



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

Reporting Week	Dec 16 th to Dec 22 nd , 2024
Report #	39
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Eagle Mountain - Woodfibre Gas Pipeline Project

BCER Waste Discharge Permit Weekly Report



**Eagle Mountain - Woodfibre Gas Pipeline Project
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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 environments (upstream and downstream) and points 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. 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	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 LevelPro PT100 Temperature and Signet 2350 Temp sensor
	NTU	Monitoring using Observator NEP9504GPI
	Electrical Conductivity	Monitoring using ProCon C450
Weekly (or per batch) Lab Samples	List prescribed in permit	Lab samples

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

*Note that Woodfibre receiving environment downstream sonde is not in place due to dry conditions

Summary-BC Rail Site

Site Activities

- Weekly upstream and downstream taken by Triton.
- Water produced by the water treatment plant is being recirculated for tunneling and to create grout for tunneling.

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	2024-12-19 to 2024-12-20	2024-12-19	Yes	N/A-batch	300-400 GPM	289.9 m3	Yes

*Max discharge is 515 m3/day

Exceedances

No exceedances 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	Results
Squamish River Upstream	2024-12-16	Yes *	Full set of lab sample results, photo and documentation are provided in Appendix B.

Table 5: Downstream Monitoring Information

Location	Date of Lab Sample	Real Time Monitored	Results
Squamish River Downstream	2023-12-16	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 15-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 exceedances this period.
- Weekly upstream, downstream and end of pipe taken by Triton.

Point of Discharge from Water Treatment System Monitoring

Table 3 below includes information on the discharge water. Appendix C includes real time/field samples from the discharge.

Table 3: Discharges from Water Treatment System

Location	Date of Discharge	Real Time Monitored and Daily Monitoring	Discharge Volume
Woodfibre	2024-12-16	Yes-Appendix C	349m ³
Woodfibre	2024-12-17	Yes-Appendix C*lab sample day	366m ³
Woodfibre	2024-12-18	Yes-Appendix C	357m ³
Woodfibre	2024-12-19	Yes-Appendix C	431m ³
Woodfibre	2024-12-20	Yes-Appendix C	415m ³
Woodfibre	2024-12-21	Yes-Appendix C	413m ³
Woodfibre	2024-12-22	Yes-Appendix C	449m ³

*Max discharge is 1500m³/day

Exceedances

No exceedances this reporting period.

Receiving Environment Monitoring


The receiving environment is being monitored as outlined in the permit with additional oversight by the QP.

Table 4: Upstream Monitoring Information

Location	Date of Lab Sample	Real Time Monitored	Results
Woodfibre Upstream	2024-12-17	Yes *	Full set of lab sample results, photo and documentation are provided in Appendix D.

Table 5: Downstream Monitoring Information

	Date of Lab Sample	Real Time Monitored	Results
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Woodfibre Downstream	2024-12-17	Yes *	Full set of lab sample results, photo and documentation are provided in Appendix D.
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* Sondes set up to log temperature, specific conductivity, salinity (in PSU), pH, ORP, DO (mg/L), and turbidity (NTU) at 15-minute intervals.

Receiving Environment Monitoring Details

- Visual sheen checks are conducted during discharges.
- Recorded exceedances in the laboratory and field samples collected from the receiving environment (upstream and downstream) may be indicative of the existing background water quality in the East Creek 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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BCR Site Batch Sample Analysis


		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	BC Rail Batch Water Discharge Report	Revision:	0
Data	December 19th, 2024	Prepared by: Reviewed by: Date:	SD BC1 January 2nd, 2025

Table of Contents:

1. Executive Summary and Notes
2. Discharge Lab's results
3. Photos

Executive Summary and Field Notes:

On December 19th, FKM initiated a new batch discharge at the BC Rail site. The discharge began on December 19th at 8:00 PM and concluded on December 20th at 01:00 PM. Total volume of discharge water was 289.9 m³, with an average flow rate ranging between 300 to 400 GPM.

Table 1: Discharge details

Date	Start Time	Flow Rate (GPM)	Volume (m3)	Duration
19-Dec-2024	8:00 PM	300-400	165.6	6 Hours
20-Dec-2024	7:30 AM	300-400	124.3	4 Hours and 30 Minutes

Table 2: In-Situ Sample

Date	Time	pH	Temperature (°C)	DO (mg/L)	NTU	Conductivity (µS/cm)	ORP (mV)	Salinity (ppt)	Visible sheen
12/19/2024	04:30:29 PM	7.17	7.1	9.73	4.98	1093	387.4	0.54	No
12/20/2024	07:23:45 PM	7.2	7.2	9.66	5.07	1094	386.1	0.6	No



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Discharge Sample results:

Table 3: Lab Sample

Client Sample ID			WTP
Date Sampled			19-Dec-2024
Time Sampled			09:30
ALS Sample ID			VA24D3950-001
Analyte	Lowest Detection Limit	Units	Sub-Matrix: Water
Field Tests (Matrix: Water)			
Temperature, field	0.10	°C	8.20
pH, field	0.10	pH units	7.03
Physical Tests (Matrix: Water)			
Conductivity	2.0	µS/cm	2930
Alkalinity, bicarbonate (as CaCO ₃)	2.0	mg/L	1460
Alkalinity, carbonate (as CaCO ₃)	2.0	mg/L	<2.0
Alkalinity, hydroxide (as CaCO ₃)	2.0	mg/L	<2.0
Alkalinity, phenolphthalein (as CaCO ₃)	2.0	mg/L	<2.0
Alkalinity, total (as CaCO ₃)	2.0	mg/L	1460
Hardness (as CaCO ₃), dissolved	0.60	mg/L	3.42
Hardness (as CaCO ₃), from total Ca/Mg	0.60	mg/L	3.60
Oxidation-reduction potential [ORP]	0.10	mV	264
Solids, total dissolved [TDS]	10	mg/L	2040
Solids, total suspended [TSS]	3.0	mg/L	<3.0
Turbidity	0.10	NTU	0.91
pH	0.10	pH units	7.29
Anions and Nutrients (Matrix: Water)			
Ammonia, total (as N)	0.0050	mg/L	<0.0050
Bromide	0.050	mg/L	<1.00
Chloride	0.50	mg/L	98.5



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Fluoride	0.020	mg/L	<0.400
Nitrate (as N)	0.0050	mg/L	<0.100
Nitrite (as N)	0.0010	mg/L	<0.0200
Nitrogen, total	0.030	mg/L	1.33
Phosphorus, total	0.0020	mg/L	0.696
Sulfate (as SO ₄)	0.30	mg/L	156
Ammonium (as NH ₄), field	0.0010	mg/L	<0.0032
Organic / Inorganic Carbon (Matrix: Water)			
Carbon, dissolved organic [DOC]	0.50	mg/L	15.6
Carbon, total organic [TOC]	0.50	mg/L	15.5
Total Metals (Matrix: Water)			
Aluminum, total	0.0030	mg/L	0.152
Antimony, total	0.00010	mg/L	0.00264
Arsenic, total	0.00010	mg/L	0.00343
Barium, total	0.00010	mg/L	<0.00050
Beryllium, total	0.000100	mg/L	<0.000100
Bismuth, total	0.000050	mg/L	<0.000250
Boron, total	0.010	mg/L	<0.050
Cadmium, total	0.0000050	mg/L	<0.0000350
Calcium, total	0.050	mg/L	1.03
Cesium, total	0.000010	mg/L	0.00182
Chromium, total	0.00050	mg/L	0.0373
Cobalt, total	0.00010	mg/L	<0.00050
Copper, total	0.00050	mg/L	<0.00250
Iron, total	0.010	mg/L	0.159
Lead, total	0.000050	mg/L	<0.000250
Lithium, total	0.0010	mg/L	0.0392
Magnesium, total	0.0050	mg/L	0.249
Manganese, total	0.00010	mg/L	0.00060
Mercury, total	0.0000050	mg/L	<0.0000050
Molybdenum, total	0.000050	mg/L	0.164
Nickel, total	0.00050	mg/L	<0.00250
Phosphorus, total	0.050	mg/L	0.738
Potassium, total	0.050	mg/L	33.7



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Rubidium, total	0.00020	mg/L	0.0804
Selenium, total	0.000050	mg/L	0.00186
Silicon, total	0.10	mg/L	12.0
Silver, total	0.000010	mg/L	<0.000050
Sodium, total	0.050	mg/L	753
Strontium, total	0.00020	mg/L	0.0114
Sulfur, total	0.50	mg/L	54.8
Tellurium, total	0.00020	mg/L	<0.00100
Thallium, total	0.000010	mg/L	<0.000050
Thorium, total	0.00010	mg/L	<0.00050
Tin, total	0.00010	mg/L	<0.00050
Titanium, total	0.00030	mg/L	<0.00150
Tungsten, total	0.00010	mg/L	0.00071
Uranium, total	0.000010	mg/L	0.000098
Vanadium, total	0.00050	mg/L	<0.00250
Zinc, total	0.0030	mg/L	<0.0150
Zirconium, total	0.00020	mg/L	<0.00100
Dissolved Metals (Matrix: Water)			
Aluminum, dissolved	0.0010	mg/L	0.153
Antimony, dissolved	0.00010	mg/L	0.00257
Arsenic, dissolved	0.00010	mg/L	0.00341
Barium, dissolved	0.00010	mg/L	0.00040
Beryllium, dissolved	0.000100	mg/L	<0.000100
Bismuth, dissolved	0.000050	mg/L	<0.000100
Boron, dissolved	0.010	mg/L	0.025
Cadmium, dissolved	0.0000050	mg/L	<0.0000200
Calcium, dissolved	0.050	mg/L	0.962
Cesium, dissolved	0.000010	mg/L	0.00180
Chromium, dissolved	0.00050	mg/L	0.0364
Cobalt, dissolved	0.00010	mg/L	<0.00020
Copper, dissolved	0.00020	mg/L	0.00094
Iron, dissolved	0.010	mg/L	0.167
Lead, dissolved	0.000050	mg/L	<0.000100
Lithium, dissolved	0.0010	mg/L	0.0379
Magnesium, dissolved	0.0050	mg/L	0.247



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Manganese, dissolved	0.00010	mg/L	0.00032
Mercury, dissolved	0.0000050	mg/L	<0.0000050
Molybdenum, dissolved	0.000050	mg/L	0.166
Nickel, dissolved	0.00050	mg/L	<0.00100
Phosphorus, dissolved	0.050	mg/L	0.676
Potassium, dissolved	0.050	mg/L	34.3
Rubidium, dissolved	0.00020	mg/L	0.0767
Selenium, dissolved	0.000050	mg/L	0.00240
Silicon, dissolved	0.050	mg/L	12.6
Silver, dissolved	0.000010	mg/L	<0.000020
Sodium, dissolved	0.050	mg/L	858
Strontium, dissolved	0.00020	mg/L	0.0116
Sulfur, dissolved	0.50	mg/L	59.9
Tellurium, dissolved	0.00020	mg/L	<0.00040
Thallium, dissolved	0.000010	mg/L	<0.000020
Thorium, dissolved	0.00010	mg/L	<0.00020
Tin, dissolved	0.00010	mg/L	<0.00020
Titanium, dissolved	0.00030	mg/L	0.00128
Tungsten, dissolved	0.00010	mg/L	0.00065
Uranium, dissolved	0.000010	mg/L	0.000084
Vanadium, dissolved	0.00050	mg/L	<0.00100
Zinc, dissolved	0.0010	mg/L	<0.0020
Zirconium, dissolved	0.00020	mg/L	<0.00040
Dissolved mercury filtration location			Field
Dissolved metals filtration location			Field
Aggregate Organics (Matrix: Water)			
Phenols, total (4AAP)	0.0010	mg/L	<0.0010
Volatile Organic Compounds (Matrix: Water)			
Chlorobenzene	0.50	µg/L	<0.50
Chloromethane	5.0	µg/L	<5.0
Dichlorobenzene, 1,2-	0.50	µg/L	<0.50
Dichlorobenzene, 1,3-	0.50	µg/L	<0.50
Dichlorobenzene, 1,4-	0.50	µg/L	<0.50
Dichloropropane, 1,2-	0.50	µg/L	<0.50



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Dichloropropylene, cis+trans-1,3-	0.75	µg/L	<0.75
Dichloropropylene, cis-1,3-	0.50	µg/L	<0.50
Tetrachloroethane, 1,1,1,2-	0.50	µg/L	<0.50
Tetrachloroethane, 1,1,2,2-	0.20	µg/L	<0.20
Trichloroethane, 1,1,2-	0.50	µg/L	<0.50
Trichlorofluoromethane	0.50	µg/L	<0.50
Volatile Organic Compounds [Drycleaning] (Matrix: Water)			
Carbon tetrachloride	0.50	µg/L	<0.50
Chloroethane	0.50	µg/L	<0.50
Dichloroethane, 1,1-	0.50	µg/L	<0.50
Dichloroethane, 1,2-	0.50	µg/L	<1.50
Dichloroethylene, 1,1-	0.50	µg/L	<0.50
Dichloroethylene, cis-1,2-	0.50	µg/L	<0.50
Dichloroethylene, trans-1,2-	0.50	µg/L	<0.50
Dichloromethane	1.0	µg/L	<1.0
Dichloropropylene, trans-1,3-	0.50	µg/L	<0.50
Tetrachloroethylene	0.50	µg/L	<0.50
Trichloroethane, 1,1,1-	0.50	µg/L	<0.50
Trichloroethylene	0.50	µg/L	<0.50
Vinyl chloride	0.40	µg/L	<0.40
Volatile Organic Compounds [Fuels] (Matrix: Water)			
Benzene	0.50	µg/L	<0.50
Ethylbenzene	0.50	µg/L	<0.50
Methyl-tert-butyl ether [MTBE]	0.50	µg/L	<0.50
Styrene	0.50	µg/L	<0.50
Toluene	0.40	µg/L	<0.40
Xylene, m+p-	0.40	µg/L	<0.40
Xylene, o-	0.30	µg/L	<0.30
Xylenes, total	0.50	µg/L	<0.50
Volatile Organic Compounds [THMs] (Matrix: Water)			
Bromodichloromethane	0.50	µg/L	<0.50
Bromoform	0.50	µg/L	<0.50
Chloroform	0.50	µg/L	<0.50



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Dibromochloromethane	0.50	µg/L	<0.50
Hydrocarbons (Matrix: Water)			
EPH (C10-C19)	250	µg/L	<250
EPH (C19-C32)	250	µg/L	<250
VHw (C6-C10)	100	µg/L	<100
LEPHw	250	µg/L	<250
VPHw	100	µg/L	<100
HEPHw	250	µg/L	<250
Hydrocarbons Surrogates (Matrix: Water)			
Bromobenzotrifluoride, 2- (EPH surrogate)	1.0	%	92.2
Dichlorotoluene, 3,4-	1.0	%	63.0
Volatile Organic Compounds Surrogates (Matrix: Water)			
Bromofluorobenzene, 4-	1.0	%	93.1
Difluorobenzene, 1,4-	1.0	%	101
Polycyclic Aromatic Hydrocarbons (Matrix: Water)			
Acenaphthene	0.010	µg/L	<0.010
Acenaphthylene	0.010	µg/L	<0.010
Acridine	0.010	µg/L	<0.010
Anthracene	0.010	µg/L	<0.010
Benz(a)anthracene	0.010	µg/L	<0.010
Benzo(a)pyrene	0.0050	µg/L	<0.0050
Benzo(b+j)fluoranthene	0.010	µg/L	<0.010
Benzo(b+j+k)fluoranthene	0.015	µg/L	<0.015
Benzo(g,h,i)perylene	0.010	µg/L	<0.010
Benzo(k)fluoranthene	0.010	µg/L	<0.010
Chrysene	0.010	µg/L	<0.010
Dibenz(a,h)anthracene	0.0050	µg/L	<0.0050
Fluoranthene	0.010	µg/L	<0.010
Fluorene	0.010	µg/L	<0.010
Indeno(1,2,3-c,d)pyrene	0.010	µg/L	<0.010
Methylnaphthalene, 1-	0.010	µg/L	<0.010
Methylnaphthalene, 2-	0.010	µg/L	<0.010



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Naphthalene	0.050	µg/L	<0.050
Phenanthrene	0.020	µg/L	<0.020
Pyrene	0.010	µg/L	<0.010
Quinoline	0.050	µg/L	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates (Matrix: Water)			
Chrysene-d12	0.1	%	87.0
Naphthalene-d8	0.1	%	86.7
Phenanthrene-d10	0.1	%	93.2
Glycols (Matrix: Water)			
Diethylene glycol	5.0	mg/L	<5.0
Ethylene glycol	5.0	mg/L	<5.0
Propylene glycol, 1,2-	5.0	mg/L	<5.0
Triethylene glycol	5.0	mg/L	<5.0
Glycols, total (EG+DEG+PG)	10	mg/L	<10
Glycols Surrogates (Matrix: Water)			
Propanediol, 1,3-	1.0	%	100



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Photo:

Photo 1: No visible sheen observed in the WTP water, December 20th



Photo 1: No visible sheen observed in the WTP water, December 20th





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BCR Site Batch Sample Lab Documentation

CERTIFICATE OF ANALYSIS

Work Order	: VA24D3950		
Amendment	: 1		
Client	: Frontier-Kemper Michels Joint Venture	Laboratory	: ALS Environmental - Vancouver
Contact	: Sara Derakhshi	Account Manager	: Thomas Chang
Address	: 404-850 Harbourside Drive North Vancouver British Columbia Canada V7P 0A3	Address	: 8081 Lougheed Highway Burnaby BC Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 19-Dec-2024 11:17
PO	: ----	Date Analysis Commenced	: 19-Dec-2024
C-O-C number	: 20-977667	Issue Date	: 24-Dec-2024 16:42
Sampler	: ----		
Site	: BCR		
Quote number	: WTP Discharge		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Angelo Salandanan	Lab Assistant	Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
Leon Yang	Analyst	Inorganics, Burnaby, British Columbia
Lindsay Gung	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
Manpreet Kaur	Laboratory Analyst	Inorganics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta
Robin Weeks	Team Leader - Metals	Metals, Burnaby, British Columbia
Thomas Chang	Account Manager	Administration, Burnaby, British Columbia



General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
 LOR: Limit of Reporting (detection limit).

Unit	Description
-	no units
°C	degrees celsius
mg/L	milligrams per litre
mV	millivolts
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

<: less than.

>: greater than.

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

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

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

Workorder Comments

Amendment (23/12/2024): This report has been amended and re-released to allow the reporting of additional analytical data.

Sample Comments

Sample	Client Id	Comment
VA24D3950-001	WTP	Water sample(s) for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
VA24D3950-001	WTP	Water sample(s) for dissolved mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.
VA24D3950-001	WTP	Sample(001): Water sample for VOC analysis contained > 5% headspace. Results may be biased low.



Qualifiers

<u>Qualifier</u>	<u>Description</u>
DLA	Detection Limit adjusted for required dilution.
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
DLQ	Detection Limit raised due to co-eluting interference. Mass Spectrometry qualifier ion ratio did not meet acceptance criteria.
SUR-ND	Surrogate recovery marginally exceeded ALS DQO. Reported non-detect results for associated samples were deemed to be unaffected.



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	----
					Result	----	----	----	----	----
Field Tests										
pH, field	----	EF001/VA	0.10	pH units	7.03	----	----	----	----	----
Temperature, field	----	EF001/VA	0.10	°C	8.20	----	----	----	----	----
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	2.0	mg/L	1460	----	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	2.0	mg/L	<2.0	----	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	2.0	mg/L	<2.0	----	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	2.0	mg/L	<2.0	----	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L	1460	----	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm	2930	----	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	3.42	----	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	3.60	----	----	----	----	----
Oxidation-reduction potential [ORP]	----	E125/VA	0.10	mV	264	----	----	----	----	----
pH	----	E108/VA	0.10	pH units	7.29	----	----	----	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	2040	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	<3.0	----	----	----	----	----
Turbidity	----	E121/VA	0.10	NTU	0.91	----	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	----	----	----	----	----
Ammonium (as NH4), field	14798-03-9	EC298A/VA	0.0010	mg/L	<0.0032	----	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<1.00 ^{DLDS}	----	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	98.5	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	----
						Result	----	----	----	----
Anions and Nutrients										
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.400 ^{DLDS}	----	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.100 ^{DLDS}	----	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0200 ^{DLDS}	----	----	----	----	----
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L	1.33	----	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.696	----	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	156	----	----	----	----	----
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	15.6	----	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	15.5	----	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.152	----	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00264	----	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00343	----	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	<0.00050 ^{DLA}	----	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	----	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000250 ^{DLA}	----	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	<0.050 ^{DLA}	----	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	<0.0000350 ^{DLM}	----	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	1.03	----	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.00182	----	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	0.0373	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	----
						Result	----	----	----	----
Total Metals										
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00050 ^{DLA}	----	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	<0.00250 ^{DLA}	----	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.159	----	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000250 ^{DLA}	----	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0392	----	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	0.249	----	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00060	----	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	----	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.164	----	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00250 ^{DLA}	----	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	0.738	----	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	33.7	----	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.0804	----	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.00186	----	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	12.0	----	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000050 ^{DLA}	----	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	753	----	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0114	----	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	54.8	----	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00100 ^{DLA}	----	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000050 ^{DLA}	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	----
						Result	----	----	----	----
Total Metals										
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00050 ^{DLA}	----	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00050 ^{DLA}	----	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.00150 ^{DLA}	----	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00071	----	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000098	----	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00250 ^{DLA}	----	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0150 ^{DLA}	----	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00100 ^{DLA}	----	----	----	----	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.153	----	----	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00257	----	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00341	----	----	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.00040	----	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	----	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000100 ^{DLA}	----	----	----	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.025	----	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000200 ^{DLM}	----	----	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	0.962	----	----	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.00180	----	----	----	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	0.0364	----	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00020 ^{DLA}	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	----
						Result	----	----	----	----
Dissolved Metals										
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00094	----	----	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.167	----	----	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000100 DLA	----	----	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0379	----	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	0.247	----	----	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00032	----	----	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	<0.0000050	----	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.166	----	----	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00100 DLA	----	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	0.676	----	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	34.3	----	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.0767	----	----	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.00240	----	----	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	12.6	----	----	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000020 DLA	----	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	858	----	----	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.0116	----	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	59.9	----	----	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00040 DLA	----	----	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000020 DLA	----	----	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00020 DLA	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	----
					Result	----	----	----	----	----
Dissolved Metals										
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00020 ^{DLA}	----	----	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	0.00128	----	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00065	----	----	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.000084	----	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00100 ^{DLA}	----	----	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0020 ^{DLA}	----	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00040 ^{DLA}	----	----	----	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	----	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	Field	----	----	----	----	----
Aggregate Organics										
Phenols, total (4AAP)	----	E562/EO	0.0010	mg/L	<0.0010	----	----	----	----	----
Volatile Organic Compounds										
Chlorobenzene	108-90-7	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Chloromethane	74-87-3	E611C/VA	5.0	µg/L	<5.0	----	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	0.75	µg/L	<0.75	----	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	
					Result	----	----	----	----	
Volatile Organic Compounds										
Tetrachloroethane, 1,1,2,2-	79-34-5	E611CVA	0.20	µg/L	<0.20	----	----	----	----	
Trichloroethane, 1,1,2-	79-00-5	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Trichlorofluoromethane	75-69-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Volatile Organic Compounds [Drycleaning]										
Carbon tetrachloride	56-23-5	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Chloroethane	75-00-3	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Dichloroethane, 1,1-	75-34-3	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Dichloroethane, 1,2-	107-06-2	E611CVA	0.50	µg/L	<1.50 ^{DLO}	----	----	----	----	
Dichloroethylene, 1,1-	75-35-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Dichloroethylene, cis-1,2-	156-59-2	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Dichloroethylene, trans-1,2-	156-60-5	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Dichloromethane	75-09-2	E611CVA	1.0	µg/L	<1.0	----	----	----	----	
Dichloropropylene, trans-1,3-	10061-02-6	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Tetrachloroethylene	127-18-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Trichloroethane, 1,1,1-	71-55-6	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Trichloroethylene	79-01-6	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Vinyl chloride	75-01-4	E611CVA	0.40	µg/L	<0.40	----	----	----	----	
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Ethylbenzene	100-41-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	----
						Result	----	----	----	----
Volatile Organic Compounds [Fuels]										
Styrene	100-42-5	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Toluene	108-88-3	E611CVA	0.40	µg/L	<0.40	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611CVA	0.40	µg/L	<0.40	----	----	----	----	----
Xylene, o-	95-47-6	E611CVA	0.30	µg/L	<0.30	----	----	----	----	----
Xylenes, total	1330-20-7	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Bromoform	75-25-2	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Chloroform	67-66-3	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Dibromochloromethane	124-48-1	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L	<250	----	----	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L	<250	----	----	----	----	----
VHw (C6-C10)	----	E581.VH+F1/V A	100	µg/L	<100	----	----	----	----	----
HEPHw	----	EC600A/VA	250	µg/L	<250	----	----	----	----	----
LEPHw	----	EC600A/VA	250	µg/L	<250	----	----	----	----	----
VPHw	----	EC580A/VA	100	µg/L	<100	----	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	92.2	----	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/V A	1.0	%	63.0 ^{SUR-ND}	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	----
						Result	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611C/VA	1.0	%	93.1	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611C/VA	1.0	%	101	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	----	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	----	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	----	----	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WTP	----	----	----	----
					Client sampling date / time	19-Dec-2024 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3950-001	----	----	----	----	----
						Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	----	----	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	87.0	----	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	86.7	----	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	93.2	----	----	----	----	----
Glycols										
Diethylene glycol	111-46-6	E680E/VA	5.0	mg/L	<5.0	----	----	----	----	----
Ethylene glycol	107-21-1	E680E/VA	5.0	mg/L	<5.0	----	----	----	----	----
Propylene glycol, 1,2-	57-55-6	E680E/VA	5.0	mg/L	<5.0	----	----	----	----	----
Triethylene glycol	112-27-6	E680E/VA	5.0	mg/L	<5.0	----	----	----	----	----
Glycols, total (EG+DEG+PG)	----	E680E/VA	10	mg/L	<10	----	----	----	----	----
Glycols Surrogates										
Propanediol, 1,3-	504-63-2	E680E/VA	1.0	%	100	----	----	----	----	----

