.39	2.38	0.002	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1470560)											
VA24B1537-001	WLNG DS 1	Nitrogen, total	7727-37-9	E366	0.030	mg/L	0.101	0.096	0.005	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1470561)											
VA24B1537-001	WLNG DS 1	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0090	0.0092	0.0002	Diff <2x LOR	---
Anions and Nutrients (QC Lot: 1470562)											
VA24B1537-001	WLNG DS 1	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	---
Organic / Inorganic Carbon (QC Lot: 1458545)											
VA24B1464-002	Anonymous	Carbon, dissolved organic [DOC]	---	E358-L	0.50	mg/L	7.66	7.60	0.845%	20%	---
Total Sulfides (QC Lot: 1463630)											
CG240671001	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0075	mg/L	0.0460	0.0541	0.0081	Diff <2x LOR	---
Total Metals (QC Lot: 1456369)											
FJ2401410-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.224	0.238	6.28%	20%	---
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	---



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1456369) - continued											
FJ2401410-001	Anonymous	Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00033	0.00033	0.000003	Diff <2x LOR	---
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0468	0.0476	1.67%	20%	---
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	---
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	---
		Boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	---
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000272	0.0000269	0.0000003	Diff <2x LOR	---
		Calcium, total	7440-70-2	E420	0.050	mg/L	32.7	33.0	0.782%	20%	---
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000060	0.000063	0.000004	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	0.00013	0.00014	0.000009	Diff <2x LOR	---
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00096	0.00094	0.00002	Diff <2x LOR	---
		Iron, total	7439-89-6	E420	0.010	mg/L	0.262	0.269	2.68%	20%	---
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000158	0.000162	0.000004	Diff <2x LOR	---
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0021	0.0022	0.00004	Diff <2x LOR	---
		Magnesium, total	7439-95-4	E420	0.100	mg/L	7.61	7.68	1.000%	20%	---
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00530	0.00540	1.92%	20%	---
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00111	0.00112	1.38%	20%	---
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00114	0.00110	0.00004	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	0.100	mg/L	0.572	0.579	0.007	Diff <2x LOR	---
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00094	0.00100	0.00006	Diff <2x LOR	---
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000369	0.000388	0.000019	Diff <2x LOR	---
		Silicon, total	7440-21-3	E420	0.10	mg/L	2.20	2.18	0.854%	20%	---
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	---
		Sodium, total	7440-23-5	E420	0.050	mg/L	1.51	1.51	0.413%	20%	---
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.131	0.136	4.10%	20%	---
		Sulfur, total	7704-34-9	E420	0.50	mg/L	6.08	6.19	1.82%	20%	---
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<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	0.00316	0.00336	6.32%	20%	---
		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	0.000535	0.000552	3.19%	20%	---



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 1456369) - continued											
FJ2401410-001	Anonymous	Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00106	0.00114	0.00008	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: 1462941)											
VA24B1531-003	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	---
Dissolved Metals (QC Lot: 1456412)											
FJ2401407-006	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0056	0.0058	0.0001	Diff <2x LOR	---
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00033	0.00033	0.000001	Diff <2x LOR	---
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00013	0.00010	0.00003	Diff <2x LOR	---
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0470	0.0470	0.162%	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	0.020	0.019	0.0005	Diff <2x LOR	---
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000191	0.0000186	0.0000005	Diff <2x LOR	---
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	115	114	0.776%	20%	---
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	<0.000010	<0.000010	0	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	0.00030	0.00028	0.00002	Diff <2x LOR	---
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	---
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	---
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0298	0.0279	6.75%	20%	---
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	62.8	60.8	3.19%	20%	---
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00916	0.00907	1.01%	20%	---
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00146	0.00146	0.362%	20%	---
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00401	0.00398	0.00003	Diff <2x LOR	---
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	---
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	2.33	2.30	1.05%	20%	---
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00128	0.00121	0.00008	Diff <2x LOR	---
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.0162	0.0162	0.565%	20%	---
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	1.02	1.02	0.670%	20%	---
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	---
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	9.21	9.18	0.326%	20%	---
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.206	0.201	2.07%	20%	---