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

QUALITY CONTROL REPORT

Work Order	: VA24D3950	Page	: 1 of 24
Amendment	: 1		
Client	: Frontier-Kemper Michels Joint Venture	Laboratory	: ALS Environmental - Vancouver
Contact	: Sara Derakhshi	Account Manager	: Thomas Chang
Address	: 404-850 Harbourside Drive North Vancouver BC Canada V7P 0A3	Address	: 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9
Telephone	: ----	Telephone	: +1 604 253 4188
Project	: ----	Date Samples Received	: 19-Dec-2024 11:17
PO	: ----	Date Analysis Commenced	: 19-Dec-2024
C-O-C number	: 20-977667	Issue Date	: 24-Dec-2024 16:42
Sampler	: ----		
Site	: BCR		
Quote number	: WTP Discharge		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

This Quality Control Report contains the following information:

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Angelo Salandanan	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Leon Yang	Analyst	Vancouver Inorganics, Burnaby, British Columbia
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Robin Weeks	Team Leader - Metals	Vancouver Metals, Burnaby, British Columbia
Thomas Chang	Account Manager	Vancouver Administration, Burnaby, British Columbia



General Comments

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

Key :

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

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

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

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

Workorder Comments

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



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1816707)											
VA24D3951-001	Anonymous	pH	----	E108	0.10	pH units	7.55	7.58	0.396%	4%	----
Physical Tests (QC Lot: 1816708)											
VA24D3951-001	Anonymous	Alkalinity, bicarbonate (as CaCO3)	----	E290	2.0	mg/L	243	242	0.495%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	2.0	mg/L	<2.0	<2.0	0.00%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	2.0	mg/L	<2.0	<2.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	2.0	mg/L	<2.0	<2.0	0	Diff <2x LOR	----
		Alkalinity, total (as CaCO3)	----	E290	2.0	mg/L	243	242	0.495%	20%	----
Physical Tests (QC Lot: 1816709)											
VA24D3951-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	973	981	0.819%	10%	----
Physical Tests (QC Lot: 1816728)											
VA24D3950-001	WTP	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1816731)											
VA24D3950-001	WTP	Solids, total dissolved [TDS]	----	E162	20	mg/L	2040	1860	9.08%	20%	----
Physical Tests (QC Lot: 1816891)											
VA24D3950-001	WTP	Oxidation-reduction potential [ORP]	----	E125	0.10	mV	264	264	0.113%	10%	----
Physical Tests (QC Lot: 1816938)											
FJ2403831-001	Anonymous	Turbidity	----	E121	0.10	NTU	2.41	2.67	10.2%	15%	----
Anions and Nutrients (QC Lot: 1816743)											
VA24D3950-001	WTP	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1818865)											
FJ2403831-001	Anonymous	Nitrogen, total	7727-37-9	E366	0.150	mg/L	2.71	2.72	0.260%	20%	----
Anions and Nutrients (QC Lot: 1818874)											
FJ2403851-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0055	0.0055	0.00003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1819163)											
VA24D3950-001	WTP	Fluoride	16984-48-8	E235.F	0.400	mg/L	<0.400	<0.400	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1819164)											
VA24D3950-001	WTP	Chloride	16887-00-6	E235.Cl	10.0	mg/L	98.5	97.0	1.54	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1819165)											
VA24D3950-001	WTP	Bromide	24959-67-9	E235.Br-L	1.00	mg/L	<1.00	<1.00	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
Anions and Nutrients (QC Lot: 1819166)											
VA24D3950-001	WTP	Nitrate (as N)	14797-55-8	E235.NO3-L	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1819167)											
VA24D3950-001	WTP	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0200	mg/L	<0.0200	<0.0200	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1819168)											
VA24D3950-001	WTP	Sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	156	154	1.51%	20%	----
Organic / Inorganic Carbon (QC Lot: 1817237)											
VA24D3780-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	44.4	47.7	7.11%	20%	----
Organic / Inorganic Carbon (QC Lot: 1818873)											
FJ2403851-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	3.78	4.03	0.25	Diff <2x LOR	----
Total Metals (QC Lot: 1816723)											
VA24D3950-001	WTP	Aluminum, total	7429-90-5	E420	0.0150	mg/L	0.152	0.150	1.43%	20%	----
		Antimony, total	7440-36-0	E420	0.00050	mg/L	0.00264	0.00266	0.00002	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00050	mg/L	0.00343	0.00331	0.00012	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000250	mg/L	<0.000250	<0.000250	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000350	mg/L	<0.0000350	<0.0000350	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.250	mg/L	1.03	1.04	0.016	Diff <2x LOR	----
		Cesium, total	7440-46-2	E420	0.000050	mg/L	0.00182	0.00184	1.05%	20%	----
		Chromium, total	7440-47-3	E420	0.00250	mg/L	0.0373	0.0377	1.06%	20%	----
		Cobalt, total	7440-48-4	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.050	mg/L	0.159	0.159	0.0002	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000250	mg/L	<0.000250	<0.000250	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0050	mg/L	0.0392	0.0398	0.0006	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0250	mg/L	0.249	0.255	2.48%	20%	----
		Manganese, total	7439-96-5	E420	0.00050	mg/L	0.00060	<0.00050	0.00010	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E420	0.000250	mg/L	0.164	0.165	0.609%	20%	----
		Nickel, total	7440-02-0	E420	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.250	mg/L	0.738	0.692	0.046	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.250	mg/L	33.7	35.1	3.94%	20%	----
		Rubidium, total	7440-17-7	E420	0.00100	mg/L	0.0804	0.0769	4.52%	20%	----
		Selenium, total	7782-49-2	E420	0.000250	mg/L	0.00186	0.00156	0.000293	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: 1816723) - continued											
VA24D3950-001	WTP	Silicon, total	7440-21-3	E420	0.50	mg/L	12.0	12.1	0.873%	20%	---
		Silver, total	7440-22-4	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	---
		Sodium, total	7440-23-5	E420	0.250	mg/L	753	760	0.858%	20%	---
		Strontium, total	7440-24-6	E420	0.00100	mg/L	0.0114	0.0115	1.08%	20%	---
		Sulfur, total	7704-34-9	E420	2.50	mg/L	54.8	55.1	0.451%	20%	---
		Tellurium, total	13494-80-9	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	---
		Thallium, total	7440-28-0	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	---
		Thorium, total	7440-29-1	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	---
		Tin, total	7440-31-5	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	---
		Titanium, total	7440-32-6	E420	0.00150	mg/L	<0.00150	<0.00150	0	Diff <2x LOR	---
		Tungsten, total	7440-33-7	E420	0.00050	mg/L	0.00071	0.00070	0.000005	Diff <2x LOR	---
		Uranium, total	7440-61-1	E420	0.000050	mg/L	0.000098	0.000100	0.000001	Diff <2x LOR	---
		Vanadium, total	7440-62-2	E420	0.00250	mg/L	<0.00250	<0.00250	0	Diff <2x LOR	---
		Zinc, total	7440-66-6	E420	0.0150	mg/L	<0.0150	<0.0150	0	Diff <2x LOR	---
Zirconium, total	7440-67-7	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	---		
Total Metals (QC Lot: 1817203)											
VA24D3950-001	WTP	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	---
Dissolved Metals (QC Lot: 1816722)											
VA24D3950-001	WTP	Aluminum, dissolved	7429-90-5	E421	0.0020	mg/L	0.153	0.156	1.46%	20%	---
		Antimony, dissolved	7440-36-0	E421	0.00020	mg/L	0.00257	0.00259	0.777%	20%	---
		Arsenic, dissolved	7440-38-2	E421	0.00020	mg/L	0.00341	0.00337	1.18%	20%	---
		Barium, dissolved	7440-39-3	E421	0.00020	mg/L	0.00040	0.00044	0.00004	Diff <2x LOR	---
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	---
		Bismuth, dissolved	7440-69-9	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	---
		Boron, dissolved	7440-42-8	E421	0.020	mg/L	0.025	0.026	0.0005	Diff <2x LOR	---
		Cadmium, dissolved	7440-43-9	E421	0.0000200	mg/L	<0.0000200	<0.0000200	0	Diff <2x LOR	---
		Calcium, dissolved	7440-70-2	E421	0.100	mg/L	0.962	0.999	0.037	Diff <2x LOR	---
		Cesium, dissolved	7440-46-2	E421	0.000020	mg/L	0.00180	0.00180	0.151%	20%	---
		Chromium, dissolved	7440-47-3	E421	0.00100	mg/L	0.0364	0.0363	0.494%	20%	---
		Cobalt, dissolved	7440-48-4	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---
		Copper, dissolved	7440-50-8	E421	0.00040	mg/L	0.00094	0.00093	0.00001	Diff <2x LOR	---
		Iron, dissolved	7439-89-6	E421	0.020	mg/L	0.167	0.168	0.0010	Diff <2x LOR	---
		Lead, dissolved	7439-92-1	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	---
		Lithium, dissolved	7439-93-2	E421	0.0020	mg/L	0.0379	0.0395	4.25%	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: 1816722) - continued											
VA24D3950-001	WTP	Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	0.247	0.249	0.543%	20%	---
		Manganese, dissolved	7439-96-5	E421	0.00020	mg/L	0.00032	0.00031	0.000006	Diff <2x LOR	---
		Molybdenum, dissolved	7439-98-7	E421	0.000100	mg/L	0.166	0.169	1.72%	20%	---
		Nickel, dissolved	7440-02-0	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	---
		Phosphorus, dissolved	7723-14-0	E421	0.100	mg/L	0.676	0.698	0.022	Diff <2x LOR	---
		Potassium, dissolved	7440-09-7	E421	0.100	mg/L	34.3	34.1	0.393%	20%	---
		Rubidium, dissolved	7440-17-7	E421	0.00040	mg/L	0.0767	0.0778	1.48%	20%	---
		Selenium, dissolved	7782-49-2	E421	0.000100	mg/L	0.00240	0.00232	3.69%	20%	---
		Silicon, dissolved	7440-21-3	E421	0.100	mg/L	12.6	13.0	2.57%	20%	---
		Silver, dissolved	7440-22-4	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	---
		Sodium, dissolved	7440-23-5	E421	0.100	mg/L	858	844	1.59%	20%	---
		Strontium, dissolved	7440-24-6	E421	0.00040	mg/L	0.0116	0.0116	0.627%	20%	---
		Sulfur, dissolved	7704-34-9	E421	1.00	mg/L	59.9	62.3	3.95%	20%	---
		Tellurium, dissolved	13494-80-9	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	---
		Thallium, dissolved	7440-28-0	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	---
		Thorium, dissolved	7440-29-1	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---
		Tin, dissolved	7440-31-5	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---
		Titanium, dissolved	7440-32-6	E421	0.00060	mg/L	0.00128	0.00107	0.00020	Diff <2x LOR	---
		Tungsten, dissolved	7440-33-7	E421	0.00020	mg/L	0.00065	0.00063	0.00002	Diff <2x LOR	---
		Uranium, dissolved	7440-61-1	E421	0.000020	mg/L	0.000084	0.000091	0.000007	Diff <2x LOR	---
Vanadium, dissolved	7440-62-2	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	---		
Zinc, dissolved	7440-66-6	E421	0.0020	mg/L	<0.0020	<0.0020	0	Diff <2x LOR	---		
Zirconium, dissolved	7440-67-7	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	---		
Dissolved Metals (QC Lot: 1817204)											
VA24D3950-001	WTP	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	---
Aggregate Organics (QC Lot: 1821071)											
WT2437699-001	Anonymous	Phenols, total (4AAP)	----	E562	0.0010	mg/L	0.0046	0.0050	0.0004	Diff <2x LOR	---
Volatile Organic Compounds (QC Lot: 1819353)											
VA24D3591-001	Anonymous	Benzene	71-43-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromodichloromethane	75-27-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromoform	75-25-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Carbon tetrachloride	56-23-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Chlorobenzene	108-90-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Chloroethane	75-00-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 1819353) - continued											
VA24D3591-001	Anonymous	Chloroform	67-66-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Chloromethane	74-87-3	E611C	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	---
		Dibromochloromethane	124-48-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,2-	95-50-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,3-	541-73-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,4-	106-46-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethane, 1,1-	75-34-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethane, 1,2-	107-06-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, 1,1-	75-35-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, cis-1,2-	156-59-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, trans-1,2-	156-60-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloromethane	75-09-2	E611C	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	---
		Dichloropropane, 1,2-	78-87-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Ethylbenzene	100-41-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Styrene	100-42-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,1,2,2-	79-34-5	E611C	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Tetrachloroethylene	127-18-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Toluene	108-88-3	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	---
		Trichloroethane, 1,1,1-	71-55-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethane, 1,1,2-	79-00-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethylene	79-01-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichlorofluoromethane	75-69-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Vinyl chloride	75-01-4	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	---
		Xylene, m+p-	179601-23-1	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	---
		Xylene, o-	95-47-6	E611C	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
Hydrocarbons (QC Lot: 1819352)											
VA24D3591-001	Anonymous	VHw (C6-C10)	---	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	---
Glycols (QC Lot: 1820757)											
VA24D3950-001	WTP	Diethylene glycol	111-46-6	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	---
		Ethylene glycol	107-21-1	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	---



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Glycols (QC Lot: 1820757) - continued											
VA24D3950-001	WTP	Propylene glycol, 1,2-	57-55-6	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Triethylene glycol	112-27-6	E680E	5.0	mg/L	<5.0	<5.0	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: 1816708)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1816709)						
Conductivity	----	E100	1	µS/cm	1.0	----
Physical Tests (QCLot: 1816728)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1816731)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests (QCLot: 1816938)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Anions and Nutrients (QCLot: 1816743)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1818865)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Anions and Nutrients (QCLot: 1818874)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1819163)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1819164)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1819165)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1819166)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1819167)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1819168)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Organic / Inorganic Carbon (QCLot: 1817237)						



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot: 1817237) - continued						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 1818873)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 1816723)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1816723) - continued						
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	---
Total Metals (QCLot: 1817203)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	---
Dissolved Metals (QCLot: 1816722)						
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	---



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1816722) - continued						
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	---
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	---
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	---
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	---
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	---
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	---
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	---
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	---
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	---
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	---
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	---
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: 1817204)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	---
Aggregate Organics (QCLot: 1821071)						
Phenols, total (4AAP)	---	E562	0.001	mg/L	<0.0010	---
Volatile Organic Compounds (QCLot: 1819353)						
Benzene	71-43-2	E611C	0.5	µg/L	<0.50	---
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	<0.50	---
Bromoform	75-25-2	E611C	0.5	µg/L	<0.50	---
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	<0.50	---
Chlorobenzene	108-90-7	E611C	0.5	µg/L	<0.50	---
Chloroethane	75-00-3	E611C	0.5	µg/L	<0.50	---
Chloroform	67-66-3	E611C	0.5	µg/L	<0.50	---
Chloromethane	74-87-3	E611C	5	µg/L	<5.0	---
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	<0.50	---
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	<0.50	---
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	<0.50	---
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	<0.50	---
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	<0.50	---
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	<0.50	---
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	<0.50	---



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1819353) - continued						
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	<0.50	---
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	<0.50	---
Dichloromethane	75-09-2	E611C	1	µg/L	<1.0	---
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	<0.50	---
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	<0.50	---
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	<0.50	---
Ethylbenzene	100-41-4	E611C	0.5	µg/L	<0.50	---
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	<0.50	---
Styrene	100-42-5	E611C	0.5	µg/L	<0.50	---
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	<0.50	---
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	<0.20	---
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	<0.50	---
Toluene	108-88-3	E611C	0.4	µg/L	<0.40	---
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	<0.50	---
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	<0.50	---
Trichloroethylene	79-01-6	E611C	0.5	µg/L	<0.50	---
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	<0.50	---
Vinyl chloride	75-01-4	E611C	0.4	µg/L	<0.40	---
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	<0.40	---
Xylene, o-	95-47-6	E611C	0.3	µg/L	<0.30	---
Hydrocarbons (QCLot: 1819341)						
EPH (C10-C19)	---	E601A	250	µg/L	<250	---
EPH (C19-C32)	---	E601A	250	µg/L	<250	---
Hydrocarbons (QCLot: 1819352)						
VHw (C6-C10)	---	E581.VH+F1	100	µg/L	<100	---
Polycyclic Aromatic Hydrocarbons (QCLot: 1819340)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	---
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	---
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	---
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	---
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	---
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	---
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	---
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	---
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	---



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1819340) - continued						
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----
Glycols (QCLot: 1820757)						
Diethylene glycol	111-46-6	E680E	5	mg/L	<5.0	----
Ethylene glycol	107-21-1	E680E	5	mg/L	<5.0	----
Propylene glycol, 1,2-	57-55-6	E680E	5	mg/L	<5.0	----
Triethylene glycol	112-27-6	E680E	5	mg/L	<5.0	----



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: 1816707)									
pH	---	E108	---	pH units	7 pH units	100	98.0	102	---
Physical Tests (QCLot: 1816708)									
Alkalinity, phenolphthalein (as CaCO ₃)	---	E290	1	mg/L	229 mg/L	102	75.0	125	---
Alkalinity, total (as CaCO ₃)	---	E290	1	mg/L	500 mg/L	102	85.0	115	---
Physical Tests (QCLot: 1816709)									
Conductivity	---	E100	1	µS/cm	147 µS/cm	97.1	90.0	110	---
Physical Tests (QCLot: 1816728)									
Solids, total suspended [TSS]	---	E160	3	mg/L	150 mg/L	89.8	85.0	115	---
Physical Tests (QCLot: 1816731)									
Solids, total dissolved [TDS]	---	E162	10	mg/L	1000 mg/L	96.9	85.0	115	---
Physical Tests (QCLot: 1816938)									
Turbidity	---	E121	0.1	NTU	200 NTU	99.5	85.0	115	---
Anions and Nutrients (QCLot: 1816743)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.5	85.0	115	---
Anions and Nutrients (QCLot: 1818865)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	102	75.0	125	---
Anions and Nutrients (QCLot: 1818874)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	83.3	80.0	120	---
Anions and Nutrients (QCLot: 1819163)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	96.6	90.0	110	---
Anions and Nutrients (QCLot: 1819164)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.8	90.0	110	---
Anions and Nutrients (QCLot: 1819165)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	109	85.0	115	---
Anions and Nutrients (QCLot: 1819166)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.6	90.0	110	---
Anions and Nutrients (QCLot: 1819167)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	97.8	90.0	110	---
Anions and Nutrients (QCLot: 1819168)									
Sulfate (as SO ₄)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	98.6	90.0	110	---



Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1817237)									
Carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	8.57 mg/L	107	80.0	120	---
Organic / Inorganic Carbon (QCLot: 1818873)									
Carbon, total organic [TOC]	---	E355-L	0.5	mg/L	8.57 mg/L	101	80.0	120	---
Total Metals (QCLot: 1816723)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	102	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	108	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	102	80.0	120	---
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	102	80.0	120	---
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	112	80.0	120	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	102	80.0	120	---
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.5	80.0	120	---
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	94.4	80.0	120	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	106	80.0	120	---
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	104	80.0	120	---
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	---
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	96.4	80.0	120	---
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	104	80.0	120	---
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	102	80.0	120	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	112	80.0	120	---
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	---
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	100	80.0	120	---
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	104	80.0	120	---
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	112	80.0	120	---
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	98.0	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	104	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	92.0	80.0	120	---
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	103	80.0	120	---
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	98.3	80.0	120	---
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	88.6	80.0	120	---
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	---
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	107	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 (QCLot: 1816723) - continued									
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	106	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	103	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	101	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	110	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	106	80.0	120	----
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	98.5	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.6	80.0	120	----
Total Metals (QCLot: 1817203)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	95.5	80.0	120	----
Dissolved Metals (QCLot: 1816722)									
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	103	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	99.3	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	96.5	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	100	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	99.0	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.9	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	95.4	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	98.1	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	99.8	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	99.7	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	99.5	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	94.0	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	98.5	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	97.9	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	101	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	103	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	98.5	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	100	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	96.7	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	101	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 (QCLot: 1816722) - continued									
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	110	80.0	120	---
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	91.7	80.0	120	---
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	110	80.0	120	---
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	103	80.0	120	---
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	102	80.0	120	---
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	104	80.0	120	---
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.7	80.0	120	---
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	93.7	80.0	120	---
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	101	80.0	120	---
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	100	80.0	120	---
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	98.6	80.0	120	---
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	97.6	80.0	120	---
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.8	80.0	120	---
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	99.0	80.0	120	---
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	99.4	80.0	120	---
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	95.5	80.0	120	---
Aggregate Organics (QCLot: 1821071)									
Phenols, total (4AAP)	---	E562	0.001	mg/L	0.02 mg/L	109	85.0	115	---
Volatile Organic Compounds (QCLot: 1819353)									
Benzene	71-43-2	E611C	0.5	µg/L	100 µg/L	95.8	70.0	130	---
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	100 µg/L	93.2	70.0	130	---
Bromoform	75-25-2	E611C	0.5	µg/L	100 µg/L	102	70.0	130	---
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	100 µg/L	105	70.0	130	---
Chlorobenzene	108-90-7	E611C	0.5	µg/L	100 µg/L	101	70.0	130	---
Chloroethane	75-00-3	E611C	0.5	µg/L	100 µg/L	96.9	60.0	140	---
Chloroform	67-66-3	E611C	0.5	µg/L	100 µg/L	95.5	70.0	130	---
Chloromethane	74-87-3	E611C	5	µg/L	100 µg/L	78.1	60.0	140	---
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	100 µg/L	95.4	70.0	130	---
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	100 µg/L	102	70.0	130	---
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	100 µg/L	104	70.0	130	---
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	100 µg/L	106	70.0	130	---
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	100 µg/L	105	70.0	130	---
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	100 µg/L	92.7	70.0	130	---
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	100 µg/L	97.6	70.0	130	---



Sub-Matrix: **Water**

Laboratory Control Sample (LCS) Report

Analyte	CAS Number	Method	LOR	Unit	Recovery (%)				Qualifier
					Spike Target Concentration	LCS	Low	High	
Volatile Organic Compounds (QCLot: 1819353) - continued									
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	100 µg/L	95.7	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Dichloromethane	75-09-2	E611C	1	µg/L	100 µg/L	94.7	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	100 µg/L	97.6	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	100 µg/L	97.1	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	100 µg/L	107	70.0	130	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	100 µg/L	98.9	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	100 µg/L	102	70.0	130	----
Styrene	100-42-5	E611C	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	100 µg/L	106	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	100 µg/L	95.3	70.0	130	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	100 µg/L	98.6	70.0	130	----
Toluene	108-88-3	E611C	0.4	µg/L	100 µg/L	96.6	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	100 µg/L	106	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	100 µg/L	93.0	70.0	130	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	100 µg/L	99.7	70.0	130	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	100 µg/L	76.3	60.0	140	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	100 µg/L	82.5	60.0	140	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	200 µg/L	96.2	70.0	130	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	100 µg/L	97.6	70.0	130	----
Hydrocarbons (QCLot: 1819341)									
EPH (C10-C19)	---	E601A	250	µg/L	6490 µg/L	119	70.0	130	----
EPH (C19-C32)	---	E601A	250	µg/L	3360 µg/L	123	70.0	130	----
Hydrocarbons (QCLot: 1819352)									
VHw (C6-C10)	---	E581.VH+F1	100	µg/L	6310 µg/L	78.2	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1819340)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	126	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	115	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	109	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----



Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1819340) - continued									
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	112	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	105	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	100	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	103	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	106	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	115	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	124	60.0	130	----
Glycols (QCLot: 1820757)									
Diethylene glycol	111-46-6	E680E	5	mg/L	25 mg/L	91.5	70.0	130	----
Ethylene glycol	107-21-1	E680E	5	mg/L	25 mg/L	91.5	70.0	130	----
Propylene glycol, 1,2-	57-55-6	E680E	5	mg/L	25 mg/L	89.1	70.0	130	----
Triethylene glycol	112-27-6	E680E	5	mg/L	25 mg/L	93.1	70.0	130	----



Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1816743)										
VA24D3951-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1818874)										
FJ2403851-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0511 mg/L	0.05 mg/L	102	70.0	130	----
Anions and Nutrients (QCLot: 1819164)										
VA24D4094-001	Anonymous	Chloride	16887-00-6	E235.Cl	1190 mg/L	1000 mg/L	119	75.0	125	----
Anions and Nutrients (QCLot: 1819166)										
VA24D4136-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.58 mg/L	2.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 1819167)										
VA24D4136-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.510 mg/L	0.5 mg/L	102	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1817237)										
VA24D3780-003	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.73 mg/L	5 mg/L	94.6	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1818873)										
FJ2403851-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.27 mg/L	5 mg/L	105	70.0	130	----
Total Metals (QCLot: 1816723)										
VA24D3951-001	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	96.2	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0211 mg/L	0.02 mg/L	105	70.0	130	----
		Barium, total	7440-39-3	E420	0.0190 mg/L	0.02 mg/L	95.0	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00893 mg/L	0.01 mg/L	89.3	70.0	130	----
		Boron, total	7440-42-8	E420	0.118 mg/L	0.1 mg/L	118	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00388 mg/L	0.004 mg/L	97.0	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00897 mg/L	0.01 mg/L	89.7	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0400 mg/L	0.04 mg/L	100	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Copper, total	7440-50-8	E420	0.0188 mg/L	0.02 mg/L	94.3	70.0	130	----
		Iron, total	7439-89-6	E420	1.79 mg/L	2 mg/L	89.4	70.0	130	----
		Lead, total	7439-92-1	E420	0.0183 mg/L	0.02 mg/L	91.7	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0946 mg/L	0.1 mg/L	94.6	70.0	130	----
		Magnesium, total	7439-95-4	E420	0.972 mg/L	1 mg/L	97.2	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0193 mg/L	0.02 mg/L	96.7	70.0	130	----
		Molybdenum, total	7439-98-7	E420	ND mg/L	----	ND	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0388 mg/L	0.04 mg/L	96.9	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.5 mg/L	10 mg/L	105	70.0	130	----