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier	
Dissolved Metals (QC Lot: 1456412) - continued												
FJ2401407-006	Anonymous	Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	126	126	0.187%	20%	---	
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---	
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	---	
		Thorium, dissolved	7440-29-1	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	---	
		Tin, dissolved	7440-31-5	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	---	
		Titanium, dissolved	7440-32-6	E421	0.000030	mg/L	<0.000030	<0.000030	0	Diff <2x LOR	---	
		Tungsten, dissolved	7440-33-7	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	---	
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00452	0.00442	2.32%	20%	---	
		Vanadium, dissolved	7440-62-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	---	
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	---	
Dissolved Metals (QC Lot: 1464685)												
VA24B1511-005	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	---	
Dissolved Metals (QC Lot: 1470358)												
VA24B1537-001	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: 1462354)												
VA24B1500-012	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00150	mg/L	<0.00150	<0.00150	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 (QC Lot: 1458132)						
Alkalinity, total (as CaCO ₃)	---	E290	1	mg/L	<1.0	---
Physical Tests (QC Lot: 1463853)						
Solids, total suspended [TSS]	---	E160	3	mg/L	<3.0	---
Physical Tests (QC Lot: 1463864)						
Solids, total dissolved [TDS]	---	E162	10	mg/L	<10	---
Anions and Nutrients (QC Lot: 1458135)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	---
Anions and Nutrients (QC Lot: 1458136)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	---
Anions and Nutrients (QC Lot: 1458137)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	---
Anions and Nutrients (QC Lot: 1458138)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	---
Anions and Nutrients (QC Lot: 1458139)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	---
Anions and Nutrients (QC Lot: 1458140)						
Sulfate (as SO ₄)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	---
Anions and Nutrients (QC Lot: 1470560)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	---
Anions and Nutrients (QC Lot: 1470561)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	---
Anions and Nutrients (QC Lot: 1470562)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	---
Organic / Inorganic Carbon (QC Lot: 1458545)						
Carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	<0.50	---
Total Sulfides (QC Lot: 1463630)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	---
Total Metals (QC Lot: 1456369)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	---
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	---
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	---
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	---

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1456369) - continued						
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	---
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	---
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	---
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	---
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	---
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	---
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	---
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	---
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	---
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	---
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	---
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	---
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	---
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	---
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	---
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	---
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	---
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	---
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	---
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	---
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	---
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	---
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	---
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	---
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	---
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	---
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	---
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	---
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	---
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	---
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	---
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	---

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QC Lot: 1462941)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	---
Dissolved Metals (QC Lot: 1456412)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	---
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	---
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	---
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	---
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	---
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	---
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	---
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	---
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	---
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	---
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	---
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	---
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	---
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	---
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	---
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	---
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	---
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	---
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	---
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	---
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	---
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	---
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	---
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	---
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	---
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	---
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	---
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	---
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	---
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	---
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	---
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	---
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	---

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1456412) - continued						
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: 1464685)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	---
Dissolved Metals (QCLot: 1470358)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	---
Speciated Metals (QCLot: 1462354)						
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								
		Spike	Recovery (%)	Recovery Limits (%)					
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1458132)									
Alkalinity, total (as CaCO ₃)	---	E290	1	mg/L	500 mg/L	106	85.0	115	---
Physical Tests (QCLot: 1463853)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	108	85.0	115	---
Physical Tests (QCLot: 1463864)									
Solids, total dissolved [TDS]	---	E162	10	mg/L	1000 mg/L	101	85.0	115	---
Anions and Nutrients (QCLot: 1458135)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	102	90.0	110	---
Anions and Nutrients (QCLot: 1458136)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.6	90.0	110	---
Anions and Nutrients (QCLot: 1458137)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	103	85.0	115	---
Anions and Nutrients (QCLot: 1458138)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.8	90.0	110	---
Anions and Nutrients (QCLot: 1458139)									
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: 1458140)									
Sulfate (as SO ₄)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.8	90.0	110	---
Anions and Nutrients (QCLot: 1470560)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	97.7	75.0	125	---
Anions and Nutrients (QCLot: 1470561)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	93.3	80.0	120	---
Anions and Nutrients (QCLot: 1470562)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	99.8	85.0	115	---
Organic / Inorganic Carbon (QCLot: 1458545)									
Carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	8.57 mg/L	102	80.0	120	---
Total Sulfides (QCLot: 1463630)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	84.6	80.0	120	---
Total Metals (QCLot: 1456369)									