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1816723) - continued										
VA24D3951-001	Anonymous	Potassium, total	7440-09-7	E420	ND mg/L	---	ND	70.0	130	---
		Rubidium, total	7440-17-7	E420	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	---
		Selenium, total	7782-49-2	E420	0.0415 mg/L	0.04 mg/L	104	70.0	130	---
		Silicon, total	7440-21-3	E420	ND mg/L	---	ND	70.0	130	---
		Silver, total	7440-22-4	E420	0.00368 mg/L	0.004 mg/L	91.9	70.0	130	---
		Sodium, total	7440-23-5	E420	ND mg/L	---	ND	70.0	130	---
		Strontium, total	7440-24-6	E420	ND mg/L	---	ND	70.0	130	---
		Sulfur, total	7704-34-9	E420	ND mg/L	---	ND	70.0	130	---
		Tellurium, total	13494-80-9	E420	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	---
		Thallium, total	7440-28-0	E420	0.00367 mg/L	0.004 mg/L	91.7	70.0	130	---
		Thorium, total	7440-29-1	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	---
		Tin, total	7440-31-5	E420	0.0198 mg/L	0.02 mg/L	98.8	70.0	130	---
		Titanium, total	7440-32-6	E420	0.0401 mg/L	0.04 mg/L	100	70.0	130	---
		Tungsten, total	7440-33-7	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	---
		Uranium, total	7440-61-1	E420	0.00392 mg/L	0.004 mg/L	98.1	70.0	130	---
		Vanadium, total	7440-62-2	E420	0.0981 mg/L	0.1 mg/L	98.1	70.0	130	---
		Zinc, total	7440-66-6	E420	0.368 mg/L	0.4 mg/L	91.9	70.0	130	---
		Zirconium, total	7440-67-7	E420	0.0406 mg/L	0.04 mg/L	102	70.0	130	---
Total Metals (QCLot: 1817203)										
VA24D3951-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000942 mg/L	0 mg/L	94.2	70.0	130	---
Dissolved Metals (QCLot: 1816722)										
VA24D3951-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	ND mg/L	---	ND	70.0	130	---
		Antimony, dissolved	7440-36-0	E421	0.0189 mg/L	0.02 mg/L	94.7	70.0	130	---
		Arsenic, dissolved	7440-38-2	E421	0.0209 mg/L	0.02 mg/L	104	70.0	130	---
		Barium, dissolved	7440-39-3	E421	0.0189 mg/L	0.02 mg/L	94.3	70.0	130	---
		Beryllium, dissolved	7440-41-7	E421	0.0376 mg/L	0.04 mg/L	94.0	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	0.096 mg/L	0.1 mg/L	96.1	70.0	130	---
		Cadmium, dissolved	7440-43-9	E421	0.00375 mg/L	0.004 mg/L	93.8	70.0	130	---
		Calcium, dissolved	7440-70-2	E421	ND mg/L	---	ND	70.0	130	---
		Cesium, dissolved	7440-46-2	E421	0.00940 mg/L	0.01 mg/L	94.0	70.0	130	---
		Chromium, dissolved	7440-47-3	E421	0.0374 mg/L	0.04 mg/L	93.5	70.0	130	---
		Cobalt, dissolved	7440-48-4	E421	0.0183 mg/L	0.02 mg/L	91.5	70.0	130	---
		Copper, dissolved	7440-50-8	E421	0.0178 mg/L	0.02 mg/L	89.2	70.0	130	---
		Iron, dissolved	7439-89-6	E421	1.83 mg/L	2 mg/L	91.4	70.0	130	---
		Lead, dissolved	7439-92-1	E421	0.0174 mg/L	0.02 mg/L	86.9	70.0	130	---
		Lithium, dissolved	7439-93-2	E421	0.0898 mg/L	0.1 mg/L	89.8	70.0	130	---
		Magnesium, dissolved	7439-95-4	E421	0.963 mg/L	1 mg/L	96.3	70.0	130	---
		Manganese, dissolved	7439-96-5	E421	0.0188 mg/L	0.02 mg/L	94.0	70.0	130	---
		Molybdenum, dissolved	7439-98-7	E421	ND mg/L	---	ND	70.0	130	---
		Nickel, dissolved	7440-02-0	E421	0.0361 mg/L	0.04 mg/L	90.2	70.0	130	---
		Phosphorus, dissolved	7723-14-0	E421	10.4 mg/L	10 mg/L	104	70.0	130	---
		Potassium, dissolved	7440-09-7	E421	ND mg/L	---	ND	70.0	130	---



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1816722) - continued										
VA24D3951-001	Anonymous	Rubidium, dissolved	7440-17-7	E421	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0448 mg/L	0.04 mg/L	112	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	ND mg/L	----	ND	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00276 mg/L	0.004 mg/L	68.9	70.0	130	MES
		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	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00342 mg/L	0.004 mg/L	85.6	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0184 mg/L	0.02 mg/L	92.2	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0190 mg/L	0.02 mg/L	94.9	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0392 mg/L	0.04 mg/L	97.9	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0184 mg/L	0.02 mg/L	91.8	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00354 mg/L	0.004 mg/L	88.5	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0962 mg/L	0.1 mg/L	96.2	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.379 mg/L	0.4 mg/L	94.7	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0396 mg/L	0.04 mg/L	98.9	70.0	130	----
Dissolved Metals (QCLot: 1817204)										
VA24D3951-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000896 mg/L	0 mg/L	89.6	70.0	130	----
Aggregate Organics (QCLot: 1821071)										
VA24D3950-001	WTP	Phenols, total (4AAP)	----	E562	0.0203 mg/L	0.02 mg/L	102	75.0	125	----
Volatile Organic Compounds (QCLot: 1819353)										
VA24D3591-003	Anonymous	Benzene	71-43-2	E611C	96.1 µg/L	100 µg/L	96.1	60.0	140	----
		Bromodichloromethane	75-27-4	E611C	95.2 µg/L	100 µg/L	95.2	60.0	140	----
		Bromoform	75-25-2	E611C	103 µg/L	100 µg/L	103	60.0	140	----
		Carbon tetrachloride	56-23-5	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		Chlorobenzene	108-90-7	E611C	102 µg/L	100 µg/L	102	60.0	140	----
		Chloroethane	75-00-3	E611C	92.5 µg/L	100 µg/L	92.5	50.0	150	----
		Chloroform	67-66-3	E611C	96.3 µg/L	100 µg/L	96.3	60.0	140	----
		Chloromethane	74-87-3	E611C	78.4 µg/L	100 µg/L	78.4	50.0	150	----
		Dibromochloromethane	124-48-1	E611C	98.1 µg/L	100 µg/L	98.1	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	100 µg/L	100 µg/L	100	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	102 µg/L	100 µg/L	102	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	104 µg/L	100 µg/L	104	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611C	99.3 µg/L	100 µg/L	99.3	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611C	93.5 µg/L	100 µg/L	93.5	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	97.5 µg/L	100 µg/L	97.5	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	97.0 µg/L	100 µg/L	97.0	60.0	140	----
		Dichloromethane	75-09-2	E611C	98.1 µg/L	100 µg/L	98.1	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611C	99.9 µg/L	100 µg/L	99.9	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	103 µg/L	100 µg/L	103	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	114 µg/L	100 µg/L	114	60.0	140	----



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1819353) - continued										
VA24D3591-003	Anonymous	Ethylbenzene	100-41-4	E611C	96.8 µg/L	100 µg/L	96.8	60.0	140	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	102 µg/L	100 µg/L	102	60.0	140	---
		Styrene	100-42-5	E611C	99.0 µg/L	100 µg/L	99.0	60.0	140	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	106 µg/L	100 µg/L	106	60.0	140	---
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	97.7 µg/L	100 µg/L	97.7	60.0	140	---
		Tetrachloroethylene	127-18-4	E611C	96.5 µg/L	100 µg/L	96.5	60.0	140	---
		Toluene	108-88-3	E611C	96.6 µg/L	100 µg/L	96.6	60.0	140	---
		Trichloroethane, 1,1,1-	71-55-6	E611C	103 µg/L	100 µg/L	103	60.0	140	---
		Trichloroethane, 1,1,2-	79-00-5	E611C	98.8 µg/L	100 µg/L	98.8	60.0	140	---
		Trichloroethylene	79-01-6	E611C	97.8 µg/L	100 µg/L	97.8	60.0	140	---
		Trichlorofluoromethane	75-69-4	E611C	91.7 µg/L	100 µg/L	91.7	50.0	150	---
		Vinyl chloride	75-01-4	E611C	75.5 µg/L	100 µg/L	75.5	50.0	150	---
		Xylene, m+p-	179601-23-1	E611C	190 µg/L	200 µg/L	95.2	60.0	140	---
		Xylene, o-	95-47-6	E611C	97.2 µg/L	100 µg/L	97.2	60.0	140	---
Hydrocarbons (QCLot: 1819352)										
VA24D3591-002	Anonymous	VHw (C6-C10)	---	E581.VH+F1	4690 µg/L	6310 µg/L	74.3	60.0	140	---

Qualifiers

Qualifier	Description
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).

Reference Material (RM) Report

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

Sub-Matrix:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Physical Tests (QCLot: 1816891)									
QC-1816891-001	RM	Oxidation-reduction potential [ORP]	---	E125	220 mV	102	95.0	105	---

QUALITY CONTROL INTERPRETIVE REPORT

<p>Work Order : VA24D3950</p> <p>Amendment : 1</p> <p>Client : Frontier-Kemper Michels Joint Venture</p> <p>Contact : Sara Derakhshi</p> <p>Address : 404-850 Harbourside Drive North Vancouver BC Canada V7P 0A3</p> <p>Telephone : ----</p> <p>Project : ----</p> <p>PO : ----</p> <p>C-O-C number : 20-977667</p> <p>Sampler : ----</p> <p>Site : BCR</p> <p>Quote number : WTP Discharge</p> <p>No. of samples received : 1</p> <p>No. of samples analysed : 1</p>	<p>Page : 1 of 15</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : Thomas Chang</p> <p>Address : 8081 Lougheed Highway Burnaby, British Columbia Canada V5A 1W9</p> <p>Telephone : +1 604 253 4188</p> <p>Date Samples Received : 19-Dec-2024 11:17</p> <p>Issue Date : 24-Dec-2024 16:42</p>
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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
- Matrix Spike outliers occur - please see following pages for full details.
- Test sample Surrogate recovery outliers exist for all regular sample matrices - please see following pages for full details.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

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

Outliers : Frequency of Quality Control Samples

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



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Matrix Spike (MS) Recoveries								
Dissolved Metals	Anonymous	Anonymous	Silver, dissolved	7440-22-4	E421	68.9 % ^{MES}	70.0-130%	Recovery less than lower data quality objective

Result Qualifiers

Qualifier	Description
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).

Regular Sample Surrogates

Sub-Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Result	Limits	Comment
Samples Submitted							
Hydrocarbons Surrogates	VA24D3950-001	WTP	Dichlorotoluene, 3,4-	95-75-0	63.0 %	70.0-130 %	Recovery less than lower data quality objective



Analysis Holding Time Compliance

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

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

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

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

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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times Rec Actual		Eval	Analysis Date	Holding Times Rec Actual		Eval	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) WTP	E562	19-Dec-2024	23-Dec-2024	28 days	4 days	✔	24-Dec-2024	28 days	5 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) WTP	E298	19-Dec-2024	19-Dec-2024	28 days	0 days	✔	19-Dec-2024	28 days	0 days	✔	
Anions and Nutrients : Bromide in Water by IC (Low Level)											
HDPE WTP	E235.Br-L	19-Dec-2024	20-Dec-2024	28 days	2 days	✔	20-Dec-2024	28 days	2 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE WTP	E235.Cl	19-Dec-2024	20-Dec-2024	28 days	2 days	✔	20-Dec-2024	28 days	2 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE WTP	E235.F	19-Dec-2024	20-Dec-2024	28 days	2 days	✔	20-Dec-2024	28 days	2 days	✔	
Anions and Nutrients : Nitrate in Water by IC (Low Level)											
HDPE WTP	E235.NO3-L	19-Dec-2024	20-Dec-2024	3 days	2 days	✔	20-Dec-2024	3 days	2 days	✔	
Anions and Nutrients : Nitrite in Water by IC (Low Level)											
HDPE WTP	E235.NO2-L	19-Dec-2024	20-Dec-2024	3 days	2 days	✔	20-Dec-2024	3 days	2 days	✔	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Sulfate in Water by IC											
HDPE WTP	E235.SO4	19-Dec-2024	20-Dec-2024	28 days	2 days	✓	20-Dec-2024	28 days	2 days	✓	
Anions and Nutrients : Total Nitrogen by Colourimetry											
Amber glass total (sulfuric acid) WTP	E366	19-Dec-2024	20-Dec-2024	28 days	1 days	✓	22-Dec-2024	28 days	3 days	✓	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) WTP	E372-U	19-Dec-2024	20-Dec-2024	28 days	1 days	✓	23-Dec-2024	28 days	4 days	✓	
Dissolved Metals : Dissolved Mercury in Water by CVAAS											
HDPE dissolved (nitric acid) WTP	E509	19-Dec-2024	19-Dec-2024	0 hrs	6 hrs	* UCP	19-Dec-2024	0 hrs	6 hrs	* UCP	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) WTP	E421	19-Dec-2024	19-Dec-2024	180 days	0 days	✓	19-Dec-2024	180 days	0 days	✓	
Field Tests : Field pH,EC,Salinity, TDS, Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine											
Amber glass total (sulfuric acid) WTP	EF001	19-Dec-2024	----	----	----		19-Dec-2024	----	0 days		
Glycols : Glycols (4 analytes) by GC-FID											
Glass vial (sodium bisulfate) WTP	E680E	19-Dec-2024	23-Dec-2024	14 days	4 days	✓	23-Dec-2024	40 days	0 days	✓	
Hydrocarbons : BC PHCs - EPH by GC-FID											
Amber glass/Teflon lined cap (sodium bisulfate) WTP	E601A	19-Dec-2024	21-Dec-2024	14 days	2 days	✓	23-Dec-2024	40 days	2 days	✓	
Hydrocarbons : VH and F1 by Headspace GC-FID											
Glass vial (sodium bisulfate) WTP	E581.VH+F1	19-Dec-2024	21-Dec-2024	14 days	2 days	✓	21-Dec-2024	14 days	2 days	✓	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (lab preserved) WTP	E358-L	19-Dec-2024	19-Dec-2024	3 days	0 days	✓	19-Dec-2024	28 days	0 days	✓	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)											
Amber glass total (sulfuric acid) WTP	E355-L	19-Dec-2024	20-Dec-2024	28 days	1 days	✓	20-Dec-2024	28 days	1 days	✓	
Physical Tests : Alkalinity Species by Titration											
HDPE WTP	E290	19-Dec-2024	19-Dec-2024	14 days	0 days	✓	19-Dec-2024	14 days	0 days	✓	
Physical Tests : Conductivity in Water											
HDPE WTP	E100	19-Dec-2024	19-Dec-2024	28 days	0 days	✓	19-Dec-2024	28 days	0 days	✓	
Physical Tests : ORP by Electrode											
HDPE WTP	E125	19-Dec-2024	----	----	----		19-Dec-2024	0.25 hrs	4 hrs	* EHTR-FM	
Physical Tests : pH by Meter											
HDPE WTP	E108	19-Dec-2024	19-Dec-2024	0.25 hrs	3 hrs	* EHTR-FM	19-Dec-2024	0.25 hrs	4 hrs	* EHTR-FM	
Physical Tests : TDS by Gravimetry											
HDPE WTP	E162	19-Dec-2024	----	----	----		19-Dec-2024	7 days	0 days	✓	
Physical Tests : TSS by Gravimetry											
HDPE WTP	E160	19-Dec-2024	----	----	----		19-Dec-2024	7 days	0 days	✓	
Physical Tests : Turbidity by Nephelometry											
HDPE WTP	E121	19-Dec-2024	----	----	----		19-Dec-2024	3 days	0 days	✓	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) WTP	E641A	19-Dec-2024	21-Dec-2024	14 days	2 days	✓	21-Dec-2024	40 days	0 days	✓
Total Metals : Total Mercury in Water by CVAAS										
HDPE total (nitric acid) WTP	E508	19-Dec-2024	19-Dec-2024	0 hrs	6 hrs	* UCP	19-Dec-2024	0 hrs	6 hrs	* UCP
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) WTP	E420	19-Dec-2024	19-Dec-2024	180 days	0 days	✓	19-Dec-2024	180 days	0 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass vial (sodium bisulfate) WTP	E611C	19-Dec-2024	21-Dec-2024	14 days	2 days	✓	21-Dec-2024	14 days	2 days	✓

Legend & Qualifier Definitions

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

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

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.



Quality Control Parameter Frequency Compliance

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

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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		Evaluation
			QC	Regular	Actual	Expected	
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1816708	1	5	20.0	5.0	✓
Ammonia by Fluorescence	E298	1816743	1	5	20.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1819165	1	1	100.0	5.0	✓
Chloride in Water by IC	E235.Cl	1819164	1	4	25.0	5.0	✓
Conductivity in Water	E100	1816709	1	5	20.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1817204	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1816722	1	5	20.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1817237	1	8	12.5	5.0	✓
Fluoride in Water by IC	E235.F	1819163	1	1	100.0	5.0	✓
Glycols (4 analytes) by GC-FID	E680E	1820757	1	1	100.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1819166	1	14	7.1	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1819167	1	14	7.1	5.0	✓
ORP by Electrode	E125	1816891	1	5	20.0	5.0	✓
pH by Meter	E108	1816707	1	5	20.0	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1821071	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1819168	1	1	100.0	5.0	✓
TDS by Gravimetry	E162	1816731	1	5	20.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1817203	1	5	20.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1816723	1	5	20.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1818865	1	4	25.0	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1818873	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1818874	1	13	7.6	5.0	✓
TSS by Gravimetry	E160	1816728	1	5	20.0	5.0	✓
Turbidity by Nephelometry	E121	1816938	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1819352	1	15	6.6	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1819353	1	16	6.2	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1816708	1	5	20.0	5.0	✓
Ammonia by Fluorescence	E298	1816743	1	5	20.0	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1819341	1	11	9.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1819165	1	1	100.0	5.0	✓
Chloride in Water by IC	E235.Cl	1819164	1	4	25.0	5.0	✓
Conductivity in Water	E100	1816709	1	5	20.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1817204	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1816722	1	5	20.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1817237	1	8	12.5	5.0	✓



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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
<i>Analytical Methods</i>							
Laboratory Control Samples (LCS) - Continued							
Fluoride in Water by IC	E235.F	1819163	1	1	100.0	5.0	✔
Glycols (4 analytes) by GC-FID	E680E	1820757	1	1	100.0	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1819166	1	14	7.1	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1819167	1	14	7.1	5.0	✔
ORP by Electrode	E125	1816891	1	5	20.0	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1819340	1	8	12.5	5.0	✔
pH by Meter	E108	1816707	1	5	20.0	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	1821071	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1819168	1	1	100.0	5.0	✔
TDS by Gravimetry	E162	1816731	1	5	20.0	5.0	✔
Total Mercury in Water by CVAAS	E508	1817203	1	5	20.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1816723	1	5	20.0	5.0	✔
Total Nitrogen by Colourimetry	E366	1818865	1	4	25.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1818873	1	15	6.6	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1818874	1	13	7.6	5.0	✔
TSS by Gravimetry	E160	1816728	1	5	20.0	5.0	✔
Turbidity by Nephelometry	E121	1816938	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1819352	1	15	6.6	5.0	✔
VOCs (BC List) by Headspace GC-MS	E611C	1819353	1	16	6.2	5.0	✔
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1816708	1	5	20.0	5.0	✔
Ammonia by Fluorescence	E298	1816743	1	5	20.0	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1819341	1	11	9.0	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1819165	1	1	100.0	5.0	✔
Chloride in Water by IC	E235.Cl	1819164	1	4	25.0	5.0	✔
Conductivity in Water	E100	1816709	1	5	20.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1817204	1	5	20.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1816722	1	5	20.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1817237	1	8	12.5	5.0	✔
Fluoride in Water by IC	E235.F	1819163	1	1	100.0	5.0	✔
Glycols (4 analytes) by GC-FID	E680E	1820757	1	1	100.0	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1819166	1	14	7.1	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1819167	1	14	7.1	5.0	✔
PAHs in Water by Hexane LVI GC-MS	E641A	1819340	1	8	12.5	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	1821071	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1819168	1	1	100.0	5.0	✔
TDS by Gravimetry	E162	1816731	1	5	20.0	5.0	✔
Total Mercury in Water by CVAAS	E508	1817203	1	5	20.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1816723	1	5	20.0	5.0	✔



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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
<i>Analytical Methods</i>							
Method Blanks (MB) - Continued							
Total Nitrogen by Colourimetry	E366	1818865	1	4	25.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1818873	1	15	6.6	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1818874	1	13	7.6	5.0	✔
TSS by Gravimetry	E160	1816728	1	5	20.0	5.0	✔
Turbidity by Nephelometry	E121	1816938	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1819352	1	15	6.6	5.0	✔
VOCs (BC List) by Headspace GC-MS	E611C	1819353	1	16	6.2	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1816743	1	5	20.0	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1819165	0	1	0.0	5.0	✘
Chloride in Water by IC	E235.Cl	1819164	1	4	25.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1817204	1	5	20.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1816722	1	5	20.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1817237	1	8	12.5	5.0	✔
Fluoride in Water by IC	E235.F	1819163	0	1	0.0	5.0	✘
Nitrate in Water by IC (Low Level)	E235.NO3-L	1819166	1	14	7.1	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1819167	1	14	7.1	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	1821071	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1819168	0	1	0.0	5.0	✘
Total Mercury in Water by CVAAS	E508	1817203	1	5	20.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1816723	1	5	20.0	5.0	✔
Total Nitrogen by Colourimetry	E366	1818865	0	4	0.0	5.0	✘
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1818873	1	15	6.6	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1818874	1	13	7.6	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1819352	1	15	6.6	5.0	✔
VOCs (BC List) by Headspace GC-MS	E611C	1819353	1	16	6.2	5.0	✔



Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Vancouver	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Vancouver	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
ORP by Electrode	E125 ALS Environmental - Vancouver	Water	ASTM D1498 (mod)	Oxidation reduction potential is reported as the oxidation-reduction potential of the platinum metal-reference electrode employed, measured in mV. For high accuracy test results, it is recommended that this analysis be conducted in the field.
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 ± 1°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 ± 2°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.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. 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 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.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
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.
Phenols (4AAP) in Water by Colorimetry	E562 ALS Environmental - Edmonton	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide (K ₃ Fe(CN) ₆) and 4-amino-antipyrine (4-AAP) to form a red complex which is measured colorimetrically.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
VOCs (BC List) by Headspace GC-MS	E611C ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Total Xylenes is the sum of m,p-Xylene & o-Xylene. Total BTEX is the sum of Benzene, Toluene, Ethylbenzene, & Total Xylenes. Total BTEX+Styrene is the sum of Total BTEX & Styrene. Total Trihalomethanes [THMs] is the sum of Bromodichloromethane, Bromoform, Chloroform, & Dibromochloromethane.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Glycols (4 analytes) by GC-FID	E680E ALS Environmental - Vancouver	Water	EPA 8015D (mod)	Derivatized glycols are analyzed by GC-FID.
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 and Ionized Ammonia (Calculation) (Field Temperature and pH)	EC298A ALS Environmental - Vancouver	Water	CCME CWQG Ammonia	Un-ionized ammonia is calculated from test results for total ammonia, field temperature and pH, and is expressed in units of mg/L "as N".
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.
Field pH,EC,Salinity, TDS, 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, TDS, 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 Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Nitrogen in water	EP366 ALS Environmental - Vancouver	Water	APHA 4500-P J (mod)	Samples for total nitrogen analysis are digested using a heated persulfate digestion. Nitrogen compounds are converted to nitrate in this digestion.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.
Glycols Extraction and Derivatization (BC Only)	EP680E ALS Environmental - Vancouver	Water	EPA 8015D (mod)	Aqueous sample is derivatized and extracted with organic solvent.



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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 977667

Page of

Report To		Reports / Recipients				Turnaround Time (TAT) Requested		AFFIX ALS BARCODE LABEL HERE (ALS use only)																																					
Contact and company name below will appear on the final report		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)		Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A		<input type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum <input checked="" type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests																																							
Company address below will appear on the final report		Select Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX		Email 1 or Fax: <i>Sara.Dorabshi@nichelken.ca</i>		Date and Time Required for all E&P TATs: <i>19 Dec - by 11:50pm</i>																																							
Street:		Email 2:		Email 3:		For all tests with rush TATs requested, please contact your AM to confirm availability.																																							
City/Province:		Invoice Recipients		Select Invoice Distribution: <input type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX		Analysis Request		NUMBER OF CONTAINERS	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)																																		
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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		<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																																							
Company:		Project Information		Oil and Gas Required Fields (client use)		<table border="1"> <tr> <td><i>Physical test</i></td><td><i>Metals total</i></td><td><i>Disolved total</i></td><td><i>Phenols</i></td><td><i>Hydrocarbon</i></td><td><i>Anions Nutrients</i></td><td><i>VOC</i></td><td><i>EPH</i></td><td><i>glycols</i></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>		<i>Physical test</i>	<i>Metals total</i>	<i>Disolved total</i>	<i>Phenols</i>	<i>Hydrocarbon</i>	<i>Anions Nutrients</i>	<i>VOC</i>	<i>EPH</i>	<i>glycols</i>																													
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Job #:		ALS Sample # (ALS use only):		Sample Identification and/or Coordinates (This description will appear on the report)		Date (dd-mmm-yy)		Time (hh:mm)		Sample Type		<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																																	
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Drinking Water (DW) Samples ¹ (client use) <input type="checkbox"/> YES <input type="checkbox"/> NO Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO		Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)				SAMPLE RECEIPT DETAILS (ALS use only) Cooling Method: <input checked="" type="checkbox"/> NONE <input type="checkbox"/> ICE <input type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input checked="" type="checkbox"/> COOLING INITIATED Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO Cooler Custody Seals Intact: <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A INITIAL COOLER TEMPERATURES °C: _____ FINAL COOLER TEMPERATURES °C: _____																																							
SHIPMENT RELEASE (client use) Released by: _____ Date: _____ Time: _____		INITIAL SHIPMENT RECEPTION (ALS use only) Received by: _____ Date: _____ Time: _____		FINAL SHIPMENT RECEPTION (ALS use only) Received by: <i>JC</i> Date: <i>19-12-24</i> Time: <i>11:17am</i>																																									



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.




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

Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
Report #	39
Appendix B	B-1

Appendix B: BCR Site Receiving Environment Documentation

 Eagle Mountain - Woodfibre Gas Pipeline Project Waste Discharge Permit PE-110163 Report	Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
	Report #	39
	Appendix B	B-2

BCR Site Receiving Environment Sample Analysis

 Eagle Mountain - Woodfibre Gas Pipeline Project Waste Discharge Permit PE-110163 Report	Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
	Report #	39
	Appendix B	B-3

BCR Site Receiving Environment Lab Documentation



CERTIFICATE OF ANALYSIS

Work Order : **VA24D3653**
Client : **Triton Environmental Consultants Ltd.**
Contact :
Address :
Telephone :
Project : 11964
PO : 11964 - Task 20 - Phase -3C -4C
C-O-C number :
Sampler :
Site : Water Analysis
Quote number : VA23-TRIT100-012
No. of samples received : 2
No. of samples analysed : 2

Laboratory : ALS Environmental - Vancouver
Account Manager :
Address :
Telephone :
Date Samples Received : 16-Dec-2024 13:30
Date Analysis Commenced : 17-Dec-2024
Issue Date : 23-Dec-2024 09:44

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
		Metals, Burnaby, British Columbia
		Metals, Burnaby, British Columbia
		Inorganics, Burnaby, British Columbia
		Metals, Burnaby, British Columbia
		Administration, Burnaby, British Columbia
		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
mg/L	milligrams per litre
pH units	pH units
µS/cm	microsiemens per centimetre

<: 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

Sub-Matrix: Water (Matrix: Water)					Client sample ID	SQU US 1	SQU DS 1	----	----	----
					Client sampling date / time	16-Dec-2024 11:03	16-Dec-2024 10:41	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3653-001	VA24D3653-002	----	----	----	
					Result	Result	----	----	----	
Field Tests										
Conductivity, field	----	EF001/VA	0.10	µS/cm	73.000	75.000	----	----	----	
pH, field	----	EF001/VA	0.10	pH units	7.10	7.04	----	----	----	
Temperature, field	----	EF001/VA	0.10	°C	3.70	4.10	----	----	----	
Physical Tests										
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	19.1	18.9	----	----	----	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	19.8	19.5	----	----	----	
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	48	62	----	----	----	
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	<3.0	<3.0	----	----	----	
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L	16.2	16.0	----	----	----	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	0.0331	0.0333	----	----	----	
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	4.26	4.07	----	----	----	
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.024	0.022	----	----	----	
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.178	0.174	----	----	----	
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	0.0034	0.0033	----	----	----	
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L	0.282	0.270	----	----	----	
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0208	0.0220	----	----	----	
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	5.52	5.43	----	----	----	
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.05	2.10	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	SQU US 1	SQU DS 1	----	----	----
					Client sampling date / time	16-Dec-2024 11:03	16-Dec-2024 10:41	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3653-001	VA24D3653-002	----	----	----	
					Result	Result	----	----	----	
Total Sulfides										
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	<0.0015	<0.0015	----	----	----	
Sulfide, un-ionized (as H2S), from total	7783-06-4	EC395/VA	0.0015	mg/L	<0.0015	<0.0015	----	----	----	
Sulfide, total (as H2S)	7783-06-4	E395/VA	0.0016	mg/L	<0.0016	<0.0016	----	----	----	
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0929	0.0856	----	----	----	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00015	0.00016	----	----	----	
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00843	0.00840	----	----	----	
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	0.011	0.011	----	----	----	
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000098	0.0000087	----	----	----	
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	6.50	6.46	----	----	----	
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000018	0.000018	----	----	----	
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	0.00088	0.00079	----	----	----	
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.222	0.170	----	----	----	
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	<0.000050	<0.000050	----	----	----	
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	<0.0010	<0.0010	----	----	----	
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	0.860	0.825	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	SQU US 1	SQU DS 1	----	----	----
					Client sampling date / time	16-Dec-2024 11:03	16-Dec-2024 10:41	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3653-001	VA24D3653-002	----	----	----	
					Result	Result	----	----	----	
Total Metals										
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00913	0.00849	----	----	----	
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	0.000615	0.000559	----	----	----	
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	0.664	0.650	----	----	----	
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00096	0.00094	----	----	----	
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	5.35	5.16	----	----	----	
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	3.63	3.48	----	----	----	
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0410	0.0405	----	----	----	
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	1.71	1.61	----	----	----	
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	----	----	----	
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	0.00166	0.00160	----	----	----	
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	0.000033	0.000034	----	----	----	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00130	0.00120	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	SQU US 1	SQU DS 1	----	----	----
					Client sampling date / time	16-Dec-2024 11:03	16-Dec-2024 10:41	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3653-001	VA24D3653-002	----	----	----	
					Result	Result	----	----	----	
Total Metals										
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	0.0491	0.0464	----	----	----	
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	0.00011	0.00012	----	----	----	
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.00815	0.00845	----	----	----	
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	0.0000087	0.0000069	----	----	----	
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	6.31	6.26	----	----	----	
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000017	0.000015	----	----	----	
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	0.00074	0.00072	----	----	----	
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.144	0.119	----	----	----	
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	0.821	0.793	----	----	----	
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00787	0.00798	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	SQU US 1	SQU DS 1	----	----	----
					Client sampling date / time	16-Dec-2024 11:03	16-Dec-2024 10:41	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3653-001	VA24D3653-002	----	----	----	
					Result	Result	----	----	----	
Dissolved Metals										
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	0.000593	0.000533	----	----	----	
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00050	<0.00050	----	----	----	
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	<0.050	----	----	----	
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	0.671	0.665	----	----	----	
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00096	0.00092	----	----	----	
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	5.36	5.11	----	----	----	
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	3.74	3.47	----	----	----	
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.0401	0.0407	----	----	----	
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	1.46	1.41	----	----	----	
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	0.00047	0.00045	----	----	----	
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	0.000031	0.000033	----	----	----	
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	0.00110	0.00106	----	----	----	
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0020	0.0021	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	SQU US 1	SQU DS 1	----	----	----
					Client sampling date / time	16-Dec-2024 11:03	16-Dec-2024 10:41	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3653-001	VA24D3653-002	----	----	----	
					Result	Result	----	----	----	
Dissolved Metals										
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.

QUALITY CONTROL INTERPRETIVE REPORT

<p>Work Order : VA24D3653</p> <p>Client : Triton Environmental Consultants Ltd.</p> <p>Contact : [REDACTED]</p> <p>Address : [REDACTED]</p> <p>Telephone : [REDACTED]</p> <p>Project : 11964</p> <p>PO : 11964 - Task 20 - Phase -3C -4C</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : Water Analysis</p> <p>Quote number : VA23-TRIT100-012 _V2</p> <p>No. of samples received : 2</p> <p>No. of samples analysed : 2</p>	<p>Page : 1 of 14</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : [REDACTED]</p> <p>Address : [REDACTED]</p> <p>Telephone : [REDACTED]</p> <p>Date Samples Received : 16-Dec-2024 13:30</p> <p>Issue Date : 23-Dec-2024 09:43</p>
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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				
			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) SQU DS 1	E298	16-Dec-2024	19-Dec-2024	28 days	3 days	✔	20-Dec-2024	28 days	4 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) SQU US 1	E298	16-Dec-2024	19-Dec-2024	28 days	3 days	✔	20-Dec-2024	28 days	4 days	✔	
Anions and Nutrients : Bromide in Water by IC (Low Level)											
HDPE SQU DS 1	E235.Br-L	16-Dec-2024	17-Dec-2024	28 days	1 days	✔	17-Dec-2024	28 days	1 days	✔	
Anions and Nutrients : Bromide in Water by IC (Low Level)											
HDPE SQU US 1	E235.Br-L	16-Dec-2024	17-Dec-2024	28 days	1 days	✔	17-Dec-2024	28 days	1 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE SQU DS 1	E235.Cl	16-Dec-2024	17-Dec-2024	28 days	1 days	✔	17-Dec-2024	28 days	1 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE SQU US 1	E235.Cl	16-Dec-2024	17-Dec-2024	28 days	1 days	✔	17-Dec-2024	28 days	1 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE SQU DS 1	E235.F	16-Dec-2024	17-Dec-2024	28 days	1 days	✔	17-Dec-2024	28 days	1 days	✔	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Fluoride in Water by IC											
HDPE SQU US 1	E235.F	16-Dec-2024	17-Dec-2024	28 days	1 days	✓	17-Dec-2024	28 days	1 days	✓	
Anions and Nutrients : Nitrate in Water by IC (Low Level)											
HDPE SQU DS 1	E235.NO3-L	16-Dec-2024	17-Dec-2024	3 days	1 days	✓	17-Dec-2024	3 days	1 days	✓	
Anions and Nutrients : Nitrate in Water by IC (Low Level)											
HDPE SQU US 1	E235.NO3-L	16-Dec-2024	17-Dec-2024	3 days	1 days	✓	17-Dec-2024	3 days	1 days	✓	
Anions and Nutrients : Nitrite in Water by IC (Low Level)											
HDPE SQU DS 1	E235.NO2-L	16-Dec-2024	17-Dec-2024	3 days	1 days	✓	17-Dec-2024	3 days	1 days	✓	
Anions and Nutrients : Nitrite in Water by IC (Low Level)											
HDPE SQU US 1	E235.NO2-L	16-Dec-2024	17-Dec-2024	3 days	1 days	✓	17-Dec-2024	3 days	1 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE SQU DS 1	E235.SO4	16-Dec-2024	17-Dec-2024	28 days	1 days	✓	17-Dec-2024	28 days	1 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE SQU US 1	E235.SO4	16-Dec-2024	17-Dec-2024	28 days	1 days	✓	17-Dec-2024	28 days	1 days	✓	
Anions and Nutrients : Total Nitrogen by Colourimetry											
Amber glass total (sulfuric acid) SQU DS 1	E366	16-Dec-2024	19-Dec-2024	28 days	3 days	✓	20-Dec-2024	28 days	4 days	✓	
Anions and Nutrients : Total Nitrogen by Colourimetry											
Amber glass total (sulfuric acid) SQU US 1	E366	16-Dec-2024	19-Dec-2024	28 days	3 days	✓	20-Dec-2024	28 days	4 days	✓	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SQU DS 1	E372-U	16-Dec-2024	19-Dec-2024	28 days	3 days	✔	21-Dec-2024	28 days	5 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SQU US 1	E372-U	16-Dec-2024	19-Dec-2024	28 days	3 days	✔	21-Dec-2024	28 days	5 days	✔
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SQU DS 1	E509	16-Dec-2024	20-Dec-2024	28 days	4 days	✔	20-Dec-2024	28 days	4 days	✔
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) SQU US 1	E509	16-Dec-2024	20-Dec-2024	28 days	4 days	✔	20-Dec-2024	28 days	4 days	✔
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SQU DS 1	E421	16-Dec-2024	17-Dec-2024	180 days	1 days	✔	19-Dec-2024	180 days	3 days	✔
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SQU US 1	E421	16-Dec-2024	17-Dec-2024	180 days	1 days	✔	19-Dec-2024	180 days	3 days	✔
Field Tests : Field pH,EC,Salinity, TDS, Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial dissolved (hydrochloric acid) SQU DS 1	EF001	16-Dec-2024	----	----	----		18-Dec-2024	----	2 days	
Field Tests : Field pH,EC,Salinity, TDS, Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial dissolved (hydrochloric acid) SQU US 1	EF001	16-Dec-2024	----	----	----		18-Dec-2024	----	2 days	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) SQU DS 1	E358-L	16-Dec-2024	19-Dec-2024	28 days	3 days	✔	19-Dec-2024	28 days	3 days	✔



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) SQU US 1	E358-L	16-Dec-2024	19-Dec-2024	28 days	3 days	✓	19-Dec-2024	28 days	3 days	✓	
Physical Tests : Alkalinity Species by Titration											
HDPE SQU DS 1	E290	16-Dec-2024	17-Dec-2024	14 days	1 days	✓	17-Dec-2024	14 days	1 days	✓	
Physical Tests : Alkalinity Species by Titration											
HDPE SQU US 1	E290	16-Dec-2024	17-Dec-2024	14 days	1 days	✓	17-Dec-2024	14 days	1 days	✓	
Physical Tests : TDS by Gravimetry											
HDPE SQU DS 1	E162	16-Dec-2024	----	----	----		19-Dec-2024	7 days	3 days	✓	
Physical Tests : TDS by Gravimetry											
HDPE SQU US 1	E162	16-Dec-2024	----	----	----		19-Dec-2024	7 days	3 days	✓	
Physical Tests : TSS by Gravimetry											
HDPE SQU DS 1	E160	16-Dec-2024	----	----	----		19-Dec-2024	7 days	3 days	✓	
Physical Tests : TSS by Gravimetry											
HDPE SQU US 1	E160	16-Dec-2024	----	----	----		19-Dec-2024	7 days	3 days	✓	
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC											
Opaque HDPE - total (sodium hydroxide) SQU DS 1	E532	16-Dec-2024	----	----	----		17-Dec-2024	28 days	1 days	✓	
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC											
Opaque HDPE - total (sodium hydroxide) SQU US 1	E532	16-Dec-2024	----	----	----		17-Dec-2024	28 days	1 days	✓	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Total Metals : Total Mercury in Water by CVAAS											
Glass vial total (hydrochloric acid) SQU DS 1	E508	16-Dec-2024	19-Dec-2024	28 days	3 days	✔	19-Dec-2024	28 days	3 days	✔	
Total Metals : Total Mercury in Water by CVAAS											
Glass vial total (hydrochloric acid) SQU US 1	E508	16-Dec-2024	19-Dec-2024	28 days	3 days	✔	19-Dec-2024	28 days	3 days	✔	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) SQU DS 1	E420	16-Dec-2024	17-Dec-2024	180 days	1 days	✔	18-Dec-2024	180 days	2 days	✔	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) SQU US 1	E420	16-Dec-2024	17-Dec-2024	180 days	1 days	✔	18-Dec-2024	180 days	2 days	✔	
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)											
HDPE total (zinc acetate+sodium hydroxide) SQU DS 1	E395	16-Dec-2024	----	----	----		17-Dec-2024	7 days	1 days	✔	
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)											
HDPE total (zinc acetate+sodium hydroxide) SQU US 1	E395	16-Dec-2024	----	----	----		17-Dec-2024	7 days	1 days	✔	

Legend & Qualifier Definitions

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



Quality Control Parameter Frequency Compliance

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

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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1811847	1	4	25.0	5.0	✔
Ammonia by Fluorescence	E298	1817086	1	8	12.5	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1811853	1	4	25.0	5.0	✔
Chloride in Water by IC	E235.Cl	1811852	1	4	25.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1818536	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1812549	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1817084	1	7	14.2	5.0	✔
Fluoride in Water by IC	E235.F	1811851	1	4	25.0	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1811849	1	15	6.6	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1811850	1	13	7.6	5.0	✔
Sulfate in Water by IC	E235.SO4	1811848	1	9	11.1	5.0	✔
TDS by Gravimetry	E162	1817137	1	9	11.1	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1813392	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1816738	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1812496	1	20	5.0	5.0	✔
Total Nitrogen by Colourimetry	E366	1817088	1	4	25.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1817089	1	6	16.6	5.0	✔
Total Sulfide by Colourimetry (Automated Flow)	E395	1813177	1	13	7.6	5.0	✔
TSS by Gravimetry	E160	1817135	1	12	8.3	5.0	✔
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1811847	1	4	25.0	5.0	✔
Ammonia by Fluorescence	E298	1817086	1	8	12.5	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1811853	1	4	25.0	5.0	✔
Chloride in Water by IC	E235.Cl	1811852	1	4	25.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1818536	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1812549	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1817084	1	7	14.2	5.0	✔
Fluoride in Water by IC	E235.F	1811851	1	4	25.0	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1811849	1	15	6.6	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1811850	1	13	7.6	5.0	✔
Sulfate in Water by IC	E235.SO4	1811848	1	9	11.1	5.0	✔
TDS by Gravimetry	E162	1817137	1	9	11.1	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1813392	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1816738	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1812496	1	20	5.0	5.0	✔
Total Nitrogen by Colourimetry	E366	1817088	1	4	25.0	5.0	✔



Matrix: **Water**

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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Control Samples (LCS) - Continued							
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1817089	1	6	16.6	5.0	✔
Total Sulfide by Colourimetry (Automated Flow)	E395	1813177	1	13	7.6	5.0	✔
TSS by Gravimetry	E160	1817135	1	12	8.3	5.0	✔
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1811847	1	4	25.0	5.0	✔
Ammonia by Fluorescence	E298	1817086	1	8	12.5	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1811853	1	4	25.0	5.0	✔
Chloride in Water by IC	E235.Cl	1811852	1	4	25.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1818536	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1812549	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1817084	1	7	14.2	5.0	✔
Fluoride in Water by IC	E235.F	1811851	1	4	25.0	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1811849	1	15	6.6	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1811850	1	13	7.6	5.0	✔
Sulfate in Water by IC	E235.SO4	1811848	1	9	11.1	5.0	✔
TDS by Gravimetry	E162	1817137	1	9	11.1	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1813392	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1816738	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1812496	1	20	5.0	5.0	✔
Total Nitrogen by Colourimetry	E366	1817088	1	4	25.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1817089	1	6	16.6	5.0	✔
Total Sulfide by Colourimetry (Automated Flow)	E395	1813177	1	13	7.6	5.0	✔
TSS by Gravimetry	E160	1817135	1	12	8.3	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1817086	1	8	12.5	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1811853	1	4	25.0	5.0	✔
Chloride in Water by IC	E235.Cl	1811852	1	4	25.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1818536	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1812549	1	20	5.0	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1817084	1	7	14.2	5.0	✔
Fluoride in Water by IC	E235.F	1811851	1	4	25.0	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1811849	1	15	6.6	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1811850	1	13	7.6	5.0	✔
Sulfate in Water by IC	E235.SO4	1811848	1	9	11.1	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1813392	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1816738	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1812496	1	20	5.0	5.0	✔
Total Nitrogen by Colourimetry	E366	1817088	1	4	25.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1817089	1	6	16.6	5.0	✔



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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
<i>Analytical Methods</i>							
Matrix Spikes (MS) - Continued							
Total Sulfide by Colourimetry (Automated Flow)	E395	1813177	1	13	7.6	5.0	✔



Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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 - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Nitrogen by Colourimetry	E366 ALS Environmental - Vancouver	Water	Chinchilla Scientific Nitrate Method, 2011	Following digestion, total nitrogen is determined colourimetrically using a discrete analyzer utilizing the vanadium chloride reduction method. This method of analysis is approved under US EPA 40 CFR Part 136 (May 2021).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Sulfide by Colourimetry (Automated Flow)	E395 ALS Environmental - Vancouver	Water	APHA 4500 -S E-Auto-Colorimetry	Sulfide is determined using the gas dialysis automated methylene blue colourimetric method. Results expressed "as H ₂ S" if reported represent the maximum possible H ₂ S concentration based on the total sulfide concentration in the sample. The H ₂ S calculation converts Total Sulphide as (S ₂ ⁻) and reports it as Total Sulphide as (H ₂ S)
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
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)	Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. Results are based on an un-filtered, field-preserved sample.
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, TDS, 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, TDS, 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 - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Nitrogen in water	EP366 ALS Environmental - Vancouver	Water	APHA 4500-P J (mod)	Samples for total nitrogen analysis are digested using a heated persulfate digestion. Nitrogen compounds are converted to nitrate in this digestion.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
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 : **VA24D3653**
Client : Triton Environmental Consultants Ltd.
Contact : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Project : 11964
PO : 11964 - Task 20 - Phase -3C -4C
C-O-C number : ----
Sampler : ----
Site : Water Analysis
Quote number : VA23-TRIT100-012 _V2
No. of samples received : 2
No. of samples analysed : 2

Page : 1 of 17
Laboratory : ALS Environmental - Vancouver
Account Manager : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Date Samples Received : 16-Dec-2024 13:30
Date Analysis Commenced : 17-Dec-2024
Issue Date : 23-Dec-2024 09:43

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
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Inorganics, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Administration, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia

Page : 2 of 17
Work Order : VA24D3653
Client : Triton Environmental Consultants Ltd.
Project : 11964



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: 1811847)											
VA24D3629-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	41.7	39.9	4.41%	20%	----
Physical Tests (QC Lot: 1817135)											
KS2405229-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1817137)											
KS2405229-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	868	865	0.288%	20%	----
Anions and Nutrients (QC Lot: 1811848)											
VA24D3629-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	2.93	2.93	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1811849)											
VA24D3629-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0782	0.0769	1.62%	20%	----
Anions and Nutrients (QC Lot: 1811850)											
VA24D3629-001	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: 1811851)											
VA24D3629-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.038	0.039	0.001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1811852)											
VA24D3629-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	1.76	1.76	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1811853)											
VA24D3629-001	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: 1817086)											
VA24D3526-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.294	0.308	4.87%	20%	----
Anions and Nutrients (QC Lot: 1817088)											
VA24D3526-001	Anonymous	Nitrogen, total	7727-37-9	E366	0.300	mg/L	3.74	3.66	2.14%	20%	----
Anions and Nutrients (QC Lot: 1817089)											
VA24D3526-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0130	0.0128	0.0002	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1817084)											
VA24D3526-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	7.28	7.38	1.45%	20%	----
Total Sulfides (QC Lot: 1813177)											
FJ2403790-003	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.0259	0.0266	3.01%	20%	----
Total Metals (QC Lot: 1812496)											
FJ2403747-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0454	0.0428	5.79%	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: 1812496) - continued											
FJ2403747-001	Anonymous	Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00017	0.00017	0.000003	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0902	0.0891	1.24%	20%	----
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000324	0.0000308	0.0000016	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	37.4	38.6	3.34%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.000050	mg/L	<0.000050	<0.000050	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	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.057	0.058	0.0006	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	0.0036	0.0033	0.0002	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	8.93	8.70	2.55%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00314	0.00329	4.76%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000982	0.00101	3.32%	20%	----
		Nickel, total	7440-02-0	E420	0.000050	mg/L	0.00053	0.00055	0.00001	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	0.284	0.281	0.003	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	<0.00020	0.00020	0.000002	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000448	0.000487	0.000039	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	1.45	1.44	0.360%	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	1.15	1.10	4.14%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.0968	0.0975	0.690%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	2.44	2.27	0.17	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	0.00054	0.00043	0.00012	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	0.000259	0.000248	4.14%	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: 1812496) - continued											
FJ2403747-001	Anonymous	Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00051	0.00050	0.00001	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: 1816738)											
VA24D3632-002	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1812549)											
KS2405238-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0030	0.0022	0.0008	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00047	0.00043	0.00004	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.102	0.0982	3.54%	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	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000350	mg/L	<0.0000350	<0.0000350	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	73.4	77.9	6.03%	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	0.00014	0.00014	0.000006	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	1.36	1.31	3.33%	20%	----
		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	0.0015	0.0016	0.00007	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	13.8	13.4	2.26%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.856	0.826	3.59%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.197	0.203	3.16%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00074	0.00070	0.00004	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	0.060	0.060	0.00008	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	4.68	4.55	2.69%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00181	0.00188	0.00007	Diff <2x LOR	----
Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----		
Silicon, dissolved	7440-21-3	E421	0.050	mg/L	9.09	9.20	1.27%	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	24.7	23.8	3.44%	20%	----		
Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.476	0.488	2.53%	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: 1812549) - continued											
KS2405238-001	Anonymous	Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	37.2	37.1	0.366%	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	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	0.00010	0.0000004	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000104	0.000105	0.462%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00055	0.00052	0.00003	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----		
Dissolved Metals (QC Lot: 1818536)											
VA24D3469-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 1813392)											
VA24D3383-001	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: 1811847)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1817135)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1817137)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1811848)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1811849)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1811850)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1811851)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1811852)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1811853)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1817086)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1817088)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Anions and Nutrients (QCLot: 1817089)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 1817084)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1813177)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1812496)						
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: 1812496) - 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 (QCLot: 1816738)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1812549)						
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**

<i>Analyte</i>	<i>CAS Number</i>	<i>Method</i>	<i>LOR</i>	<i>Unit</i>	<i>Result</i>	<i>Qualifier</i>
Dissolved Metals (QCLot: 1812549) - 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: 1818536)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1813392)						
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: 1811847)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1817135)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	93.7	85.0	115	----
Physical Tests (QCLot: 1817137)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	107	85.0	115	----
Anions and Nutrients (QCLot: 1811848)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	98.9	90.0	110	----
Anions and Nutrients (QCLot: 1811849)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 1811850)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.7	90.0	110	----
Anions and Nutrients (QCLot: 1811851)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	98.1	90.0	110	----
Anions and Nutrients (QCLot: 1811852)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.7	90.0	110	----
Anions and Nutrients (QCLot: 1811853)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	108	85.0	115	----
Anions and Nutrients (QCLot: 1817086)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.6	85.0	115	----
Anions and Nutrients (QCLot: 1817088)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1817089)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	93.9	80.0	120	----
Organic / Inorganic Carbon (QCLot: 1817084)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	99.6	80.0	120	----
Total Sulfides (QCLot: 1813177)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	96.3	80.0	120	----
Total Metals (QCLot: 1812496)									



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 (QCLot: 1812496) - continued									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	105	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	107	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	110	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	108	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	102	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	114	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	106	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	104	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	106	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	101	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	105	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	107	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	112	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	112	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	101	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	97.6	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	104	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	113	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	101	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	107	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	96.8	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	113	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	99.7	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	108	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	108	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	105	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 (QCLot: 1812496) - 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	102	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Total Metals (QCLot: 1816738)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	94.6	80.0	120	----
Dissolved Metals (QCLot: 1812549)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	96.9	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	101	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	98.7	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	100	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	105	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	103	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	97.4	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	97.3	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	94.6	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	99.9	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	95.4	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	96.4	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	94.4	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	104	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	106	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	95.7	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	98.1	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	103	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	97.0	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	107	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	91.3	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	92.9	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	94.8	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	111	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	94.1	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	95.8	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	98.0	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	85.5	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 (QCLot: 1812549) - continued									
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	109	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	103	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	98.6	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	100	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	102	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	106	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	106	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	98.3	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	98.6	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	98.3	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	83.1	80.0	120	----
Speciated Metals (QCLot: 1813392)									
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.25 mg/L	99.6	80.0	120	----



Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1811848)										
VA24D3629-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	99.7 mg/L	100 mg/L	99.7	75.0	125	----
Anions and Nutrients (QCLot: 1811849)										
VA24D3629-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.51 mg/L	2.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1811850)										
VA24D3629-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.500 mg/L	0.5 mg/L	100.0	75.0	125	----
Anions and Nutrients (QCLot: 1811851)										
VA24D3629-002	Anonymous	Fluoride	16984-48-8	E235.F	1.01 mg/L	1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1811852)										
VA24D3629-002	Anonymous	Chloride	16887-00-6	E235.Cl	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1811853)										
VA24D3629-002	Anonymous	Bromide	24959-67-9	E235.Br-L	0.540 mg/L	0.5 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 1817086)										
VA24D3613-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.108 mg/L	0.1 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 1817088)										
VA24D3613-001	Anonymous	Nitrogen, total	7727-37-9	E366	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1817089)										
VA24D3653-001	SQU US 1	Phosphorus, total	7723-14-0	E372-U	0.0476 mg/L	0.05 mg/L	95.2	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1817084)										
VA24D3653-001	SQU US 1	Carbon, dissolved organic [DOC]	----	E358-L	5.51 mg/L	5 mg/L	110	70.0	130	----
Total Sulfides (QCLot: 1813177)										
FJ2403790-004	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.215 mg/L	0.2 mg/L	107	75.0	125	----
Total Metals (QCLot: 1812496)										
FJ2403747-002	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0205 mg/L	0.02 mg/L	102	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0406 mg/L	0.04 mg/L	101	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00933 mg/L	0.01 mg/L	93.3	70.0	130	----
		Boron, total	7440-42-8	E420	0.108 mg/L	0.1 mg/L	108	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00391 mg/L	0.004 mg/L	97.6	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00973 mg/L	0.01 mg/L	97.3	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0389 mg/L	0.04 mg/L	97.3	70.0	130	----



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1812496) - continued										
FJ2403747-002	Anonymous	Cobalt, total	7440-48-4	E420	0.0186 mg/L	0.02 mg/L	93.1	70.0	130	----
		Copper, total	7440-50-8	E420	0.0180 mg/L	0.02 mg/L	90.3	70.0	130	----
		Iron, total	7439-89-6	E420	1.78 mg/L	2 mg/L	88.9	70.0	130	----
		Lead, total	7439-92-1	E420	0.0188 mg/L	0.02 mg/L	94.2	70.0	130	----
		Lithium, total	7439-93-2	E420	0.100 mg/L	0.1 mg/L	100	70.0	130	----
		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	0.0209 mg/L	0.02 mg/L	105	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0361 mg/L	0.04 mg/L	90.2	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.33 mg/L	10 mg/L	93.3	70.0	130	----
		Potassium, total	7440-09-7	E420	3.57 mg/L	4 mg/L	89.4	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0186 mg/L	0.02 mg/L	92.8	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0391 mg/L	0.04 mg/L	97.7	70.0	130	----
		Silicon, total	7440-21-3	E420	9.44 mg/L	10 mg/L	94.4	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	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	18.8 mg/L	20 mg/L	93.9	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0423 mg/L	0.04 mg/L	106	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00386 mg/L	0.004 mg/L	96.4	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0163 mg/L	0.02 mg/L	81.4	70.0	130	----
		Tin, total	7440-31-5	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0366 mg/L	0.04 mg/L	91.6	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0199 mg/L	0.02 mg/L	99.4	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00395 mg/L	0.004 mg/L	98.7	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0946 mg/L	0.1 mg/L	94.6	70.0	130	----
		Zinc, total	7440-66-6	E420	0.369 mg/L	0.4 mg/L	92.2	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0396 mg/L	0.04 mg/L	99.0	70.0	130	----
Total Metals (QCLot: 1816738)										
VA24D3632-003	Anonymous	Mercury, total	7439-97-6	E508	0.0000950 mg/L	0 mg/L	95.0	70.0	130	----
Dissolved Metals (QCLot: 1812549)										
KS2405238-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.172 mg/L	0.2 mg/L	86.0	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0183 mg/L	0.02 mg/L	91.4	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0351 mg/L	0.04 mg/L	87.7	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00863 mg/L	0.01 mg/L	86.3	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.092 mg/L	0.1 mg/L	91.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00357 mg/L	0.004 mg/L	89.2	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00882 mg/L	0.01 mg/L	88.2	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0364 mg/L	0.04 mg/L	90.9	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0169 mg/L	0.02 mg/L	84.6	70.0	130	----



Sub-Matrix: **Water**


					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1812549) - continued										
KS2405238-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0165 mg/L	0.02 mg/L	82.6	70.0	130	----
		Iron, dissolved	7439-89-6	E421	ND mg/L	----	ND	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0178 mg/L	0.02 mg/L	89.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0901 mg/L	0.1 mg/L	90.1	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	ND mg/L	----	ND	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0335 mg/L	0.04 mg/L	83.7	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.62 mg/L	10 mg/L	96.2	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.27 mg/L	4 mg/L	81.9	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0170 mg/L	0.02 mg/L	85.0	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0368 mg/L	0.04 mg/L	92.0	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	8.98 mg/L	10 mg/L	89.8	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00360 mg/L	0.004 mg/L	90.0	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	0.0372 mg/L	0.04 mg/L	93.1	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00359 mg/L	0.004 mg/L	89.7	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0141 mg/L	0.02 mg/L	70.7	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0184 mg/L	0.02 mg/L	92.0	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0358 mg/L	0.04 mg/L	89.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00365 mg/L	0.004 mg/L	91.2	70.0	130	----
Vanadium, dissolved	7440-62-2	E421	0.0890 mg/L	0.1 mg/L	89.0	70.0	130	----		
Zinc, dissolved	7440-66-6	E421	0.348 mg/L	0.4 mg/L	87.1	70.0	130	----		
Zirconium, dissolved	7440-67-7	E421	0.0383 mg/L	0.04 mg/L	95.8	70.0	130	----		
Dissolved Metals (QCLot: 1818536)										
VA24D3469-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000734 mg/L	0 mg/L	73.4	70.0	130	----
Speciated Metals (QCLot: 1813392)										
VA24D3383-002	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.252 mg/L	0.25 mg/L	101	70.0	130	----

Affix ALS barcode label here

(lab use only)

COC Number: 17 -

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)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply						EMERGENCY 1 Business day [E1 - 100%] <input type="checkbox"/>													
Contact: [REDACTED]			Quality Control (QC) Report with Report <input type="checkbox"/> <input type="checkbox"/> NO			PRIORITY (Business Days) 4 day [P4-20%] <input type="checkbox"/>			3 day [P3-25%] <input type="checkbox"/>			2 day [P2-50%] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E2 - 200% (Laboratory opening fees may apply)] <input type="checkbox"/>										
Phone: [REDACTED]			Compare Results to Criteria on Report - provide details below if box checked <input type="checkbox"/>			Data and Time Required for all E&P TATs: dd-mmm-yy hh:mm																			
Street: [REDACTED]			Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			For tests that can not be performed according to the service level selected, you will be contacted.																			
City/Province: [REDACTED]			Email 1 or Fax			Analysis Request																			
Postal Code: [REDACTED]			Email 2			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																			
Invoice To Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			Select Invoice																						
Copy of Invoice with Report <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			Email 1 or Fax																						
Company:			Email 2																						
Contact:																									
Project Information			ALS Account # / Quote #: VA23-TRIT100-012																						
Job #: 11964			Major/Minor Code:																						
PO / AFE: 11964 - Task 20 - Phase 3C-4C			Requisitioner:																						
LSD:			Location:																						
ALS Lab Work Order # (lab use only):			ALS Contact:																						
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)				Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Total metals + mercury	Dissolved metals + mercury	Total hexavalent chromium	Total inivalent chromium	TSS	TDS	Nutrients (ammonia, ammonium, total nitrogen, total phosphorus)	Total sulfide (low) (as H2S)	Unionized Sulfide (low)	Anions scan (Br, Cl, F, NO2, NO3, SO4)	General parameters (alkalinity)	DOC	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS			
SQU US 1	pH: 7.10 cond: 73 temp: 3.7				16-12-2024	11:03	Water	R	R	R	R	R	R	R	R	R	R	R	R		N	9			
SQU DS 1	pH: 7.04 cond: 75 temp: 4.1				16-12-2024	10:41	.Water	R	R	R	R	R	R	R	R	R	R	R	R		N	9			
Drinking Water (DW) Samples ¹ (client use)			Special Instructions /			 Environmental Division Vancouver Work Order Reference VA24D3653 Telephone : -1 804 253 4188	drop-down list below	- SAMPLE CONDITION AS RECEIVED (lab use only)																	
Are samples taken from a Regulated DW System? <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES			Triton Project # 11964					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"/>					
Are samples for human consumption/use? <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES								INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C														
Release:			INITIAL SHIPMENT RECEPTION (lab use only)																						
			Time:	Received by:	Date:	Time:	Received by:	Date:																	
			13:45	[Signature]			[Signature]	Dec 16 2024															1:30 PM		
REFER			WHITE - LABORATORY COPY			YELLOW - CLIENT COPY																			



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

Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
Report #	39
Appendix B	B-4

BCR Site Receiving Environment Field Notes and Logs



FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-12-16-Shafiei-A647B

Project Component:	Tunnel	Site Name:	Receiving Environment - Downstream of Discharge
Inspection Date:	12/16/2024	Location:	BC Rail Site
Triton QP:	Farshad Shafiei	Latitude/Longitude:	49.72534 -123.165196
Temperature(c): Low -1 High 2		Permit:	AE 111824
Weather Conditions:	Light Snowfall	Ground Conditions:	Damp

Observations

Time: 10:41:00 **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	
TSS	Yes	Anions	Yes	
TDS	Yes	Total Trivalent Chromium	Yes	QA Samples: No
Nutrients	Yes	VOC/VPH	Yes	
DOC	Yes	EPH, PAH, LEPH/HEPH	Yes	
		Trout LC50	N/A	

Logger Maintenance

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

Photos



Photo: 1
Location: SQU DS1
Description: Across View



Photo: 2
Location: SQU DS1
Description: Upstream

Photos



Dec 16, 2024 10:55:12
10U 488099 5508106
170° S
SQU DS1

Photo: 3
Location: SQU DS1
Description: Downstream

Chain of Custody (COC) / Analytical Request Form
ALS Environmental
Canada Toll Free: 1-800-668-9879
Affix ALS barcode label here
DCC Number: 17
Page: 1 of 1

Request To: [Handwritten: Environmental] **Request From / Distribution:** [Handwritten: Environmental] **Submit Service / Test Method:** [Handwritten: Copper / ICP-MS] **Reference #:** [Handwritten: 10U 488099 5508106] **Business day #1 - 100%** [Handwritten:] **Business day #2 - 100%** [Handwritten:]

Project Information: [Handwritten: 10U 488099 5508106] **ALS Contact:** [Handwritten:] **Sample:** [Handwritten:] **Sample Type:** [Handwritten:]

ALS Sample #	Sample Description / Client Code	Date	Time	Sample Type
10U 488099 5508106	[Handwritten:]	12-16-2024	11:03	[Handwritten:]
10U 488099 5508106	[Handwritten:]	12-16-2024	10:41	[Handwritten:]

Dec 16, 2024 13:36:48
10U 505201 5455854
103° E
SQU US1

Photo: 4
Location: COC
Description: Lab COC



Sign Off

Report Prepared By: Karishma Shah

Report Reviewed: Yes

Report Reviewer:

Professional(s) of Record:

Name:

Designation:

Designation Number:



FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-12-16-Shafiei-19280

Project Component:	Tunnel	Site Name:	Receiving Environment - Upstream of Discharge
Inspection Date:	12/16/2024	Location:	BC Rail Site
Triton QP:	Farshad Shafiei	Latitude/Longitude:	49.726866 -123.163912
Temperature(c): Low -1 High 2		Permit:	AE 111824
Weather Conditions:	Light Snowfall	Ground Conditions:	Wet

Observations

Time: 11:03:00 **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	
TSS	Yes	Anions	Yes	
TDS	Yes	Total Trivalent Chromium	Yes	QA Samples: No
Nutrients	Yes	VOC/VPH	Yes	
DOC	Yes	EPH, PAH, LEPH/HEPH	Yes	
		Trout LC50	N/A	

Logger Maintenance

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

Photos



Photo: 1
Location: SQU US1
Description: Sonde



Photo: 2
Location: SQU US1
Description: Upstream view

Photos



Dec 16, 2024 11:15:30
10U 488197 5508283
210° SW
SQU US1

Photo: 3
Location: SQU US1
Description: Downstream view

ALS Sample #	Sample Description	ALS Container	Can Date	Date	Time	Sampler	Sample Type
10U 488197	Water	1000		12-16-2024	11:03	White	Water
10U 505201	Water	1000		12-16-2024	10:41	White	Water

Dec 16, 2024 13:36:48
10U 505201 5455854
103° E
SQU US1

Photo: 4
Location: COC
Description:

Sign Off

Report Prepared By: Karishma Shah

Report Reviewed: Yes

Report Reviewer:

Professional(s) of Record:

Name:

Designation:


Designation Number:

BCR Plant Site	SQU Downstream (DS)						SQU Upstream (US)						Guideline = SQU US + 5 or 8 NTU		
	Date	Temperature (c)	Specific Conductivity (µS/cm)	Salinity PSU	pH	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Date	Temperature (c)	Specific Conductivity (µS/cm)	Salinity PSU	pH		Dissolved Oxygen (mg/L)	Turbidity (NTU)
	12/16/2024 0:00	4.1	38.8	0.0	7.0	11.7	0.0	12/16/2024 0:00	5.3	64.5	0.0	6.2	11.7	0.0	8.0
	12/16/2024 0:15	4.1	38.6	0.0	7.0	11.7	0.0	12/16/2024 0:15	5.3	64.3	0.0	6.3	11.8	0.0	8.0
	12/16/2024 0:30	4.1	38.9	0.0	7.0	11.7	0.0	12/16/2024 0:30	5.3	64.6	0.0	6.2	11.6	0.0	8.0
	12/16/2024 0:45	4.0	38.9	0.0	7.0	11.7	0.0	12/16/2024 0:45	5.2	64.4	0.0	6.2	11.8	101.9	106.9
	12/16/2024 1:00	4.1	39.3	0.0	7.0	11.7	0.0	12/16/2024 1:00	5.3	64.9	0.0	6.2	11.6	3.5	11.5
	12/16/2024 1:15	4.0	38.9	0.0	7.0	11.7	0.0	12/16/2024 1:15	5.2	63.4	0.0	6.2	11.6	0.0	8.0
	12/16/2024 1:30	4.0	38.7	0.0	7.0	11.7	0.0	12/16/2024 1:30	5.2	63.5	0.0	6.2	11.7	1.1	9.1
	12/16/2024 1:45	4.0	38.2	0.0	7.0	11.7	0.0	12/16/2024 1:45	5.1	5.8	0.0	6.2	11.8	120.7	125.7
	12/16/2024 2:00	4.0	38.9	0.0	7.0	11.7	0.0	12/16/2024 2:00	5.1	6.3	0.0	6.3	11.9	3.8	11.8
	12/16/2024 2:15	4.0	38.4	0.0	7.0	11.7	0.0	12/16/2024 2:15	5.1	2.5	0.0	6.2	11.9	428.8	433.8
	12/16/2024 2:30	3.9	37.6	0.0	7.0	11.8	0.0	12/16/2024 2:30	4.9	5.8	0.0	6.2	12.1	0.0	8.0
	12/16/2024 2:45	3.9	37.8	0.0	7.0	11.7	0.0	12/16/2024 2:45	4.8	27.4	0.0	6.2	12.3	0.0	8.0
	12/16/2024 3:00	3.9	38.1	0.0	7.0	11.7	0.0	12/16/2024 3:00	4.8	3.4	0.0	6.2	12.4	0.0	8.0
	12/16/2024 3:15	3.9	37.4	0.0	7.0	11.7	0.0	12/16/2024 3:15	4.6	3.0	0.0	6.3	12.6	0.0	8.0
	12/16/2024 3:30	3.9	38.3	0.0	7.0	11.7	0.0	12/16/2024 3:30	4.6	3.2	0.0	6.3	12.7	0.0	8.0
	12/16/2024 3:45	3.9	38.1	0.0	7.0	11.7	0.0	12/16/2024 3:45	4.5	3.2	0.0	6.4	12.8	4.8	12.8
	12/16/2024 4:00	3.9	38.4	0.0	7.0	11.7	0.0	12/16/2024 4:00	4.5	4.9	0.0	6.5	12.9	0.0	8.0
	12/16/2024 4:15	3.9	39.6	0.0	7.0	11.7	0.0	12/16/2024 4:15	4.5	4.7	0.0	6.3	12.9	0.0	8.0
	12/16/2024 4:30	3.8	38.7	0.0	7.0	11.7	0.0	12/16/2024 4:30	4.5	4.9	0.0	6.4	12.9	0.0	8.0
	12/16/2024 4:45	3.8	38.4	0.0	7.0	11.7	0.0	12/16/2024 4:45	4.5	5.0	0.0	6.3	12.8	0.0	8.0
	12/16/2024 5:00	3.8	38.5	0.0	7.1	11.8	0.0	12/16/2024 5:00	4.9	62.2	0.0	6.3	11.8	0.0	8.0
	12/16/2024 5:15	3.8	37.6	0.0	7.0	11.8	0.0	12/16/2024 5:15	5.0	60.7	0.0	6.3	11.8	0.0	8.0
	12/16/2024 5:30	3.8	37.2	0.0	7.0	11.8	0.0	12/16/2024 5:30	4.8	57.8	0.0	6.6	12.3	0.0	8.0
	12/16/2024 5:45	3.8	37.4	0.0	6.9	11.8	0.0	12/16/2024 5:45	4.8	58.0	0.0	6.7	12.3	0.0	8.0
	12/16/2024 6:00	3.7	37.1	0.0	7.1	11.9	0.0	12/16/2024 6:00	4.6	57.1	0.0	6.8	12.4	0.0	8.0
	12/16/2024 6:15	3.7	36.8	0.0	7.1	11.9	0.0	12/16/2024 6:15	4.7	56.5	0.0	6.8	12.3	0.0	8.0
	12/16/2024 6:30	3.7	36.6	0.0	7.1	11.9	0.0	12/16/2024 6:30	4.7	56.1	0.0	6.8	12.4	0.0	8.0
	12/16/2024 6:45	3.7	36.5	0.0	7.1	11.9	0.0	12/16/2024 6:45	4.7	56.0	0.0	6.8	12.4	0.0	8.0
	12/16/2024 7:00	3.7	36.5	0.0	7.1	11.9	0.0	12/16/2024 7:00	4.7	56.3	0.0	6.8	12.4	0.0	8.0
	12/16/2024 7:15	3.7	36.6	0.0	7.1	11.9	0.0	12/16/2024 7:15	4.7	56.1	0.0	6.8	12.4	0.0	8.0
	12/16/2024 7:30	3.7	36.6	0.0	7.1	11.9	0.0	12/16/2024 7:30	4.7	56.4	0.0	6.8	12.4	0.0	8.0
	12/16/2024 7:45	3.7	36.7	0.0	7.1	11.9	0.0	12/16/2024 7:45	4.7	56.6	0.0	6.8	12.4	0.0	8.0
	12/16/2024 8:00	3.7	36.8	0.0	7.2	11.9	0.0	12/16/2024 8:00	4.7	56.4	0.0	6.8	12.4	0.0	8.0
	12/16/2024 8:15	3.7	36.9	0.0	7.2	11.9	0.0	12/16/2024 8:15	4.7	56.1	0.0	6.8	12.4	0.0	8.0
	12/16/2024 8:30	3.6	36.5	0.0	7.2	11.9	0.0	12/16/2024 8:30	4.7	56.3	0.0	6.9	12.5	0.0	8.0
	12/16/2024 8:45	3.6	36.5	0.0	7.2	12.0	0.0	12/16/2024 8:45	4.7	56.0	0.0	6.9	12.5	0.0	8.0
	12/16/2024 9:00	3.6	36.4	0.0	7.2	12.0	0.0	12/16/2024 9:00	4.7	56.5	0.0	6.9	12.5	0.0	8.0
	12/16/2024 9:15	3.6	36.6	0.0	7.2	12.0	0.0	12/16/2024 9:15	4.6	57.2	0.0	6.9	12.5	0.0	8.0
	12/16/2024 9:30	3.6	37.2	0.0	7.2	12.0	0.0	12/16/2024 9:30	4.7	58.5	0.0	6.9	12.5	0.0	8.0
	12/16/2024 9:45	3.6	37.8	0.0	7.2	12.0	0.0	12/16/2024 9:45	4.7	59.5	0.0	6.9	12.5	0.0	8.0
	12/16/2024 10:00	3.6	38.1	0.0	7.2	12.0	0.0	12/16/2024 10:00	4.7	60.3	0.0	6.9	12.4	0.0	8.0
	12/16/2024 10:15	3.6	38.9	0.0	7.2	12.0	0.0	12/16/2024 10:15	4.7	65.1	0.0	6.8	12.4	0.0	8.0
	12/16/2024 10:30	3.7	42.7	0.0	7.2	11.9	0.0	12/16/2024 10:30	4.8	71.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 10:45	3.7	44.4	0.0	7.2	11.9	0.0	12/16/2024 10:45	4.8	78.1	0.0	6.7	12.1	0.0	8.0
	12/16/2024 11:00	3.7	46.2	0.0	7.1	11.8	0.0	12/16/2024 11:00	4.9	78.4	0.0	6.7	12.0	0.0	8.0
	12/16/2024 11:15	3.7	46.5	0.0	7.2	11.8	0.0	12/16/2024 11:15	4.8	75.7	0.0	6.7	12.1	0.0	8.0
	12/16/2024 11:30	3.7	45.9	0.0	7.1	11.8	0.0	12/16/2024 11:30	4.8	76.1	0.0	6.7	12.2	0.0	8.0
	12/16/2024 11:45	3.7	45.1	0.0	7.1	11.8	0.0	12/16/2024 11:45	4.8	72.4	0.0	6.7	12.2	0.0	8.0
	12/16/2024 12:00	3.7	45.2	0.0	7.1	11.9	0.0	12/16/2024 12:00	4.8	70.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 12:15	3.7	43.4	0.0	7.1	11.9	0.0	12/16/2024 12:15	4.8	58.4	0.0	6.7	12.3	0.0	8.0
	12/16/2024 12:30	3.7	43.2	0.0	7.1	11.9	0.0	12/16/2024 12:30	4.8	67.2	0.0	6.8	12.3	0.0	8.0
	12/16/2024 12:45	3.7	42.9	0.0	7.1	11.9	0.0	12/16/2024 12:45	4.8	65.1	0.0	6.8	12.3	0.0	8.0
	12/16/2024 13:00	3.7	42.2	0.0	7.1	11.9	0.0	12/16/2024 13:00	4.8	65.6	0.0	6.8	12.3	0.0	8.0
	12/16/2024 13:15	3.7	41.6	0.0	7.2	11.9	0.0	12/16/2024 13:15	4.8	65.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 13:30	3.7	41.5	0.0	7.2	11.9	0.0	12/16/2024 13:30	4.8	65.3	0.0	6.8	12.3	0.0	8.0
	12/16/2024 13:45	3.7	41.7	0.0	7.2	11.9	0.0	12/16/2024 13:45	4.8	65.4	0.0	6.7	12.3	0.0	8.0
	12/16/2024 14:00	3.7	41.3	0.0	7.2	11.9	0.0	12/16/2024 14:00	4.8	64.5	0.0	6.8	12.3	0.0	8.0
	12/16/2024 14:15	3.7	40.9	0.0	7.2	11.9	0.0	12/16/2024 14:15	4.8	63.2	0.0	6.7	12.4	0.0	8.0
	12/16/2024 14:30	3.7	40.5	0.0	7.2	12.0	0.0	12/16/2024 14:30	4.8	62.9	0.0	6.7	12.4	0.0	8.0
	12/16/2024 14:45	3.7	40.6	0.0	7.2	12.0	0.0	12/16/2024 14:45	4.8	63.8	0.0	6.7	12.4	0.0	8.0
	12/16/2024 15:00	3.7	40.8	0.0	7.2	12.0	0.0	12/16/2024 15:00	4.8	63.5	0.0	6.8	12.4	0.0	8.0
	12/16/2024 15:15	3.7	40.4	0.0	7.2	12.0	0.0	12/16/2024 15:15	4.7	61.9	0.0	6.8	12.4	0.0	8.0
	12/16/2024 15:30	3.7	39.8	0.0	7.2	12.0	0.0	12/16/2024 15:30	4.7	61.5	0.0	6.8	12.4	0.0	8.0
	12/16/2024 15:45	3.7	40.2	0.0	7.2	12.0	0.0	12/16/2024 15:45	4.7	64.3	0.0	6.8	12.4	0.0	8.0
	12/16/2024 16:00	3.7	40.7	0.0	7.1	12.0	0.0	12/16/2024 16:00	4.7	64.3	0.0	6.8	12.4	0.0	8.0
	12/16/2024 16:15	3.7	41.0	0.0	7.2	12.0	0.0	12/16/2024 16:15	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 16:30	3.6	40.6	0.0	7.2	12.0	0.0	12/16/2024 16:30	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 16:45	3.6	40.8	0.0	7.2	12.0	0.0	12/16/2024 16:45	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 17:00	3.6	40.8	0.0	7.2	12.0	0.0	12/16/2024 17:00	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 17:15	3.6	40.9	0.0	7.2	12.0	0.0	12/16/2024 17:15	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 17:30	3.6	40.5	0.0	7.1	12.0	0.0	12/16/2024 17:30	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 17:45	3.6	40.6	0.0	7.1	12.0	0.0	12/16/2024 17:45	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 18:00	3.6	40.4	0.0	7.2	12.0	0.0	12/16/2024 18:00	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 18:15	3.6	41.1	0.0	7.2	12.0	0.0	12/16/2024 18:15	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 18:30	3.6	43.3	0.0	7.2	11.9	0.0	12/16/2024 18:30	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 18:45	3.6	43.7	0.0	7.2	11.9	0.0	12/16/2024 18:45	4.7	62.0	0.0	6.8	12.3	0.0	8.0
	12/16/2024 19:00	3.6	44.9	0.0	7.2	11.9	0.0	12/16/2024 19:00	4.7	62.0	0				