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		Qualifier
Total Metals (QCLot: 1456369) - continued									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	97.2	80.0	120	---
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	104	80.0	120	---
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	105	80.0	120	---
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	---
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	103	80.0	120	---
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	104	80.0	120	---
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	105	80.0	120	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	101	80.0	120	---
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	102	80.0	120	---
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	95.0	80.0	120	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.5	80.0	120	---
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	97.9	80.0	120	---
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	97.4	80.0	120	---
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	97.2	80.0	120	---
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	103	80.0	120	---
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	100	80.0	120	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	101	80.0	120	---
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	99.6	80.0	120	---
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	101	80.0	120	---
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	98.6	80.0	120	---
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	96.9	80.0	120	---
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	102	80.0	120	---
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	106	80.0	120	---
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	99.9	80.0	120	---
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	107	80.0	120	---
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	91.3	80.0	120	---
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	106	80.0	120	---
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	99.6	80.0	120	---
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	90.9	80.0	120	---
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	99.8	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	97.7	80.0	120	---
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	80.0	120	---
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	99.4	80.0	120	---
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	95.6	80.0	120	---
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	100	80.0	120	---



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report					
					Spike	Recovery (%)	Recovery Limits (%)			
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier	
Total Metals (QC Lot: 1456369) - continued										
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120	----	
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	101	80.0	120	----	
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.7	80.0	120	----	
Total Metals (QC Lot: 1462941)										
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	91.3	80.0	120	----	
Dissolved Metals (QC Lot: 1456412)										
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	104	80.0	120	----	
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	99.5	80.0	120	----	
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	105	80.0	120	----	
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	105	80.0	120	----	
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	96.0	80.0	120	----	
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	99.3	80.0	120	----	
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	98.6	80.0	120	----	
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	104	80.0	120	----	
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	101	80.0	120	----	
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	98.6	80.0	120	----	
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	101	80.0	120	----	
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	99.9	80.0	120	----	
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	98.0	80.0	120	----	
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	99.3	80.0	120	----	
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	99.4	80.0	120	----	
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	104	80.0	120	----	
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	104	80.0	120	----	
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	103	80.0	120	----	
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	99.2	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	89.8	80.0	120	----	
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	108	80.0	120	----	
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	99.1	80.0	120	----	
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	97.7	80.0	120	----	
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	108	80.0	120	----	
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	89.0	80.0	120	----	
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	105	80.0	120	----	
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	102	80.0	120	----	
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	90.3	80.0	120	----	