12/18/2024 23:30	4.1	29.6	0.0	7.0	12.1	3.5	12/18/2024 23:30	5.1	48.5	0.0	6.6	12.6	0.0	8.0
12/18/2024 23:45	4.1	29.7	0.0	7.1	12.1	3.5	12/18/2024 23:45	5.1	49.1	0.0	6.6	12.5	0.0	8.0
12/18/2024 00:00	4.0	29.9	0.0	7.0	12.1	2.3	12/18/2024 00:00	5.1	46.8	0.0	6.6	12.5	0.0	11.8
12/18/2024 00:15	4.0	29.9	0.0	7.0	12.1	3.3	12/18/2024 00:15	5.1	49.0	0.0	6.6	12.5	0.0	8.0
12/18/2024 00:30	4.0	29.9	0.0	6.9	12.1	1.5	12/18/2024 00:30	5.1	48.9	0.0	6.6	12.5	0.0	8.0
12/18/2024 00:45	4.0	30.0	0.0	7.0	12.1	2.8	12/18/2024 00:45	5.1	48.8	0.0	6.6	12.5	0.0	8.0
12/18/2024 1:00	4.0	30.0	0.0	7.0	12.1	2.0	12/18/2024 1:00	5.1	49.1	0.0	6.6	12.5	0.0	8.0
12/18/2024 1:15	4.0	30.1	0.0	7.1	12.1	2.1	12/18/2024 1:15	5.0	49.0	0.0	6.6	12.5	0.0	8.0
12/18/2024 1:30	4.0	29.9	0.0	7.0	12.1	1.8	12/18/2024 1:30	5.0	49.2	0.0	6.6	12.5	0.0	8.0
12/18/2024 1:45	4.0	30.1	0.0	6.9	12.1	2.0	12/18/2024 1:45	5.0	48.7	0.0	6.6	12.5	0.0	8.0
12/18/2024 2:00	3.9	30.1	0.0	7.0	12.1	2.6	12/18/2024 2:00	5.0	49.0	0.0	6.7	12.5	0.0	8.0
12/18/2024 2:15	3.9	29.9	0.0	6.9	12.1	2.5	12/18/2024 2:15	5.0	48.6	0.0	6.6	12.5	0.0	8.0
12/18/2024 2:30	3.9	29.8	0.0	6.9	12.1	2.5	12/18/2024 2:30	5.0	48.5	0.0	6.6	12.5	0.0	8.0
12/18/2024 2:45	3.9	30.0	0.0	7.1	12.1	1.7	12/18/2024 2:45	5.0	48.6	0.0	6.6	12.5	0.0	8.0
12/18/2024 3:00	3.9	30.0	0.0	7.1	12.1	1.5	12/18/2024 3:00	5.0	48.5	0.0	6.7	12.5	0.0	8.0
12/18/2024 3:15	3.9	30.0	0.0	7.0	12.1	1.3	12/18/2024 3:15	5.0	48.1	0.0	6.7	12.5	0.0	8.0
12/18/2024 3:30	3.9	30.0	0.0	7.0	12.1	2.5	12/18/2024 3:30	5.0	48.2	0.0	6.6	12.5	0.0	8.0
12/18/2024 3:45	3.9	30.1	0.0	7.0	12.1	2.1	12/18/2024 3:45	5.0	48.2	0.0	6.7	12.5	0.0	8.0
12/18/2024 4:00	3.9	30.2	0.0	7.0	12.1	1.2	12/18/2024 4:00	5.0	48.3	0.0	6.7	12.5	0.0	8.0
12/18/2024 4:15	3.9	29.9	0.0	7.0	12.1	1.8	12/18/2024 4:15	5.0	47.7	0.0	6.7	12.5	0.0	8.0
12/18/2024 4:30	3.9	30.0	0.0	7.0	12.1	1.0	12/18/2024 4:30	5.0	47.9	0.0	6.6	12.5	0.0	8.0
12/18/2024 4:45	3.9	30.2	0.0	7.1	12.1	1.5	12/18/2024 4:45	5.0	48.6	0.0	6.7	12.5	0.0	8.0
12/18/2024 5:00	3.9	30.3	0.0	7.0	12.1	1.2	12/18/2024 5:00	5.0	48.1	0.0	6.7	12.5	4.3	12.3
12/18/2024 5:15	3.9	30.5	0.0	7.1	12.1	0.8	12/18/2024 5:15	5.0	48.6	0.0	6.7	12.5	0.0	8.0
12/18/2024 5:30	3.9	30.4	0.0	6.9	12.1	1.5	12/18/2024 5:30	5.0	48.3	0.0	6.7	12.5	0.0	8.0
12/18/2024 5:45	3.9	30.8	0.0	7.1	12.0	1.5	12/18/2024 5:45	5.0	48.4	0.0	6.6	12.5	0.0	8.0
12/18/2024 6:00	3.9	30.8	0.0	7.0	12.0	1.3	12/18/2024 6:00	5.0	48.8	0.0	6.7	12.5	0.0	8.0
12/18/2024 6:15	3.9	30.8	0.0	7.0	12.0	2.0	12/18/2024 6:15	5.0	48.9	0.0	6.7	12.5	0.0	8.0
12/18/2024 6:30	3.9	30.9	0.0	7.0	12.0	2.6	12/18/2024 6:30	5.0	49.2	0.0	6.7	12.5	0.0	8.0
12/18/2024 6:45	3.9	31.0	0.0	7.0	12.0	1.8	12/18/2024 6:45	5.0	49.1	0.0	6.7	12.5	0.0	8.0
12/18/2024 7:00	3.9	31.2	0.0	7.1	12.0	0.9	12/18/2024 7:00	5.0	49.5	0.0	6.7	12.4	0.4	8.4
12/18/2024 7:15	3.9	30.6	0.0	7.1	12.0	0.5	12/18/2024 7:15	5.0	47.8	0.0	6.7	12.5	0.0	8.0
12/18/2024 7:30	3.9	30.4	0.0	7.0	12.0	0.4	12/18/2024 7:30	5.0	47.5	0.0	6.7	12.5	0.0	8.0
12/18/2024 7:45	3.9	30.1	0.0	7.1	12.0	4.1	12/18/2024 7:45	5.0	47.4	0.0	6.7	12.5	0.0	8.0
12/18/2024 8:00	3.9	30.3	0.0	7.1	12.0	0.0	12/18/2024 8:00	5.0	46.4	0.0	6.7	12.5	27.4	22.4
12/18/2024 8:15	3.9	30.5	0.0	7.2	12.0	0.0	12/18/2024 8:15	5.0	48.0	0.0	6.7	12.5	0.0	8.0
12/18/2024 8:30	3.9	30.4	0.0	7.1	12.0	0.0	12/18/2024 8:30	5.0	47.8	0.0	6.8	12.5	0.0	8.0
12/18/2024 8:45	3.9	30.3	0.0	7.1	12.0	0.2	12/18/2024 8:45	5.0	47.7	0.0	6.8	12.5	0.0	8.0
12/18/2024 9:00	3.9	30.4	0.0	7.1	12.0	0.0	12/18/2024 9:00	5.0	48.5	0.0	6.8	12.5	0.0	8.0
12/18/2024 9:15	3.9	31.2	0.0	7.1	12.0	0.0	12/18/2024 9:15	5.0	48.6	0.0	6.8	12.5	0.0	8.0
12/18/2024 9:30	3.9	30.8	0.0	7.0	12.0	0.0	12/18/2024 9:30	5.0	47.8	0.0	6.8	12.5	0.0	8.0
12/18/2024 9:45	3.9	30.6	0.0	7.2	12.0	0.0	12/18/2024 9:45	5.0	46.9	0.0	6.8	12.5	0.0	8.0
12/18/2024 10:00	3.9	29.9	0.0	7.2	12.1	0.0	12/18/2024 10:00	5.0	47.6	0.0	6.8	12.6	0.0	8.0
12/18/2024 10:15	4.0	30.9	0.0	7.2	12.1	0.0	12/18/2024 10:15	5.0	50.2	0.0	6.5	12.5	0.0	8.0
12/18/2024 10:30	4.0	32.0	0.0	7.1	12.0	0.0	12/18/2024 10:30	5.1	53.8	0.0	6.8	12.5	0.0	8.0
12/18/2024 10:45	4.0	33.3	0.0	7.1	12.0	0.2	12/18/2024 10:45	5.1	51.5	0.0	6.8	12.5	0.0	8.0
12/18/2024 11:00	4.0	32.3	0.0	7.1	12.1	0.0	12/18/2024 11:00	5.1	52.7	0.0	6.8	12.5	0.0	8.0
12/18/2024 11:15	4.0	32.5	0.0	7.1	12.0	0.0	12/18/2024 11:15	5.1	53.5	0.0	6.8	12.5	0.0	8.0
12/18/2024 11:30	4.1	34.9	0.0	7.2	12.0	0.0	12/18/2024 11:30	5.2	55.7	0.0	6.7	12.5	0.0	8.0
12/18/2024 11:45	4.1	34.2	0.0	7.1	12.0	0.0	12/18/2024 11:45	5.1	53.1	0.0	6.8	12.5	0.0	8.0
12/18/2024 12:00	4.1	32.9	0.0	7.1	12.0	0.0	12/18/2024 12:00	5.2	53.6	0.0	6.8	12.5	0.0	8.0
12/18/2024 12:15	4.1	35.8	0.0	7.1	12.0	0.0	12/18/2024 12:15	5.2	55.2	0.0	6.7	12.4	0.0	8.0
12/18/2024 12:30	4.1	35.8	0.0	7.1	12.0	0.0	12/18/2024 12:30	5.3	60.4	0.0	6.6	12.2	0.0	8.0
12/18/2024 12:45	4.2	37.0	0.0	7.1	11.9	0.0	12/18/2024 12:45	5.3	61.4	0.0	6.6	12.2	0.0	8.0
12/18/2024 13:00	4.2	35.0	0.0	7.1	11.9	0.0	12/18/2024 13:00	5.3	57.4	0.0	6.6	12.2	0.1	8.1
12/18/2024 13:15	4.1	34.6	0.0	7.1	11.9	0.0	12/18/2024 13:15	5.3	55.2	0.0	6.7	12.3	0.0	8.0
12/18/2024 13:30	4.1	33.9	0.0	7.1	11.9	0.0	12/18/2024 13:30	5.2	55.1	0.0	6.7	12.3	0.0	8.0
12/18/2024 13:45	4.2	34.9	0.0	7.1	11.9	0.0	12/18/2024 13:45	5.2	56.2	0.0	6.7	12.3	0.0	8.0
12/18/2024 14:00	4.2	34.9	0.0	7.0	11.9	0.0	12/18/2024 14:00	5.3	56.0	0.0	6.7	12.3	17.9	22.9
12/18/2024 14:15	4.1	34.7	0.0	7.1	11.9	0.0	12/18/2024 14:15	5.2	54.4	0.0	6.7	12.3	0.0	8.0
12/18/2024 14:30	4.2	34.6	0.0	7.1	11.9	0.0	12/18/2024 14:30	5.2	54.4	0.0	6.7	12.3	0.0	8.0
12/18/2024 14:45	4.1	34.5	0.0	7.1	11.9	0.0	12/18/2024 14:45	5.3	55.2	0.0	6.7	12.3	0.0	8.0
12/18/2024 15:00	4.2	34.0	0.0	7.1	11.8	0.0	12/18/2024 15:00	5.3	54.7	0.0	6.7	12.3	0.0	8.0
12/18/2024 15:15	4.2	34.7	0.0	7.1	11.8	0.0	12/18/2024 15:15	5.3	54.9	0.0	6.7	12.2	0.0	8.0
12/18/2024 15:30	4.2	35.1	0.0	7.1	11.8	0.0	12/18/2024 15:30	5.3	54.6	0.0	6.7	12.2	0.0	8.0
12/18/2024 15:45	4.2	34.7	0.0	7.1	11.8	0.0	12/18/2024 15:45	5.3	54.6	0.0	6.6	12.2	0.0	8.0
12/18/2024 16:00	4.2	34.9	0.0	7.1	11.8	0.0	12/18/2024 16:00	5.3	54.9	0.0	6.7	12.2	0.0	8.0
12/18/2024 16:15	4.2	35.3	0.0	7.1	11.8	0.0	12/18/2024 16:15	5.3	55.3	0.0	6.7	12.2	0.0	8.0
12/18/2024 16:30	4.2	35.2	0.0	7.1	11.8	0.0	12/18/2024 16:30	5.3	55.5	0.0	6.6	12.2	0.0	8.0
12/18/2024 16:45	4.2	35.3	0.0	7.1	11.8	0.1	12/18/2024 16:45	5.3	54.9	0.0	6.7	12.2	0.0	8.0
12/18/2024 17:00	4.2	34.9	0.0	7.1	11.8	0.0	12/18/2024 17:00	5.3	54.7	0.0	6.7	12.2	0.0	8.0
12/18/2024 17:15	4.2	35.7	0.0	7.1	11.8	0.0	12/18/2024 17:15	5.3	54.9	0.0	6.7	12.2	0.0	8.0
12/18/2024 17:30	4.2	34.9	0.0	7.1	11.8	0.0	12/18/2024 17:30	5.3	54.3	0.0	6.7	12.2	0.0	8.0
12/18/2024 17:45	4.2	34.4	0.0	7.1	11.8	0.0	12/18/2024 17:45	5.3	54.5	0.0	6.7	12.2	0.0	8.0
12/18/2024 18:00	4.2	34.3	0.0	7.1	11.8	0.0	12/18/2024 18:00	5.3	54.6	0.0	6.7	12.2	0.0	8.0
12/18/2024 18:15	4.2	34.4	0.0	7.1	11.8	0.0	12/18/2024 18:15	5.3	54.1	0.0	6.7	12.2	0.0	8.0
12/18/2024 18:30	4.2	34.5	0.0	7.1	11.8	0.0	12/18/2024 18:30	5.3	54.9	0.0	6.7	12.2	0.0	8.0
12/18/2024 18:45	4.3	34.6	0.0	7.1	11.8	0.0	12/18/2024 18:45	5.3	55.3	0.0	6.7	12.2	0.0	8.0
12/18/2024 19:00	4.3	34.9	0.0	7.1	11.8	0.0	12/18/2024 19:00	5.4	55.3	0.0	6.7	12.2	0.0	8.0
12/18/2024 19:15	4.3	34.6	0.0	7.0	11.8	0.0	12/18/2024 19:15	5.4	55.4	0.0	6.7	12.2	0.0	8.0
12/18/2														

12/20/2024 11:45	4.4	23.0	0.0	7.0	12.3	4.9	12/20/2024 11:45	5.4	38.7	0.0	6.7	12.8	0.0	8.0
12/20/2024 12:00	4.4	23.4	0.0	7.1	12.3	5.3	12/20/2024 12:00	5.4	39.5	0.0	6.7	12.7	0.0	8.0
12/20/2024 12:15	4.4	23.4	0.0	7.1	12.2	5.3	12/20/2024 12:15	5.4	38.8	0.0	6.7	12.7	0.0	8.0
12/20/2024 12:30	4.4	23.4	0.0	7.1	12.2	5.3	12/20/2024 12:30	5.4	38.6	0.0	6.7	12.7	0.0	8.0
12/20/2024 12:45	4.4	23.5	0.0	7.0	12.2	3.9	12/20/2024 12:45	5.5	39.2	0.0	6.7	12.7	0.0	8.0
12/20/2024 13:00	4.4	23.7	0.0	7.1	12.2	6.0	12/20/2024 13:00	5.5	39.4	0.0	6.7	12.7	0.0	8.0
12/20/2024 13:15	4.4	23.8	0.0	7.0	12.2	5.2	12/20/2024 13:15	5.5	39.6	0.0	6.7	12.7	0.0	8.0
12/20/2024 13:30	4.4	24.2	0.0	7.1	12.2	4.4	12/20/2024 13:30	5.5	41.4	0.0	6.7	12.5	0.0	8.0
12/20/2024 13:45	4.5	24.6	0.0	7.0	12.1	4.0	12/20/2024 13:45	5.6	42.9	0.0	6.6	12.4	0.0	8.0
12/20/2024 14:00	4.5	24.4	0.0	7.1	12.1	3.5	12/20/2024 14:00	5.6	42.5	0.0	6.6	12.4	0.4	8.4
12/20/2024 14:15	4.5	24.3	0.0	7.0	12.1	6.0	12/20/2024 14:15	5.6	41.8	0.0	6.6	12.4	0.0	8.0
12/20/2024 14:30	4.5	26.0	0.0	7.0	12.0	4.1	12/20/2024 14:30	5.6	42.1	0.0	6.6	12.5	0.0	8.0
12/20/2024 14:45	4.5	25.8	0.0	7.1	12.0	3.2	12/20/2024 14:45	5.6	42.0	0.0	6.6	12.5	0.0	8.0
12/20/2024 15:00	4.5	25.1	0.0	7.1	12.0	3.0	12/20/2024 15:00	5.6	41.6	0.0	6.6	12.5	0.6	8.6
12/20/2024 15:15	4.5	25.1	0.0	7.1	12.0	3.4	12/20/2024 15:15	5.6	42.0	0.0	6.6	12.4	0.0	8.0
12/20/2024 15:30	4.5	25.5	0.0	7.1	12.0	2.8	12/20/2024 15:30	5.6	41.3	0.0	6.6	12.5	0.0	8.0
12/20/2024 15:45	4.5	26.3	0.0	7.0	12.0	3.8	12/20/2024 15:45	5.6	41.5	0.0	6.6	12.5	0.0	8.0
12/20/2024 16:00	4.6	26.6	0.0	7.0	12.0	3.4	12/20/2024 16:00	5.6	42.0	0.0	6.7	12.4	0.0	8.0
12/20/2024 16:15	4.6	26.8	0.0	7.0	12.0	4.5	12/20/2024 16:15	5.6	42.1	0.0	6.6	12.4	0.0	8.0
12/20/2024 16:30	4.6	27.3	0.0	7.0	11.9	4.0	12/20/2024 16:30	5.6	41.9	0.0	6.7	12.4	0.0	8.0
12/20/2024 16:45	4.6	27.2	0.0	7.0	11.9	5.7	12/20/2024 16:45	5.7	42.3	0.0	6.7	12.4	0.0	8.0
12/20/2024 17:00	4.6	27.2	0.0	7.0	11.9	6.3	12/20/2024 17:00	5.7	42.2	0.0	6.7	12.4	0.0	8.0
12/20/2024 17:15	4.6	27.4	0.0	7.0	11.9	3.5	12/20/2024 17:15	5.7	42.1	0.0	6.7	12.4	0.0	8.0
12/20/2024 17:30	4.6	28.0	0.0	7.0	11.9	5.7	12/20/2024 17:30	5.7	42.5	0.0	6.7	12.4	0.0	8.0
12/20/2024 17:45	4.6	27.4	0.0	7.0	11.9	5.4	12/20/2024 17:45	5.7	42.6	0.0	6.7	12.4	0.0	8.0
12/20/2024 18:00	4.6	26.9	0.0	7.0	11.9	5.6	12/20/2024 18:00	5.7	42.6	0.0	6.7	12.4	0.0	8.0
12/20/2024 18:15	4.7	26.8	0.0	7.0	11.9	3.2	12/20/2024 18:15	5.7	43.4	0.0	6.7	12.4	0.0	8.0
12/20/2024 18:30	4.7	26.3	0.0	7.0	11.9	5.6	12/20/2024 18:30	5.7	42.6	0.0	6.7	12.4	0.0	8.0
12/20/2024 18:45	4.7	26.6	0.0	7.0	11.9	4.7	12/20/2024 18:45	5.7	43.1	0.0	6.7	12.4	0.0	8.0
12/20/2024 19:00	4.7	26.7	0.0	7.0	11.9	4.6	12/20/2024 19:00	5.8	43.9	0.0	6.7	12.4	3.9	11.9
12/20/2024 19:15	4.7	26.6	0.0	7.0	11.9	4.6	12/20/2024 19:15	5.8	43.3	0.0	6.7	12.4	0.7	8.0
12/20/2024 19:30	4.7	26.5	0.0	7.0	11.9	3.8	12/20/2024 19:30	5.8	43.5	0.0	6.7	12.4	0.0	8.0
12/20/2024 19:45	4.7	26.9	0.0	6.9	11.9	4.6	12/20/2024 19:45	5.8	43.7	0.0	6.7	12.3	0.0	8.0
12/20/2024 20:00	4.7	26.7	0.0	7.0	11.9	3.4	12/20/2024 20:00	5.8	44.1	0.0	6.7	12.3	0.0	8.0
12/20/2024 20:15	4.7	27.0	0.0	7.0	11.9	4.3	12/20/2024 20:15	5.8	43.7	0.0	6.7	12.3	0.0	8.0
12/20/2024 20:30	4.8	26.8	0.0	7.0	11.9	4.7	12/20/2024 20:30	5.8	43.7	0.0	6.7	12.4	0.0	8.0
12/20/2024 20:45	4.8	26.7	0.0	7.0	11.9	3.7	12/20/2024 20:45	5.8	43.7	0.0	6.7	12.4	0.0	8.0
12/20/2024 21:00	4.8	26.8	0.0	7.0	11.9	5.7	12/20/2024 21:00	5.8	44.1	0.0	6.7	12.3	0.0	8.0
12/20/2024 21:15	4.8	27.0	0.0	7.0	11.9	3.2	12/20/2024 21:15	5.8	44.3	0.0	6.7	12.4	0.0	8.0
12/20/2024 21:30	4.8	26.9	0.0	7.0	11.9	4.5	12/20/2024 21:30	5.8	44.1	0.0	6.7	12.4	0.0	8.0
12/20/2024 21:45	4.8	26.9	0.0	7.0	11.9	4.6	12/20/2024 21:45	5.8	43.6	0.0	6.7	12.4	0.0	8.0
12/20/2024 22:00	4.8	26.9	0.0	7.0	11.9	4.3	12/20/2024 22:00	5.8	44.3	0.0	6.7	12.4	0.0	8.0
12/20/2024 22:15	4.8	27.1	0.0	7.0	11.9	3.3	12/20/2024 22:15	5.8	43.9	0.0	6.7	12.4	0.0	8.0
12/20/2024 22:30	4.8	27.0	0.0	7.0	11.9	3.6	12/20/2024 22:30	5.8	43.7	0.0	6.7	12.4	0.0	8.0
12/20/2024 22:45	4.8	27.1	0.0	6.9	11.9	4.3	12/20/2024 22:45	5.8	44.3	0.0	6.7	12.4	0.0	8.0
12/20/2024 23:00	4.8	26.9	0.0	7.0	11.9	4.3	12/20/2024 23:00	5.8	43.9	0.0	6.7	12.4	0.0	8.0
12/20/2024 23:15	4.8	26.9	0.0	7.0	11.9	4.3	12/20/2024 23:15	5.8	44.1	0.0	6.7	12.4	0.0	8.0
12/20/2024 23:30	4.7	27.0	0.0	7.0	11.9	3.7	12/20/2024 23:30	5.8	43.8	0.0	6.7	12.4	0.0	8.0
12/20/2024 23:45	4.7	26.9	0.0	7.0	11.9	3.7	12/20/2024 23:45	5.8	43.7	0.0	6.7	12.4	0.0	8.0
12/21/2024 00:00	4.7	27.0	0.0	7.0	11.9	3.6	12/21/2024 00:00	5.8	43.9	0.0	6.7	12.4	0.0	8.0
12/21/2024 0:15	4.7	26.7	0.0	6.9	11.9	3.4	12/21/2024 0:15	5.8	43.4	0.0	6.7	12.4	0.0	8.0
12/21/2024 0:30	4.7	26.5	0.0	7.0	11.9	3.3	12/21/2024 0:30	5.8	43.0	0.0	6.7	12.4	0.0	8.0
12/21/2024 0:45	4.7	26.3	0.0	7.0	11.9	3.5	12/21/2024 0:45	5.7	43.3	0.0	6.7	12.4	0.0	8.0
12/21/2024 1:00	4.7	26.7	0.0	7.0	11.9	4.8	12/21/2024 1:00	5.7	43.6	0.0	6.7	12.4	0.0	8.0
12/21/2024 1:15	4.7	26.3	0.0	7.0	11.9	5.2	12/21/2024 1:15	5.7	42.9	0.0	6.7	12.4	0.0	8.0
12/21/2024 1:30	4.6	26.6	0.0	7.0	11.9	4.1	12/21/2024 1:30	5.7	43.0	0.0	6.7	12.4	0.0	8.0
12/21/2024 1:45	4.6	26.0	0.0	7.0	12.0	3.7	12/21/2024 1:45	5.7	42.4	0.0	6.7	12.5	0.0	8.0
12/21/2024 2:00	4.6	26.2	0.0	7.0	12.0	4.6	12/21/2024 2:00	5.6	42.5	0.0	6.7	12.5	0.0	8.0
12/21/2024 2:15	4.6	26.1	0.0	7.0	12.0	10.4	12/21/2024 2:15	5.6	41.9	0.0	6.7	12.5	0.0	8.0
12/21/2024 2:30	4.6	25.9	0.0	7.0	11.9	2.9	12/21/2024 2:30	5.6	42.4	0.0	6.7	12.5	0.0	8.0
12/21/2024 2:45	4.5	26.2	0.0	7.0	12.0	2.7	12/21/2024 2:45	5.6	42.2	0.0	6.7	12.5	0.0	8.0
12/21/2024 3:00	4.5	25.7	0.0	7.0	12.0	5.3	12/21/2024 3:00	5.6	42.0	0.0	6.7	12.5	0.0	8.0
12/21/2024 3:15	4.5	26.0	0.0	7.0	12.0	4.6	12/21/2024 3:15	5.5	42.4	0.0	6.7	12.5	0.0	8.0
12/21/2024 3:30	4.5	25.8	0.0	7.0	12.0	2.4	12/21/2024 3:30	5.5	41.8	0.0	6.7	12.5	0.0	8.0
12/21/2024 3:45	4.5	26.0	0.0	7.0	12.0	5.1	12/21/2024 3:45	5.5	41.9	0.0	6.7	12.5	0.0	8.0
12/21/2024 4:00	4.5	25.6	0.0	7.0	12.0	4.2	12/21/2024 4:00	5.5	41.2	0.0	6.7	12.5	0.0	8.0
12/21/2024 4:15	4.4	25.1	0.0	7.0	12.0	4.1	12/21/2024 4:15	5.5	41.3	0.0	6.7	12.5	0.0	8.0
12/21/2024 4:30	4.4	25.4	0.0	7.0	12.0	5.4	12/21/2024 4:30	5.5	41.5	0.0	6.7	12.5	0.0	8.0
12/21/2024 4:45	4.4	25.4	0.0	7.0	12.0	4.2	12/21/2024 4:45	5.5	41.2	0.0	6.7	12.5	0.0	8.0
12/21/2024 5:00	4.4	25.3	0.0	7.0	12.0	10.1	12/21/2024 5:00	5.4	41.5	0.0	6.7	12.5	0.0	8.0
12/21/2024 5:15	4.4	25.7	0.0	7.0	12.0	5.4	12/21/2024 5:15	5.4	41.9	0.0	6.7	12.5	0.0	8.0
12/21/2024 5:30	4.4	25.1	0.0	7.0	12.0	5.0	12/21/2024 5:30	5.4	41.6	0.0	6.7	12.5	0.0	8.0
12/21/2024 5:45	4.4	25.3	0.0	7.0	12.0	8.0	12/21/2024 5:45	5.4	41.5	0.0	6.7	12.5	0.0	8.0
12/21/2024 6:00	4.4	25.2	0.0	7.0	12.0	7.8	12/21/2024 6:00	5.4	41.2	0.0	6.7	12.5	0.0	8.0
12/21/2024 6:15	4.4	24.9	0.0	7.0	12.0	5.5	12/21/2024 6:15	5.4	41.0	0.0	6.7	12.5	0.0	8.0
12/21/2024 6:30	4.4	24.9	0.0	7.1	12.0	4.6	12/21/2024 6:30	5.4	40.7	0.0	6.7	12.5	0.0	8.0
12/21/2024 6:45	4.4	25.4	0.0	7.0	11.9	6.0	12/21/2024 6:45	5.4	41.2	0.0	6.7	12.4	0.0	8.0
12/21/2024 7:00	4.4	25.3	0.0	7.0	11.9	7.5	12/21/2024 7:00	5.4	41.8	0.0	6.7	12.4	0.0	8.0
12/21/2024 7:15	4.4	25.6	0.0	6.9	11.9	4.5	12/21/2024 7:15	5.4	41.7	0.0	6.7	12.4	0.0	8.0
12/21/2024 7:30	4.4	25.5	0.0	7.0	11.9	3.9	12/21/2024 7:30	5.4	42.0	0.0	6.7	12.4	0.0	8.0