Sub-Matrix: Water					Laboratory Control Sample (LCS) Report					
					Spike	Recovery (%)	Recovery Limits (%)			
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier	
Dissolved Metals (QC Lot: 1456412) - continued										
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	96.9	80.0	120	----	
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.9	80.0	120	----	
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	92.8	80.0	120	----	
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.0	80.0	120	----	
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	95.4	80.0	120	----	
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	97.6	80.0	120	----	
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	95.5	80.0	120	----	
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	102	80.0	120	----	
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	99.7	80.0	120	----	
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	97.5	80.0	120	----	
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	103	80.0	120	----	
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	101	80.0	120	----	
Speciated Metals (QC Lot: 1462354)										
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.025 mg/L	104	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										
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Anions and Nutrients (QC Lot: 1458135)										
VA24B1537-002	WLNG US 1	Fluoride	16984-48-8	E235.F	1.02 mg/L	1 mg/L	102	75.0	125	---
Anions and Nutrients (QC Lot: 1458136)										
VA24B1537-002	WLNG US 1	Chloride	16887-00-6	E235.CI	103 mg/L	100 mg/L	103	75.0	125	---
Anions and Nutrients (QC Lot: 1458137)										
VA24B1537-002	WLNG US 1	Bromide	24959-67-9	E235.Br-L	0.519 mg/L	0.5 mg/L	104	75.0	125	---
Anions and Nutrients (QC Lot: 1458138)										
VA24B1537-002	WLNG US 1	Nitrate (as N)	14797-55-8	E235.NO3-L	2.51 mg/L	2.5 mg/L	100	75.0	125	---
Anions and Nutrients (QC Lot: 1458139)										
VA24B1537-002	WLNG US 1	Nitrite (as N)	14797-65-0	E235.NO2-L	0.506 mg/L	0.5 mg/L	101	75.0	125	---
Anions and Nutrients (QC Lot: 1458140)										
VA24B1537-002	WLNG US 1	Sulfate (as SO4)	14808-79-8	E235.SO4	102 mg/L	100 mg/L	102	75.0	125	---
Anions and Nutrients (QC Lot: 1470560)										
VA24B1537-002	WLNG US 1	Nitrogen, total	7727-37-9	E366	0.391 mg/L	0.4 mg/L	97.7	70.0	130	---
Anions and Nutrients (QC Lot: 1470561)										
VA24B1537-002	WLNG US 1	Phosphorus, total	7723-14-0	E372-U	0.0484 mg/L	0.05 mg/L	96.8	70.0	130	---
Anions and Nutrients (QC Lot: 1470562)										
VA24B1537-002	WLNG US 1	Ammonia, total (as N)	7664-41-7	E298	0.0990 mg/L	0.1 mg/L	99.0	75.0	125	---
Organic / Inorganic Carbon (QC Lot: 1458545)										
VA24B1464-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	---
Total Sulfides (QC Lot: 1463630)										
CG2406744-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395	16.7 mg/L	20 mg/L	83.4	75.0	125	---
Total Metals (QC Lot: 1456369)										
FJ2401410-002	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	---
		Antimony, total	7440-36-0	E420	0.0192 mg/L	0.02 mg/L	96.1	70.0	130	---
		Arsenic, total	7440-38-2	E420	0.0201 mg/L	0.02 mg/L	100	70.0	130	---
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	---
		Beryllium, total	7440-41-7	E420	0.0394 mg/L	0.04 mg/L	98.6	70.0	130	---
		Bismuth, total	7440-69-9	E420	0.00949 mg/L	0.01 mg/L	94.9	70.0	130	---
		Boron, total	7440-42-8	E420	0.102 mg/L	0.1 mg/L	102	70.0	130	---
		Cadmium, total	7440-43-9	E420	0.00395 mg/L	0.004 mg/L	98.8	70.0	130	---
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	---
		Cesium, total	7440-46-2	E420	0.00932 mg/L	0.01 mg/L	93.2	70.0	130	---
		Chromium, total	7440-47-3	E420	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	---



Sub-Matrix: Water

					Matrix Spike (MS) Report					
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target		Low	High	
Total Metals (QC Lot: 1456369) - continued										
FJ2401410-002	Anonymous	Cobalt, total	7440-48-4	E420	0.0189 mg/L	0.02 mg/L	94.5	70.0	130	---
		Copper, total	7440-50-8	E420	0.0187 mg/L	0.02 mg/L	93.7	70.0	130	---
		Iron, total	7439-89-6	E420	1.95 mg/L	2 mg/L	97.4	70.0	130	---
		Lead, total	7439-92-1	E420	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	---
		Lithium, total	7439-93-2	E420	0.0963 mg/L	0.1 mg/L	96.3	70.0	130	---
		Magnesium, total	7439-95-4	E420	ND mg/L	---	ND	70.0	130	---
		Manganese, total	7439-96-5	E420	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	---
		Molybdenum, total	7439-98-7	E420	0.0197 mg/L	0.02 mg/L	98.4	70.0	130	---
		Nickel, total	7440-02-0	E420	0.0383 mg/L	0.04 mg/L	95.7	70.0	130	---
		Phosphorus, total	7723-14-0	E420	9.98 mg/L	10 mg/L	99.8	70.0	130	---
		Potassium, total	7440-09-7	E420	3.76 mg/L	4 mg/L	93.9	70.0	130	---
		Rubidium, total	7440-17-7	E420	0.0195 mg/L	0.02 mg/L	97.5	70.0	130	---
		Selenium, total	7782-49-2	E420	0.0389 mg/L	0.04 mg/L	97.2	70.0	130	---
		Silicon, total	7440-21-3	E420	9.47 mg/L	10 mg/L	94.7	70.0	130	---
		Silver, total	7440-22-4	E420	0.00379 mg/L	0.004 mg/L	94.8	70.0	130	---
		Sodium, total	7440-23-5	E420	2.00 mg/L	2 mg/L	99.8	70.0	130	---
		Strontium, total	7440-24-6	E420	ND mg/L	---	ND	70.0	130	---
		Sulfur, total	7704-34-9	E420	20.3 mg/L	20 mg/L	102	70.0	130	---
		Tellurium, total	13494-80-9	E420	0.0374 mg/L	0.04 mg/L	93.4	70.0	130	---
		Thallium, total	7440-28-0	E420	0.00377 mg/L	0.004 mg/L	94.3	70.0	130	---
		Thorium, total	7440-29-1	E420	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	---
		Tin, total	7440-31-5	E420	0.0195 mg/L	0.02 mg/L	97.6	70.0	130	---
		Titanium, total	7440-32-6	E420	0.0387 mg/L	0.04 mg/L	96.8	70.0	130	---
		Tungsten, total	7440-33-7	E420	0.0182 mg/L	0.02 mg/L	91.0	70.0	130	---
		Uranium, total	7440-61-1	E420	0.00375 mg/L	0.004 mg/L	93.8	70.0	130	---
		Vanadium, total	7440-62-2	E420	0.0985 mg/L	0.1 mg/L	98.5	70.0	130	---
		Zinc, total	7440-66-6	E420	0.383 mg/L	0.4 mg/L	95.6	70.0	130	---
		Zirconium, total	7440-67-7	E420	0.0394 mg/L	0.04 mg/L	98.6	70.0	130	---
Total Metals (QC Lot: 1462941)										
VA24B1537-001	WLNG DS 1	Mercury, total	7439-97-6	E508	0.0000982 mg/L	0 mg/L	98.2	70.0	130	---
Dissolved Metals (QC Lot: 1456412)										
FJ2401407-010	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.188 mg/L	0.2 mg/L	94.1	70.0	130	---
		Antimony, dissolved	7440-36-0	E421	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	---
		Arsenic, dissolved	7440-38-2	E421	0.0208 mg/L	0.02 mg/L	104	70.0	130	---
		Barium, dissolved	7440-39-3	E421	ND mg/L	---	ND	70.0	130	---
		Beryllium, dissolved	7440-41-7	E421	0.0356 mg/L	0.04 mg/L	89.0	70.0	130	---
		Bismuth, dissolved	7440-69-9	E421	0.00872 mg/L	0.01 mg/L	87.2	70.0	130	---
		Boron, dissolved	7440-42-8	E421	0.089 mg/L	0.1 mg/L	89.1	70.0	130	---
		Cadmium, dissolved	7440-43-9	E421	0.00401 mg/L	0.004 mg/L	100	70.0	130	---
		Calcium, dissolved	7440-70-2	E421	ND mg/L	---	ND	70.0	130	---
		Cesium, dissolved	7440-46-2	E421	0.00979 mg/L	0.01 mg/L	97.9	70.0	130	---
		Chromium, dissolved	7440-47-3	E421	0.0387 mg/L	0.04 mg/L	96.9	70.0	130	---
		Cobalt, dissolved	7440-48-4	E421	0.0188 mg/L	0.02 mg/L	94.0	70.0	130	---