12/22/2024 0:00	4.7	21.4	0.0	7.1	12.3	8.3	12/22/2024 0:00	5.7	36.2	0.0	6.7	12.8	14.6	19.6
12/22/2024 0:15	4.6	21.4	0.0	7.0	12.3	14.4	12/22/2024 0:15	5.7	36.3	0.0	6.7	12.8	3.0	11.0
12/22/2024 0:30	4.6	21.5	0.0	7.0	12.3	8.2	12/22/2024 0:30	5.7	36.2	0.0	6.7	12.8	0.5	9.5
12/22/2024 0:45	4.6	21.6	0.0	7.0	12.3	5.8	12/22/2024 0:45	5.7	36.7	0.0	6.6	12.8	9.1	14.1
12/22/2024 1:00	4.6	21.3	0.0	7.0	12.3	9.3	12/22/2024 1:00	5.7	36.1	0.0	6.6	12.8	10.8	15.8
12/22/2024 1:15	4.6	21.5	0.0	7.0	12.3	8.3	12/22/2024 1:15	5.7	36.3	0.0	6.7	12.8	3.0	11.0
12/22/2024 1:30	4.6	21.4	0.0	7.0	12.3	4.5	12/22/2024 1:30	5.6	36.3	0.0	6.6	12.8	0.6	8.6
12/22/2024 1:45	4.6	21.5	0.0	7.0	12.3	7.8	12/22/2024 1:45	5.6	36.5	0.0	6.6	12.8	1.3	9.3
12/22/2024 2:00	4.6	21.7	0.0	7.0	12.3	10.8	12/22/2024 2:00	5.6	36.5	0.0	6.6	12.8	0.0	8.0
12/22/2024 2:15	4.5	21.7	0.0	7.0	12.3	8.6	12/22/2024 2:15	5.6	36.7	0.0	6.7	12.8	0.7	8.7
12/22/2024 2:30	4.5	21.7	0.0	7.0	12.3	5.3	12/22/2024 2:30	5.6	36.3	0.0	6.6	12.8	0.0	8.0
12/22/2024 2:45	4.5	21.8	0.0	7.0	12.3	6.3	12/22/2024 2:45	5.6	37.0	0.0	6.6	12.7	0.0	8.0
12/22/2024 3:00	4.5	21.8	0.0	7.0	12.3	7.1	12/22/2024 3:00	5.6	37.0	0.0	6.6	12.7	0.0	8.0
12/22/2024 3:15	4.5	21.8	0.0	7.0	12.2	4.3	12/22/2024 3:15	5.5	36.7	0.0	6.6	12.7	0.7	8.7
12/22/2024 3:30	4.5	21.8	0.0	6.9	12.2	4.7	12/22/2024 3:30	5.5	36.8	0.0	6.6	12.7	0.0	8.0
12/22/2024 3:45	4.5	22.0	0.0	7.0	12.2	7.2	12/22/2024 3:45	5.5	36.7	0.0	6.6	12.7	0.0	8.0
12/22/2024 4:00	4.5	22.1	0.0	7.0	12.2	5.6	12/22/2024 4:00	5.5	36.8	0.0	6.6	12.7	0.0	8.0
12/22/2024 4:15	4.5	22.0	0.0	7.0	12.2	7.6	12/22/2024 4:15	5.5	37.7	0.0	6.6	12.7	0.6	8.6
12/22/2024 4:30	4.5	22.2	0.0	6.9	12.2	6.1	12/22/2024 4:30	5.5	37.4	0.0	6.6	12.7	0.0	8.0
12/22/2024 4:45	4.5	22.5	0.0	7.0	12.2	7.8	12/22/2024 4:45	5.5	37.5	0.0	6.6	12.7	0.0	8.0
12/22/2024 5:00	4.5	22.3	0.0	6.9	12.2	7.4	12/22/2024 5:00	5.5	37.2	0.0	6.6	12.7	0.0	8.0
12/22/2024 5:15	4.5	22.6	0.0	7.0	12.1	5.4	12/22/2024 5:15	5.5	37.7	0.0	6.7	12.7	0.0	8.0
12/22/2024 5:30	4.5	22.7	0.0	7.0	12.1	4.8	12/22/2024 5:30	5.5	37.3	0.0	6.6	12.7	0.0	8.0
12/22/2024 5:45	4.5	23.0	0.0	7.0	12.1	6.6	12/22/2024 5:45	5.5	38.0	0.0	6.6	12.7	0.0	8.0
12/22/2024 6:00	4.4	22.7	0.0	7.0	12.1	5.0	12/22/2024 6:00	5.5	38.0	0.0	6.6	12.6	0.0	8.0
12/22/2024 6:15	4.4	22.7	0.0	7.0	12.1	5.1	12/22/2024 6:15	5.5	38.3	0.0	6.7	12.6	0.0	8.0
12/22/2024 6:30	4.4	22.8	0.0	7.0	12.1	7.7	12/22/2024 6:30	5.5	38.1	0.0	6.6	12.6	0.0	8.0
12/22/2024 6:45	4.4	23.0	0.0	7.0	12.1	6.7	12/22/2024 6:45	5.5	38.3	0.0	6.6	12.6	0.0	8.0
12/22/2024 7:00	4.4	22.7	0.0	7.0	12.1	4.4	12/22/2024 7:00	5.5	38.6	0.0	6.7	12.6	0.0	8.0
12/22/2024 7:15	4.4	23.0	0.0	7.0	12.1	5.0	12/22/2024 7:15	5.5	38.5	0.0	6.7	12.6	0.8	8.8
12/22/2024 7:30	4.4	23.6	0.0	6.9	12.0	6.8	12/22/2024 7:30	5.5	38.8	0.0	6.6	12.6	0.0	8.0
12/22/2024 7:45	4.4	23.3	0.0	7.0	12.0	5.1	12/22/2024 7:45	5.5	38.7	0.0	6.7	12.6	0.0	8.0
12/22/2024 8:00	4.4	23.2	0.0	7.0	12.0	3.3	12/22/2024 8:00	5.5	38.6	0.0	6.6	12.6	0.0	8.0
12/22/2024 8:15	4.4	23.4	0.0	7.0	12.0	3.4	12/22/2024 8:15	5.5	38.9	0.0	6.7	12.5	0.0	8.0
12/22/2024 8:30	4.4	23.4	0.0	7.0	12.0	5.2	12/22/2024 8:30	5.5	38.6	0.0	6.6	12.5	0.0	8.0
12/22/2024 8:45	4.4	23.2	0.0	7.0	12.0	3.3	12/22/2024 8:45	5.5	38.6	0.0	6.7	12.6	1.9	9.9
12/22/2024 9:00	4.4	23.0	0.0	7.0	12.0	5.6	12/22/2024 9:00	5.4	38.2	0.0	6.7	12.6	0.0	8.0
12/22/2024 9:15	4.4	23.1	0.0	7.1	12.1	2.4	12/22/2024 9:15	5.4	38.3	0.0	6.7	12.6	0.0	8.0
12/22/2024 9:30	4.4	23.0	0.0	7.1	12.1	4.0	12/22/2024 9:30	5.4	38.2	0.0	6.7	12.6	0.0	8.0
12/22/2024 9:45	4.4	23.0	0.0	7.1	12.1	4.0	12/22/2024 9:45	5.4	38.1	0.0	6.7	12.6	0.0	8.0
12/22/2024 10:00	4.4	23.1	0.0	7.1	12.1	4.7	12/22/2024 10:00	5.4	38.4	0.0	6.7	12.6	0.0	8.0
12/22/2024 10:15	4.4	23.1	0.0	7.1	12.1	2.8	12/22/2024 10:15	5.5	38.5	0.0	6.7	12.6	0.0	8.0
12/22/2024 10:30	4.4	23.3	0.0	7.1	12.1	4.2	12/22/2024 10:30	5.5	39.0	0.0	6.7	12.5	0.0	8.0
12/22/2024 10:45	4.4	23.5	0.0	7.1	12.0	4.2	12/22/2024 10:45	5.5	39.2	0.0	6.7	12.5	0.0	8.0
12/22/2024 11:00	4.4	23.7	0.0	7.0	12.0	3.7	12/22/2024 11:00	5.5	39.7	0.0	6.7	12.5	0.0	8.0
12/22/2024 11:15	4.4	24.0	0.0	7.0	12.0	5.0	12/22/2024 11:15	5.5	39.8	0.0	6.7	12.5	0.0	8.0
12/22/2024 11:30	4.5	24.3	0.0	7.1	12.0	3.1	12/22/2024 11:30	5.5	40.6	0.0	6.7	12.5	0.0	8.0
12/22/2024 11:45	4.5	24.3	0.0	7.0	12.0	5.2	12/22/2024 11:45	5.5	40.6	0.0	6.7	12.5	0.0	8.0
12/22/2024 12:00	4.5	24.3	0.0	7.0	12.0	0.0	12/22/2024 12:00	5.5	40.2	0.0	6.6	12.5	0.0	8.0
12/22/2024 12:15	4.5	24.6	0.0	7.0	12.0	0.3	12/22/2024 12:15	5.6	40.6	0.0	6.7	12.5	0.0	8.0
12/22/2024 12:30	4.5	24.8	0.0	7.1	12.0	1.4	12/22/2024 12:30	5.6	41.3	0.0	6.8	12.5	0.0	8.0
12/22/2024 12:45	4.5	24.6	0.0	7.0	12.0	0.9	12/22/2024 12:45	5.6	41.7	0.0	6.7	12.5	0.0	8.0
12/22/2024 13:00	4.5	24.8	0.0	7.0	12.0	0.8	12/22/2024 13:00	5.6	41.2	0.0	6.8	12.5	0.0	8.0
12/22/2024 13:15	4.5	24.9	0.0	7.1	12.0	0.0	12/22/2024 13:15	5.6	41.5	0.0	6.8	12.5	0.0	8.0
12/22/2024 13:30	4.5	25.2	0.0	7.0	12.0	0.0	12/22/2024 13:30	5.6	41.9	0.0	6.8	12.5	0.0	8.0
12/22/2024 13:45	4.5	25.1	0.0	7.0	12.0	0.0	12/22/2024 13:45	5.6	42.0	0.0	6.8	12.5	0.0	8.0
12/22/2024 14:00	4.5	25.3	0.0	7.0	12.0	0.0	12/22/2024 14:00	5.6	41.7	0.0	6.8	12.4	0.0	8.0
12/22/2024 14:15	4.5	25.3	0.0	7.1	12.0	0.6	12/22/2024 14:15	5.6	42.4	0.0	6.7	12.4	1.5	9.5
12/22/2024 14:30	4.6	25.6	0.0	7.1	11.9	0.6	12/22/2024 14:30	5.7	43.4	0.0	6.7	12.3	0.0	8.0
12/22/2024 14:45	4.6	25.9	0.0	7.1	11.9	0.0	12/22/2024 14:45	5.7	45.1	0.0	6.6	12.3	0.0	8.0
12/22/2024 15:00	4.6	26.1	0.0	7.1	11.9	0.2	12/22/2024 15:00	5.7	45.2	0.0	6.6	12.2	0.0	8.0
12/22/2024 15:15	4.6	26.0	0.0	7.1	11.9	0.1	12/22/2024 15:15	5.7	46.0	0.0	6.6	12.1	0.0	8.0
12/22/2024 15:30	4.6	26.3	0.0	7.0	11.8	0.0	12/22/2024 15:30	5.7	45.6	0.0	6.6	12.1	0.0	8.0
12/22/2024 15:45	4.6	26.2	0.0	7.1	11.8	0.0	12/22/2024 15:45	5.7	45.2	0.0	6.6	12.2	0.0	8.0
12/22/2024 16:00	4.6	26.3	0.0	7.1	11.8	0.0	12/22/2024 16:00	5.7	45.7	0.0	6.6	12.2	0.0	8.0
12/22/2024 16:15	4.6	26.3	0.0	7.0	11.8	0.7	12/22/2024 16:15	5.7	44.6	0.0	6.6	12.2	0.0	8.0
12/22/2024 16:30	4.6	26.4	0.0	7.0	11.8	0.7	12/22/2024 16:30	5.7	44.7	0.0	6.6	12.2	0.0	8.0
12/22/2024 16:45	4.6	26.2	0.0	7.1	11.8	0.0	12/22/2024 16:45	5.7	44.1	0.0	6.6	12.2	0.0	8.0
12/22/2024 17:00	4.6	26.6	0.0	7.0	11.8	0.0	12/22/2024 17:00	5.7	44.6	0.0	6.6	12.2	0.0	8.0
12/22/2024 17:15	4.6	26.6	0.0	7.0	11.8	0.6	12/22/2024 17:15	5.7	44.2	0.0	6.6	12.2	0.0	8.0
12/22/2024 17:30	4.6	26.9	0.0	7.1	11.8	0.2	12/22/2024 17:30	5.8	44.7	0.0	6.7	12.2	0.0	8.0
12/22/2024 17:45	4.6	26.9	0.0	7.0	11.8	0.0	12/22/2024 17:45	5.7	44.4	0.0	6.6	12.2	0.0	8.0
12/22/2024 18:00	4.6	26.8	0.0	7.0	11.8	0.0	12/22/2024 18:00	5.8	44.8	0.0	6.7	12.2	0.0	8.0
12/22/2024 18:15	4.6	27.0	0.0	7.1	11.8	0.0	12/22/2024 18:15	5.8	44.4	0.0	6.7	12.2	0.0	8.0
12/22/2024 18:30	4.7	27.2	0.0	7.0	11.7	6.7	12/22/2024 18:30	5.8	44.9	0.0	6.7	12.2	0.0	8.0
12/22/2024 18:45	4.7	27.1	0.0	7.0	11.7	0.5	12/22/2024 18:45	5.8	44.7	0.0	6.7	12.2	0.0	8.0
12/22/2024 19:00	4.7	27.0	0.0	7.1	11.8	0.0	12/22/2024 19:00	5.8	45.0	0.0	6.7	12.2	0.0	8.0
12/22/2024 19:15	4.7	27.1	0.0	7.0	11.8	0.0	12/22/2024 19:15	5.8	44.6	0.0	6.7	12.2	0.0	8.0
12/22/2024 19:30	4.7	27.2	0.0	7.0	11.7	0.5	12/22/2024 19:30	5.8	45.2	0.0	6.7	12.2	0.0	8.0
12/22/2024 19:45	4.7	27.6	0.0	7.0	11.7	0.0	12/22/2024 19:45	5.8	45.3	0.0	6.7	12.2	0.0	8.0
12/22/2024 20:00	4.7	27.5	0.0	7.1	11.7	0.2	12/22/2024 20:00	5.8</						

 Eagle Mountain - Woodfibre Gas Pipeline Project Waste Discharge Permit PE-110163 Report	Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
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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	Dec. 16 th to Dec. 22 nd , 2024
Report #	39
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Woodfibre Site Sample Analysis



RESULTS OF RAINBOW TROUT LC50 MULTI-CONCENTRATION

BUREAU
VERITAS

Client : 4800 Triton Environmental Consultants Ltd., Vancouver
Client Project Name & Number: 11964-Task 40-phase 3C-4C

Job Number: C4A2431

Test Result:

96 hrs LC50 % vol/vol (95% CL): >100% (N/A) Statistical Method: Visual

Sample Name : EOP

Description: Clear and colourless Sample Number: DCF371-01
Sample Collected: Dec 17, 2024 10:15 AM Sampling Method : N/A Site Collection: N/A
Sample Collected By: N/A Volume Received: 4 x ECO10 Avg Temp Arrival: 6 °C Storage: 2-6°C
Sample Received: Dec 17, 2024 05:14 PM pH: 7.8 Dissolved Oxygen: 11.0 mg/L
Analysis Start : Dec 19, 2024 12:25 PM Temperature : 14 °C Sample Conductance: 129 µS/cm

Concentration	Temperature (°C)	Temperature (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (mg/L)	pH	pH	Conductivity (uS/cm)	Mortality (#)	Mortality (%)	Atypical Behaviour (#)
% vol/vol	Initial	96 hrs	Initial	96 hrs	Initial	96 hrs	Initial	96 hrs	96 hrs	96 hrs
0	14	15	10.4	10.1	7.6	7.6	48	0	0	0
6.25	14	15	10.5	10.1	7.7	7.5	54	0	0	0
12.5	14	15	10.4	10.1	7.7	7.6	64	0	0	0
25	14	15	10.4	10.1	7.7	7.6	69	0	0	0
50	14	15	10.4	10.1	7.8	7.7	92	0	0	0
100	14	15	10.6	10.1	7.9	7.8	129	0	0	0

Comments : All fish appeared and behaved normally at 24 hours, 48 hours, 72 hours, and 96 hours into testing. The reference toxicant test conducted for this batch of fish was just outside 2 standard deviations of the historical mean and within 3 standard deviations (0.10, 0.33) mg/L. There was nothing unusual about the reference toxicant test or with the culture prior to testing; therefore, the point was kept in the control chart.

Culture/Control/Dilution Water Burnaby Municipal Dechlorinated Water
Hardness: 20 mg/L CaCO₃ Other parameters available on request.

Test Conditions Test concentration : 0,6.25,12.5,25,50,100 (% vol/vol)
Organisms per Vessel : 10 Test Temperature : 15 ± 1 °C Solution Depth : >15 cm
Total # of Organisms Used : 60 Pre-aeration Time : 120 min. Rate of Aeration : 6.5±1 mL/(min*L)
Test Volume : 15 L Vessel Volume : 20L Test pH Adjusted: No
Loading Density : 0.2 g/L Photoperiod : 16:8 (light: dark)

Test Organism : Rainbow Trout (*Oncorhynchus mykiss*) Source : Aqua Farm
Culture Temperature : 15 ± 2 °C Weight (Mean) +- SD : 0.3 ± 0.1 g Length (Mean) +- SD : 3.60 ± 0.34 cm
Culture Water Renewal : ≥ 1L/min/kg fish Weight (Range) : 0.2 – 0.5 g Length (Range) : 2.90 – 4.00 cm
Culture Photoperiod : 16:8 (light: dark) % Mortality within 7 days : 0.14%
Feeding rate and frequency : daily: 1-5% biomass of trout. Acclimation Time: >14 days

Reference chemical: Zinc Test Date: Dec 17, 2024
Test Endpoint 96 hrs LC50 (95% confidence interval) : 0.11 (0.08, 0.15)mg/L Statistical Method : Probit
Historical Mean LC50 (warning limits) : 0.18 (0.12, 0.27) mg/L Concentration : 0,0.04,0.08,0.16,0.32,0.64 mg/L

Test Method BV Lab's BBY2SOP-00004 is based on the latest version of EPS 1/RM9 and EPS 1 /RM13.
Method Deviations : None.

Note: The results contained in this report refer only to the testing of the sample submitted. Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation, including the toxicity parameters reported herein. The conductivity, dissolved oxygen and pH data contained within the toxicity report are provided for information purposes and are not individually accredited parameters. This report may not be reproduced, except in its entirety, without the written approval of the laboratory.



BUREAU
VERITAS

RESULTS OF RAINBOW TROUT LC50 MULTI-CONCENTRATION

Client : 4800 Triton Environmental Consultants Ltd., Vancouver
Client Project Name & Number: 11964-Task 40-phase 3C-4C

Job Number: C4A2431
Sample Number: DCF371-01

Analyst : Melanie Mazziotti, Navpreet Shergill, Ryan Colman, Yihui (Phyllis) Fang

Verified By : Kimberly Tamaki, Scientist, Ecotoxicology

Date: Dec 30, 2024 04:35 PM



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

Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
Report #	39
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Woodfibre Site Sample Lab Documentation

CERTIFICATE OF ANALYSIS

Work Order	: VA24D3766	Laboratory	: ALS Environmental - Vancouver
Client	: Triton Environmental Consultants Ltd.	Account Manager	: [Redacted]
Contact	: [Redacted]	Address	: [Redacted]
Address	: [Redacted]	Telephone	: [Redacted]
Telephone	: [Redacted]	Date Samples Received	: 17-Dec-2024 17:45
Project	: 11964	Date Analysis Commenced	: 18-Dec-2024
PO	: 11964 - Task 40 - Phase 3C-4C	Issue Date	: 02-Jan-2025 14:23
C-O-C number	: ----		
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
[Redacted]		Metals, Burnaby, British Columbia
[Redacted]		Inorganics, Edmonton, Alberta
[Redacted]		Metals, Burnaby, British Columbia
[Redacted]		Metals, Burnaby, British Columbia
[Redacted]		Metals, Burnaby, British Columbia
[Redacted]		Organics, Burnaby, British Columbia
[Redacted]		Inorganics, Burnaby, British Columbia
[Redacted]		Metals, Burnaby, British Columbia
[Redacted]		Inorganics, Burnaby, British Columbia
[Redacted]		Inorganics, Burnaby, British Columbia
[Redacted]		Inorganics, Burnaby, British Columbia
[Redacted]		Administration, Burnaby, British Columbia



General Comments

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

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

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

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

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

<i>Unit</i>	<i>Description</i>
-	no units
°C	degrees celsius
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

<: 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

Sub-Matrix: Water (Matrix: Water)					Client sample ID	WLNG EOP	---	---	---	---
					Client sampling date / time	17-Dec-2024 10:12	---	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	---	---	---	---	
					Result	---	---	---	---	
Field Tests										
Conductivity, field	---	EF001/VA	0.10	µS/cm	163.00	---	---	---	---	
pH, field	---	EF001/VA	0.10	pH units	7.10	---	---	---	---	
Temperature, field	---	EF001/VA	0.10	°C	9.70	---	---	---	---	
Turbidity, field	---	EF001/VA	0.01	NTU	1.13	---	---	---	---	
Physical Tests										
Hardness (as CaCO ₃), dissolved	---	EC100/VA	0.60	mg/L	61.0	---	---	---	---	
Hardness (as CaCO ₃), from total Ca/Mg	---	EC100A/VA	0.60	mg/L	58.2	---	---	---	---	
Solids, total dissolved [TDS]	---	E162/VA	10	mg/L	86	---	---	---	---	
Solids, total suspended [TSS]	---	E160/VA	3.0	mg/L	<3.0	---	---	---	---	
Alkalinity, total (as CaCO ₃)	---	E290/VA	2.0	mg/L	63.2	---	---	---	---	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	---	---	---	---	
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	---	---	---	---	
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	0.79	---	---	---	---	
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.211	---	---	---	---	
Nitrate (as N)	14797-55-8	E235.NO ₃ -L/VA	0.0050	mg/L	0.0163	---	---	---	---	
Nitrite (as N)	14797-65-0	E235.NO ₂ -L/VA	0.0010	mg/L	<0.0010	---	---	---	---	
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L	0.051	---	---	---	---	
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0032	---	---	---	---	
Sulfate (as SO ₄)	14808-79-8	E235.SO ₄ /VA	0.30	mg/L	4.82	---	---	---	---	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	17-Dec-2024 10:12	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	----	----	----	----	----
						Result	----	----	----	----
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	<0.50	----	----	----	----	----
Total Sulfides										
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	<0.0015	----	----	----	----	----
Sulfide, un-ionized (as H2S), from total	7783-06-4	EC395/VA	0.0015	mg/L	<0.0015	----	----	----	----	----
Sulfide, total (as H2S)	7783-06-4	E395/VA	0.0016	mg/L	<0.0016	----	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0315	----	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00243	----	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00342	----	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	----	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000050	----	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.012	----	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.0000080	----	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	21.6	----	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000012	----	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00159	----	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.037	----	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000430	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	17-Dec-2024 10:12	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	----	----	----	----	----
						Result	----	----	----	----
Total Metals										
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0023	----	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	1.04	----	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00142	----	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.0000050	----	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0180	----	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L	<0.050	----	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	0.846	----	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00124	----	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.000068	----	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	6.76	----	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000010	----	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	3.29	----	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0411	----	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	1.47	----	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00020	----	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	<0.000010	----	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00010	----	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00109	----	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00041	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNQ EOP	----	----	----	----
					Client sampling date / time	17-Dec-2024 10:12	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	----	----	----	----	
						Result	----	----	----	----
Total Metals										
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.0103	----	----	----	----	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	----	----	----	----	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0162	----	----	----	----	
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	<0.00020	----	----	----	----	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0097	----	----	----	----	
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	<0.00010	----	----	----	----	
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00226	----	----	----	----	
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.00306	----	----	----	----	
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	----	----	----	----	
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000050	----	----	----	----	
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.011	----	----	----	----	
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000069	----	----	----	----	
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	22.7	----	----	----	----	
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000012	----	----	----	----	
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L	<0.00050	----	----	----	----	
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L	<0.00010	----	----	----	----	
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00118	----	----	----	----	
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.015	----	----	----	----	
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	0.000268	----	----	----	----	
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L	0.0025	----	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNQ EOP	---	---	---	---
					Client sampling date / time	17-Dec-2024 10:12	---	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	---	---	---	---	
						Result	---	---	---	---
Dissolved Metals										
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L	1.04	---	---	---	---	
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00091	---	---	---	---	
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L	0.0000062	---	---	---	---	
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L	0.0191	---	---	---	---	
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00050	---	---	---	---	
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	<0.050	---	---	---	---	
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	0.963	---	---	---	---	
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00136	---	---	---	---	
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L	0.000074	---	---	---	---	
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L	6.50	---	---	---	---	
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L	<0.000010	---	---	---	---	
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L	3.26	---	---	---	---	
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.0409	---	---	---	---	
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	1.44	---	---	---	---	
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	---	---	---	---	
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	---	---	---	---	
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	---	---	---	---	
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	---	---	---	---	
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	---	---	---	---	
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00041	---	---	---	---	
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.0104	---	---	---	---	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNQ EOP	----	----	----	----
					Client sampling date / time	17-Dec-2024 10:12	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	----	----	----	----	----
						Result	----	----	----	----
Dissolved Metals										
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00050	----	----	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	0.0157	----	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	<0.00020	----	----	----	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	----	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	Field	----	----	----	----	----
Speciated Metals										
Chromium, hexavalent [Cr VI], total	18540-29-9	E532/VA	0.00050	mg/L	<0.00050	----	----	----	----	----
Chromium, trivalent [Cr III], total	16065-83-1	EC535/VA	0.00050	mg/L	<0.00050	----	----	----	----	----
Aggregate Organics										
Phenols, total (4AAP)	----	E562/EO	0.0010	mg/L	<0.0010	----	----	----	----	----
Volatile Organic Compounds										
Chlorobenzene	108-90-7	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Chloromethane	74-87-3	E611C/VA	5.0	µg/L	<5.0	----	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	0.75	µg/L	<0.75	----	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C/VA	0.20	µg/L	<0.20	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	17-Dec-2024 10:12	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	----	----	----	----	----
						Result	----	----	----	----
Volatile Organic Compounds										
Trichloroethane, 1,1,2-	79-00-5	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Trichlorofluoromethane	75-69-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Volatile Organic Compounds [Drycleaning]										
Carbon tetrachloride	56-23-5	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Chloroethane	75-00-3	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloroethane, 1,1-	75-34-3	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Dichloromethane	75-09-2	E611CVA	1.0	µg/L	<1.0	----	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Tetrachloroethylene	127-18-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Trichloroethylene	79-01-6	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Vinyl chloride	75-01-4	E611CVA	0.40	µg/L	<0.40	----	----	----	----	----
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Ethylbenzene	100-41-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----
Styrene	100-42-5	E611CVA	0.50	µg/L	<0.50	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNQ EOP	----	----	----	----
					Client sampling date / time	17-Dec-2024 10:12	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	----	----	----	----	
						Result	----	----	----	----
Volatile Organic Compounds [Fuels]										
Toluene	108-88-3	E611C/VA	0.40	µg/L	<0.40	----	----	----	----	
Xylene, m+p-	179601-23-1	E611C/VA	0.40	µg/L	<0.40	----	----	----	----	
Xylene, o-	95-47-6	E611C/VA	0.30	µg/L	<0.30	----	----	----	----	
Xylenes, total	1330-20-7	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	
Bromoform	75-25-2	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	
Chloroform	67-66-3	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	
Dibromochloromethane	124-48-1	E611C/VA	0.50	µg/L	<0.50	----	----	----	----	
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L	<250	----	----	----	----	
EPH (C19-C32)	----	E601A/VA	250	µg/L	<250	----	----	----	----	
VHw (C6-C10)	----	E581.VH+F1/V A	100	µg/L	<100	----	----	----	----	
HEPHw	----	EC600A/VA	250	µg/L	<250	----	----	----	----	
LEPHw	----	EC600A/VA	250	µg/L	<250	----	----	----	----	
VPHw	----	EC580A/VA	100	µg/L	<100	----	----	----	----	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%	97.4	----	----	----	----	
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/V A	1.0	%	102	----	----	----	----	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611C/VA	1.0	%	97.4	----	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	17-Dec-2024 10:12	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	----	----	----	----	----
						Result	----	----	----	----
Volatile Organic Compounds Surrogates										
Difluorobenzene, 1,4-	540-36-3	E611CVA	1.0	%	102	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L	<0.0050	----	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L	<0.015	----	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L	<0.0050	----	----	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	----	----	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	----	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNG EOP	----	----	----	----
					Client sampling date / time	17-Dec-2024 10:12	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3766-001	----	----	----	----	----
						Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	----	----	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	93.7	----	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	82.5	----	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	85.4	----	----	----	----	----
Glycols										
Diethylene glycol	111-46-6	E680E/VA	5.0	mg/L	<5.0	----	----	----	----	----
Ethylene glycol	107-21-1	E680E/VA	5.0	mg/L	<5.0	----	----	----	----	----
Propylene glycol, 1,2-	57-55-6	E680E/VA	5.0	mg/L	<5.0	----	----	----	----	----
Triethylene glycol	112-27-6	E680E/VA	5.0	mg/L	<5.0	----	----	----	----	----
Glycols, total (EG+DEG+PG)	----	E680E/VA	10	mg/L	<10	----	----	----	----	----
Glycols Surrogates										
Propanediol, 1,3-	504-63-2	E680E/VA	1.0	%	79.2	----	----	----	----	----

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

QUALITY CONTROL INTERPRETIVE REPORT

<p>Work Order : VA24D3766</p> <p>Client : Triton Environmental Consultants Ltd.</p> <p>Contact : [REDACTED]</p> <p>Address : [REDACTED]</p> <p>Telephone : ----</p> <p>Project : 11964</p> <p>PO : 11964 - Task 40 - Phase 3C-4C</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : Water Analysis</p> <p>Quote number : VA23-TRIT100-012_V2</p> <p>No. of samples received : 1</p> <p>No. of samples analysed : 1</p>	<p>Page : 1 of 14</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : [REDACTED]</p> <p>Address : [REDACTED]</p> <p>Telephone : [REDACTED]</p> <p>Date Samples Received : 17-Dec-2024 17:45</p> <p>Issue Date : 02-Jan-2025 14:23</p>
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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		
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) WLNG EOP	E562	17-Dec-2024	20-Dec-2024	28 days	3 days	✔	20-Dec-2024	28 days	3 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) WLNG EOP	E298	17-Dec-2024	20-Dec-2024	28 days	3 days	✔	20-Dec-2024	28 days	3 days	✔	
Anions and Nutrients : Bromide in Water by IC (Low Level)											
HDPE WLNG EOP	E235.Br-L	17-Dec-2024	18-Dec-2024	28 days	1 days	✔	18-Dec-2024	28 days	1 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE WLNG EOP	E235.Cl	17-Dec-2024	18-Dec-2024	28 days	1 days	✔	18-Dec-2024	28 days	1 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE WLNG EOP	E235.F	17-Dec-2024	18-Dec-2024	28 days	1 days	✔	18-Dec-2024	28 days	1 days	✔	
Anions and Nutrients : Nitrate in Water by IC (Low Level)											
HDPE WLNG EOP	E235.NO3-L	17-Dec-2024	18-Dec-2024	3 days	1 days	✔	18-Dec-2024	3 days	1 days	✔	
Anions and Nutrients : Nitrite in Water by IC (Low Level)											
HDPE WLNG EOP	E235.NO2-L	17-Dec-2024	18-Dec-2024	3 days	1 days	✔	18-Dec-2024	3 days	1 days	✔	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Sulfate in Water by IC											
HDPE WLNG EOP	E235.SO4	17-Dec-2024	18-Dec-2024	28 days	1 days	✓	18-Dec-2024	28 days	1 days	✓	
Anions and Nutrients : Total Nitrogen by Colourimetry											
Amber glass total (sulfuric acid) WLNG EOP	E366	17-Dec-2024	20-Dec-2024	28 days	3 days	✓	22-Dec-2024	28 days	5 days	✓	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) WLNG EOP	E372-U	17-Dec-2024	20-Dec-2024	28 days	3 days	✓	23-Dec-2024	28 days	6 days	✓	
Dissolved Metals : Dissolved Mercury in Water by CVAAS											
Glass vial dissolved (hydrochloric acid) WLNG EOP	E509	17-Dec-2024	23-Dec-2024	28 days	6 days	✓	23-Dec-2024	28 days	6 days	✓	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) WLNG EOP	E421	17-Dec-2024	19-Dec-2024	180 days	2 days	✓	22-Dec-2024	180 days	5 days	✓	
Field Tests : Field pH,EC,Salinity, TDS, Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine											
Glass vial dissolved (hydrochloric acid) WLNG EOP	EF001	17-Dec-2024	----	----	----		20-Dec-2024	----	3 days		
Glycols : Glycols (4 analytes) by GC-FID											
Glass vial WLNG EOP	E680E	17-Dec-2024	19-Dec-2024	7 days	2 days	✓	19-Dec-2024	40 days	0 days	✓	
Hydrocarbons : BC PHCs - EPH by GC-FID											
Amber glass/Teflon lined cap (sodium bisulfate) WLNG EOP	E601A	17-Dec-2024	24-Dec-2024	14 days	7 days	✓	27-Dec-2024	40 days	3 days	✓	
Hydrocarbons : VH and F1 by Headspace GC-FID											
Glass vial (sodium bisulfate) WLNG EOP	E581.VH+F1	17-Dec-2024	27-Dec-2024	14 days	10 days	✓	27-Dec-2024	14 days	10 days	✓	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) WLNG EOP	E358-L	17-Dec-2024	20-Dec-2024	28 days	3 days	✔	20-Dec-2024	28 days	3 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE WLNG EOP	E290	17-Dec-2024	18-Dec-2024	14 days	1 days	✔	18-Dec-2024	14 days	1 days	✔	
Physical Tests : TDS by Gravimetry											
HDPE WLNG EOP	E162	17-Dec-2024	----	----	----		22-Dec-2024	7 days	5 days	✔	
Physical Tests : TSS by Gravimetry											
HDPE WLNG EOP	E160	17-Dec-2024	----	----	----		22-Dec-2024	7 days	5 days	✔	
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS											
Amber glass/Teflon lined cap (sodium bisulfate) WLNG EOP	E641A	17-Dec-2024	24-Dec-2024	14 days	7 days	✔	24-Dec-2024	40 days	0 days	✔	
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC											
Opaque HDPE - total (sodium hydroxide) WLNG EOP	E532	17-Dec-2024	----	----	----		19-Dec-2024	28 days	2 days	✔	
Total Metals : Total Mercury in Water by CVAAS											
Glass vial total (hydrochloric acid) WLNG EOP	E508	17-Dec-2024	31-Dec-2024	28 days	14 days	✔	31-Dec-2024	28 days	14 days	✔	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) WLNG EOP	E420	17-Dec-2024	18-Dec-2024	180 days	1 days	✔	19-Dec-2024	180 days	2 days	✔	
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)											
HDPE total (zinc acetate+sodium hydroxide) WLNG EOP	E395	17-Dec-2024	----	----	----		19-Dec-2024	7 days	2 days	✔	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass vial (sodium bisulfate) W LNG EOP	E611C	17-Dec-2024	27-Dec-2024	14 days	10 days	✔	27-Dec-2024	14 days	10 days	✔

Legend & Qualifier Definitions

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



Quality Control Parameter Frequency Compliance

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

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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1814565	1	3	33.3	5.0	✔
Ammonia by Fluorescence	E298	1818512	1	14	7.1	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1814558	1	3	33.3	5.0	✔
Chloride in Water by IC	E235.Cl	1814555	1	5	20.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1821552	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1814308	1	17	5.8	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1818513	1	10	10.0	5.0	✔
Fluoride in Water by IC	E235.F	1814557	1	3	33.3	5.0	✔
Glycols (4 analytes) by GC-FID	E680E	1815989	1	17	5.8	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1814559	1	3	33.3	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1814556	1	4	25.0	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	1818388	1	17	5.8	5.0	✔
Sulfate in Water by IC	E235.SO4	1814560	1	3	33.3	5.0	✔
TDS by Gravimetry	E162	1820115	1	20	5.0	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1815698	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1826724	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1814982	1	17	5.8	5.0	✔
Total Nitrogen by Colourimetry	E366	1818514	1	1	100.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1818511	1	4	25.0	5.0	✔
Total Sulfide by Colourimetry (Automated Flow)	E395	1817250	1	6	16.6	5.0	✔
TSS by Gravimetry	E160	1820100	1	20	5.0	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1823597	1	6	16.6	5.0	✔
VOCs (BC List) by Headspace GC-MS	E611C	1823596	1	10	10.0	5.0	✔
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1814565	1	3	33.3	5.0	✔
Ammonia by Fluorescence	E298	1818512	1	14	7.1	5.0	✔
BC PHCs - EPH by GC-FID	E601A	1821972	1	19	5.2	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1814558	1	3	33.3	5.0	✔
Chloride in Water by IC	E235.Cl	1814555	1	5	20.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1821552	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1814308	1	17	5.8	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1818513	1	10	10.0	5.0	✔
Fluoride in Water by IC	E235.F	1814557	1	3	33.3	5.0	✔
Glycols (4 analytes) by GC-FID	E680E	1815989	1	17	5.8	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1814559	1	3	33.3	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1814556	1	4	25.0	5.0	✔



Matrix: **Water**

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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Control Samples (LCS) - Continued							
PAHs in Water by Hexane LVI GC-MS	E641A	1821973	1	9	11.1	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1818388	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1814560	1	3	33.3	5.0	✓
TDS by Gravimetry	E162	1820115	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1815698	1	14	7.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1826724	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1814982	1	17	5.8	5.0	✓
Total Nitrogen by Colourimetry	E366	1818514	1	1	100.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1818511	1	4	25.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1817250	1	6	16.6	5.0	✓
TSS by Gravimetry	E160	1820100	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1823597	1	6	16.6	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1823596	1	10	10.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1814565	1	3	33.3	5.0	✓
Ammonia by Fluorescence	E298	1818512	1	14	7.1	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1821972	1	19	5.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1814558	1	3	33.3	5.0	✓
Chloride in Water by IC	E235.Cl	1814555	1	5	20.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1821552	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1814308	1	17	5.8	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1818513	1	10	10.0	5.0	✓
Fluoride in Water by IC	E235.F	1814557	1	3	33.3	5.0	✓
Glycols (4 analytes) by GC-FID	E680E	1815989	1	17	5.8	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1814559	1	3	33.3	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1814556	1	4	25.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1821973	1	9	11.1	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1818388	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	1814560	1	3	33.3	5.0	✓
TDS by Gravimetry	E162	1820115	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1815698	1	14	7.1	5.0	✓
Total Mercury in Water by CVAAS	E508	1826724	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1814982	1	17	5.8	5.0	✓
Total Nitrogen by Colourimetry	E366	1818514	1	1	100.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1818511	1	4	25.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1817250	1	6	16.6	5.0	✓
TSS by Gravimetry	E160	1820100	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1823597	1	6	16.6	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1823596	1	10	10.0	5.0	✓



Matrix: **Water**

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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
<i>Analytical Methods</i>							
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1818512	1	14	7.1	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1814558	1	3	33.3	5.0	✔
Chloride in Water by IC	E235.Cl	1814555	1	5	20.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1821552	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1814308	1	17	5.8	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1818513	1	10	10.0	5.0	✔
Fluoride in Water by IC	E235.F	1814557	1	3	33.3	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1814559	1	3	33.3	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1814556	1	4	25.0	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	1818388	1	17	5.8	5.0	✔
Sulfate in Water by IC	E235.SO4	1814560	1	3	33.3	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1815698	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1826724	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1814982	1	17	5.8	5.0	✔
Total Nitrogen by Colourimetry	E366	1818514	0	1	0.0	5.0	✖
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1818511	1	4	25.0	5.0	✔
Total Sulfide by Colourimetry (Automated Flow)	E395	1817250	1	6	16.6	5.0	✔
VH and F1 by Headspace GC-FID	E581.VH+F1	1823597	1	6	16.6	5.0	✔
VOCs (BC List) by Headspace GC-MS	E611C	1823596	1	10	10.0	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 - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Nitrogen by Colourimetry	E366 ALS Environmental - Vancouver	Water	Chinchilla Scientific Nitrate Method, 2011	Following digestion, total nitrogen is determined colourimetrically using a discrete analyzer utilizing the vanadium chloride reduction method. This method of analysis is approved under US EPA 40 CFR Part 136 (May 2021).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Sulfide by Colourimetry (Automated Flow)	E395 ALS Environmental - Vancouver	Water	APHA 4500 -S E-Auto-Colorimetry	Sulfide is determined using the gas dialysis automated methylene blue colourimetric method. Results expressed "as H ₂ S" if reported represent the maximum possible H ₂ S concentration based on the total sulfide concentration in the sample. The H ₂ S calculation converts Total Sulphide as (S ₂ ⁻) and reports it as Total Sulphide as (H ₂ S)
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
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)	Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. Results are based on an un-filtered, field-preserved sample.
Phenols (4AAP) in Water by Colorimetry	E562 ALS Environmental - Edmonton	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide (K ₃ Fe(CN) ₆) and 4-amino-antipyrine (4-AAP) to form a red complex which is measured colorimetrically.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
BC PHCs - EPH by GC-FID	E601A ALS Environmental - Vancouver	Water	BC MOE Lab Manual	Sample extracts are analyzed by GC-FID for BC hydrocarbon fractions.
VOCs (BC List) by Headspace GC-MS	E611C ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Total Xylenes is the sum of m,p-Xylene & o-Xylene. Total BTEX is the sum of Benzene, Toluene, Ethylbenzene, & Total Xylenes. Total BTEX+Styrene is the sum of Total BTEX & Styrene. Total Trihalomethanes [THMs] is the sum of Bromodichloromethane, Bromoform, Chloroform, & Dibromochloromethane.
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
Glycols (4 analytes) by GC-FID	E680E ALS Environmental - Vancouver	Water	EPA 8015D (mod)	Derivatized glycols are analyzed by GC-FID.
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.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.
LEPH and HEPH: EPH-PAH	EC600A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (LEPH and HEPH)	Light Extractable Petroleum Hydrocarbons (LEPH) and Heavy Extractable Petroleum Hydrocarbons (HEPH) are calculated as follows: LEPH = Extractable Petroleum Hydrocarbons (EPH10-19) minus Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene; HEPH = Extractable Petroleum Hydrocarbons (EPH19-32) minus Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene.
Field pH,EC,Salinity, TDS, 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, TDS, 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 - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Nitrogen in water	EP366 ALS Environmental - Vancouver	Water	APHA 4500-P J (mod)	Samples for total nitrogen analysis are digested using a heated persulfate digestion. Nitrogen compounds are converted to nitrate in this digestion.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO ₃ .
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.
Glycols Extraction and Derivatization (BC Only)	EP680E ALS Environmental - Vancouver	Water	EPA 8015D (mod)	Aqueous sample is derivatized and extracted with organic solvent.

QUALITY CONTROL REPORT

Work Order : **VA24D3766**
Client : Triton Environmental Consultants Ltd.
Contact : [Redacted]
Address : [Redacted]
Telephone : ----
Project : 11964
PO : 11964 - Task 40 - Phase 3C-4C
C-O-C number : ----
Sampler : ----
Site : Water Analysis
Quote number : VA23-TRIT100-012_V2
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 23
Laboratory : ALS Environmental - Vancouver
Account Manager : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Date Samples Received : 17-Dec-2024 17:45
Date Analysis Commenced : 18-Dec-2024
Issue Date : 02-Jan-2025 14:23

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
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Edmonton Inorganics, Edmonton, Alberta
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Organics, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Inorganics, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Inorganics, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Inorganics, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Inorganics, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Administration, Burnaby, British Columbia



General Comments

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

Key :

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

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

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

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

Workorder Comments

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



Laboratory Duplicate (DUP) Report

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

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1814565)											
VA24D3768-002	Anonymous	Alkalinity, total (as CaCO3)	----	E290	2.0	mg/L	79.0	79.3	0.379%	20%	----
Physical Tests (QC Lot: 1820100)											
VA24D3695-003	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1820115)											
VA24D3695-003	Anonymous	Solids, total dissolved [TDS]	----	E162	13	mg/L	98	102	4	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1814555)											
VA24D3766-001	WLNG EOP	Chloride	16887-00-6	E235.Cl	0.50	mg/L	0.79	0.79	0.007	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1814556)											
VA24D3766-001	WLNG EOP	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: 1814557)											
VA24D3766-001	WLNG EOP	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.211	0.208	1.19%	20%	----
Anions and Nutrients (QC Lot: 1814558)											
VA24D3766-001	WLNG EOP	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1814559)											
VA24D3766-001	WLNG EOP	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.0163	0.0160	0.0004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1814560)											
VA24D3766-001	WLNG EOP	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	4.82	4.76	1.29%	20%	----
Anions and Nutrients (QC Lot: 1818511)											
VA24D3766-001	WLNG EOP	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0032	0.0032	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1818512)											
VA24D3766-001	WLNG EOP	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1818514)											
VA24D3766-001	WLNG EOP	Nitrogen, total	7727-37-9	E366	0.030	mg/L	0.051	0.049	0.002	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1818513)											
VA24D3766-001	WLNG EOP	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Total Sulfides (QC Lot: 1817250)											
VA24D3766-001	WLNG EOP	Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	<0.0015	0	Diff <2x LOR	----
Total Metals (QC Lot: 1814982)											
KS2405184-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00050	mg/L	<0.00050	<0.00050	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: 1814982) - continued											
KS2405184-001	Anonymous	Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00038	0.00035	0.00003	Diff <2x LOR	----
		Barium, total	7440-39-3	E420	0.0200	mg/L	<0.0200	<0.0200	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	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.000200	mg/L	<0.000200	<0.000200	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.100	mg/L	12.1	11.9	1.89%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00034	0.00032	0.00002	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00100	mg/L	0.00916	0.00908	0.00008	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.030	mg/L	<0.030	<0.030	0	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0016	0.0015	0.00006	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.100	mg/L	19.4	19.0	2.18%	20%	----
		Manganese, total	7439-96-5	E420	0.00200	mg/L	0.00687	0.00684	0.00003	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00258	0.00259	0.421%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.100	mg/L	0.432	0.426	0.006	Diff <2x LOR	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00034	0.00028	0.00006	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	9.59	9.47	1.22%	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	2.00	mg/L	63.8	63.4	0.720%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.00331	0.00328	1.02%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	0.72	0.60	0.11	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	0.00012	0.00011	0.000004	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	0.00045	0.00044	0.000006	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000100	mg/L	0.00119	0.00119	0.512%	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: 1814982) - continued											
KS2405184-001	Anonymous	Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00194	0.00190	0.00004	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0500	mg/L	<0.0500	<0.0500	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: 1826724)											
KS2405230-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1814308)											
VA24D3752-003	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0020	mg/L	11.7	11.7	0.399%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00020	mg/L	0.00036	0.00034	0.00002	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00020	mg/L	0.0118	0.0119	0.939%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	0.000842	0.000824	0.000018	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.020	mg/L	0.256	0.246	4.24%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000100	mg/L	0.0399	0.0393	1.50%	20%	----
		Calcium, dissolved	7440-70-2	E421	0.100	mg/L	254	250	1.87%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000020	mg/L	0.000038	0.000035	0.000003	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00020	mg/L	0.104	0.104	0.152%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00040	mg/L	1.33	1.31	1.55%	20%	----
		Iron, dissolved	7439-89-6	E421	0.020	mg/L	0.131	0.132	0.0009	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000100	mg/L	0.00710	0.00760	6.84%	20%	----
		Lithium, dissolved	7439-93-2	E421	0.0020	mg/L	0.0231	0.0223	3.44%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	58.2	58.3	0.137%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00020	mg/L	4.47	4.40	1.62%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000100	mg/L	0.00100	0.00100	0.464%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00100	mg/L	0.0860	0.0851	1.04%	20%	----
		Phosphorus, dissolved	7723-14-0	E421	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.100	mg/L	0.401	0.398	0.003	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E421	0.00040	mg/L	0.00068	0.00073	0.00006	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000100	mg/L	0.00106	0.00115	7.87%	20%	----
Silicon, dissolved	7440-21-3	E421	0.100	mg/L	14.0	14.2	1.34%	20%	----		
Silver, dissolved	7440-22-4	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----		
Sodium, dissolved	7440-23-5	E421	0.100	mg/L	25.6	25.2	1.64%	20%	----		
Strontium, dissolved	7440-24-6	E421	0.00040	mg/L	1.04	1.09	3.84%	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: 1814308) - continued											
VA24D3752-003	Anonymous	Sulfur, dissolved	7704-34-9	E421	1.00	mg/L	336	341	1.43%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000020	mg/L	0.000182	0.000188	0.000006	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0020	mg/L	8.05	8.17	1.56%	20%	----
		Zirconium, dissolved	7440-67-7	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1821552)											
VA24D3626-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	0.0000125	0.0000132	0.0000007	Diff <2x LOR	----
Speciated Metals (QC Lot: 1815698)											
VA24D3766-001	WLNG EOP	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1818388)											
VA24D3766-001	WLNG EOP	Phenols, total (4AAP)	----	E562	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1823596)											
VA24D3755-001	Anonymous	Benzene	71-43-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroethane	75-00-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloromethane	74-87-3	E611C	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 1823596) - continued											
VA24D3755-001	Anonymous	Dichloroethylene, trans-1,2-	156-60-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611C	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611C	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1823597)											
VA24D3757-001	Anonymous	VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
Glycols (QC Lot: 1815989)											
VA24D3913-001	Anonymous	Diethylene glycol	111-46-6	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Ethylene glycol	107-21-1	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Propylene glycol, 1,2-	57-55-6	E680E	5.0	mg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Triethylene glycol	112-27-6	E680E	5.0