Sub-Matrix: Water

					Matrix Spike (MS) Report					
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target		Low	High	
Dissolved Metals (QCLot: 1456412) - continued										
FJ2401407-010	Anonymous	Copper, dissolved	7440-50-8	E421	0.0177 mg/L	0.02 mg/L	88.7	70.0	130	---
		Iron, dissolved	7439-89-6	E421	1.86 mg/L	2 mg/L	92.9	70.0	130	---
		Lead, dissolved	7439-92-1	E421	0.0186 mg/L	0.02 mg/L	92.8	70.0	130	---
		Lithium, dissolved	7439-93-2	E421	0.0919 mg/L	0.1 mg/L	91.9	70.0	130	---
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	---
		Manganese, dissolved	7439-96-5	E421	0.0189 mg/L	0.02 mg/L	94.4	70.0	130	---
		Molybdenum, dissolved	7439-98-7	E421	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	---
		Nickel, dissolved	7440-02-0	E421	0.0370 mg/L	0.04 mg/L	92.5	70.0	130	---
		Phosphorus, dissolved	7723-14-0	E421	9.77 mg/L	10 mg/L	97.7	70.0	130	---
		Potassium, dissolved	7440-09-7	E421	3.71 mg/L	4 mg/L	92.8	70.0	130	---
		Rubidium, dissolved	7440-17-7	E421	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	---
		Selenium, dissolved	7782-49-2	E421	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	---
		Silicon, dissolved	7440-21-3	E421	10.4 mg/L	10 mg/L	104	70.0	130	---
		Silver, dissolved	7440-22-4	E421	0.00370 mg/L	0.004 mg/L	92.4	70.0	130	---
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	---
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	---
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	----	ND	70.0	130	---
		Tellurium, dissolved	13494-80-9	E421	0.0404 mg/L	0.04 mg/L	101	70.0	130	---
		Thallium, dissolved	7440-28-0	E421	0.00373 mg/L	0.004 mg/L	93.3	70.0	130	---
		Thorium, dissolved	7440-29-1	E421	0.0183 mg/L	0.02 mg/L	91.4	70.0	130	---
		Tin, dissolved	7440-31-5	E421	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	---
		Titanium, dissolved	7440-32-6	E421	0.0396 mg/L	0.04 mg/L	99.1	70.0	130	---
		Tungsten, dissolved	7440-33-7	E421	0.0194 mg/L	0.02 mg/L	97.1	70.0	130	---
		Uranium, dissolved	7440-61-1	E421	0.00373 mg/L	0.004 mg/L	93.3	70.0	130	---
		Vanadium, dissolved	7440-62-2	E421	0.0988 mg/L	0.1 mg/L	98.8	70.0	130	---
		Zinc, dissolved	7440-66-6	E421	0.360 mg/L	0.4 mg/L	90.0	70.0	130	---
		Zirconium, dissolved	7440-67-7	E421	0.0400 mg/L	0.04 mg/L	100	70.0	130	---
Dissolved Metals (QCLot: 1464685)										
VA24B1537-002	WLNG US 1	Mercury, dissolved	7439-97-6	E509	0.000107 mg/L	0 mg/L	107	70.0	130	---
Dissolved Metals (QCLot: 1470358)										
VA24B2437-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000995 mg/L	0 mg/L	99.5	70.0	130	---
Speciated Metals (QCLot: 1462354)										
VA24B1500-012	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.123 mg/L	0.12 mg/L	102	70.0	130	---



Environmental
www.alsglobal.com

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

Canada Toll Free: 1 800 668 9878

COC Number: 17 -

Page 1 of

Affix ALS barcode label here

(lab use only)

Report To Contact and company name below will appear on the final report		Report Format / Distribution				Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)															
Company:	Triton Environmental	Select Report Format: <input type="checkbox"/> EXCEL <input type="checkbox"/> EOD (DIGITAL)				Regular [R] <input type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply															
Contact:					Quality Control (QC) Report with Report <input type="checkbox"/> YES <input type="checkbox"/> NO																
Phone:					<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked																
Street:					Select Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX																
City/Province:	Vancouver/BC	Email 1 or Fax				Priority (Business Days)															
Postal Code:	V6E 4M3	Email 2				4 day [P4-20%]				3 day [P3-25%]				2 day [P2-50%]				1 Business day [E1 - 100%]			
Invoice To	Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	Email 3				<input type="checkbox"/> Date and Time Required for all E&P-TATs: dd-mm-yy hh:mm								Same Day, Weekend or Statutory holiday [E2 - 200% (Laboratory opening fees may apply)]							
Company:																					
Contact:																					
Project Information		Oil and Gas Required Fields (client use)				Analysis Request															
ALS Account # / Quote #:	VA23-TRIT100-000 018	AFE/Cost Center: PO#				Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below															
Job #:	11964	Major/Minor Code: Routing Code:																			
PO / AFE:	11964 - Task 20 - Phase 3C-4C	Requisitioner:																			
LSD:	Location:																				
ALS Lab Work Order # (lab use only):	1532	ALS Contact: Can Dang Sampler:																			
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)				Date (dd-mm-yy)	Time (hh:mm)	Sample Type	Total metals + mercury	Dissolved metals + mercury	Total hexavalent chromium	TSS	TDS	Nutrients (ammonia, ammonium, total nitrogen, total phosphorus)	Total sulfide (as H2S), Unionized Sulfide	Anions scan (Br, Cl, F, NO2, NO3, SO4)	General parameters (alkalinity)	DOC	SAMPLES ON HOLD	NUMBER OF CONTAINERS		
	WLNG DS 1				22-may-24	10:45	Water	R	R	R	R	R	R	R	R	R	N	9			
	pH: 7.24 cond: 26 ms/cm temp: 10.1 °C				22-may-24	9:55	Water	R	R	R	R	R	R	R	R	R	N	9			
	WLNG US 1				22-may-24	9:55	Water	R	R	R	R	R	R	R	R	R	N	9			
	pH: 7.28 cond: 22 ms/cm temp: 9.7 °C				22-may-24	9:55	Water	R	R	R	R	R	R	R	R	R	N	9			
	Duplicate N/A				22-may-24	9:55	Water	R	R	R	R	R	R	R	R	R	N	9			
	Field Blank N/A				22-may-24	9:55	Water	R	R	R	R	R	R	R	R	R	N	9			
	Trip Blank N/A				22-may-24	9:55	Water	R	R	R	R	R	R	R	R	R	N	6			
Drinking Water (DW) Samples ¹ (client use)		Special Instructions / Specify Cr				n list below SAMPLE CONDITION AS RECEIVED (lab use only)															
Are samples taken from a Regulated DW System?						Frozen <input type="checkbox"/>	SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>														
Are samples for human consumption/ use?		Triton project # 11964				Ice Packs <input checked="" type="checkbox"/> Ice Cubes <input type="checkbox"/>	Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>														
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)				INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C				FINAL SHIPMENT RECEPTION (lab use only)							
22-may-24 17:00		Received by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:											
ONS AND SAMPLING INFORMATION				WHITE - LABORATORY COPY				YELLOW - CLIENT COPY				dd-mm-yy hh:mm									

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

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

SEPT 2017 FRONT

 FORTIS BC™	Eagle Mountain - Woodfibre Gas Pipeline Project	May 20th to May 26th, 2024
	Report #	9
	Appendix D	D-4

Woodfibre Site Receiving Environment Field Notes and Logs

Project Component:	Tunnel	Site Name:	Receiving Environment - Downstream of Discharge	
Inspection Date:	05/22/2024	Location:	WLNG	
Triton QP:	Sam Blanchard	Latitude/Longitude:	49.6683	-123.247958
Temperature(c):	Low 8	High 19	Permit: PE 110136	
Weather Conditions:	Clear	Ground Conditions:	Damp	

Observations

Time: 10:45:00 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:
Dissolved Metals + Mercury	Yes	Total Sulfide, Unionized Sulfide	Yes	Total CrVI
TSS	Yes	Anions	Yes	
TDS	Yes	VOC/VPH	N/A	QA Samples: No
Nutrients	Yes	EPH, PAH, LEPH/HEPH	N/A	Total CrVI
DOC	Yes	Trout LC50	N/A	

Logger Maintenance

Logger Maintenance Performed?	No	Photo of COC with Lab Signature?	Yes
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Describe Logger Maintenance

Photos



Photo: 1
Location: EAS DS1
Description: US View



Photo: 2
Location: EAS DS1
Description: DS View

Photos



Photo: 3
Location: EAS DS1
Description: Across View

Chain of Custody (CCOC) / Analytical Request Form		Report Format / Distribution		Select Service Level Below - Contact your AM to confirm at E&P TAs (charges may apply)	
Report To: Triton Environmental Company: Triton Environmental Address: 604-362-9218 Phone: Company address below will appear on the final report Street: 173-1111 West Georgia Street City/Prov/State: V6E 4M5 Postal Code: V6E 4M5 Invoice To: Same as Report To <input type="checkbox"/> Yes <input type="checkbox"/> No Copy of Invoice with Report <input type="checkbox"/> Yes <input type="checkbox"/> No Company: Contact: Project Information		Select Report Format: <input type="checkbox"/> Word Document <input type="checkbox"/> PDF <input type="checkbox"/> RTF <input type="checkbox"/> HTML <input type="checkbox"/> Text File Quality Control (QC) Report with Report <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Company Results to Criteria in Report - provide details below if checked Select Distribution: <input type="checkbox"/> Email <input type="checkbox"/> Fax <input type="checkbox"/> Mail Email 1 or Fax: wlng@triton-env.com blanchard@triton-env.com Email 2: wlng@triton-env.com blanchard@triton-env.com Email 3: Edstat_Canada@envrnsys.net		COC Number: 17 - Affix ALS barcode label here (bar code only) Page: 1 of	
				Select Service Level Below - Contact your AM to confirm at E&P TAs (charges may apply) Regular Turnaround Time (TAT) - Same day (E1 - 100%) <input type="checkbox"/> Same day (P1-P2%) <input type="checkbox"/> Same day (P2-P3%) <input type="checkbox"/> Same day (P3-P4%) <input type="checkbox"/> Same day (P4-P5%) <input type="checkbox"/> Same day (P5-P6%) <input type="checkbox"/> Same day (P6-P7%) <input type="checkbox"/> Same day (P7-P8%) <input type="checkbox"/> Same day (P8-P9%) <input type="checkbox"/> Same day (P9-P10%) <input type="checkbox"/> Same day (P10-P11%) <input type="checkbox"/> Same day (P11-P12%) <input type="checkbox"/> Same day (P12-P13%) <input type="checkbox"/> Same day (P13-P14%) <input type="checkbox"/> Same day (P14-P15%) <input type="checkbox"/> Same day (P15-P16%) <input type="checkbox"/> Same day (P16-P17%) <input type="checkbox"/> Same day (P17-P18%) <input type="checkbox"/> Same day (P18-P19%) <input type="checkbox"/> Same day (P19-P20%) <input 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Sign Off

Report Prepared By: Sam Blanchard

Report Reviewer:

Name:

Designation:

Designation Number:

Report Reviewed:

Professional(s) of Record:

Project Component:	Tunnel	Site Name:	Receiving Environment - Upstream of Discharge	
Inspection Date:	05/22/2024	Location:	WLNG	
Triton QP:	Sam Blanchard	Latitude/Longitude:	49.669455	-123.25087
Temperature(c):	Low 8	High 19	Permit: PE 110136	
Weather Conditions:	Clear	Ground Conditions:	Damp	

Observations

Time: 09:55:00 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:
Dissolved Metals + Mercury	Yes	Total Sulfide, Unionized Sulfide	Yes	Total CrVI
TSS	Yes	Anions	Yes	
TDS	Yes	VOC/VPH	N/A	QA Samples: No
Nutrients	Yes	EPH, PAH, LEPH/HEPH	N/A	Total CrVI
DOC	Yes	Trout LC50	N/A	

Logger Maintenance

Logger Maintenance Performed?	No	Photo of COC with Lab Signature?	Yes
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Describe Logger Maintenance

Photos



Photo: 1
Location: EAS US1
Description: US View



Photo: 2
Location: EAS US1
Description: DS View

Photos



Photo: 3
Location: EAS US1
Description: Across View

Photo: 4
Location: EAS US
Description: Lab CoC

Sign Off

Report Prepared By: Sam Blanchard

Report Reviewer:

Name:

Designation:

Designation Number:

Report Reviewed:

Professional(s) of Record: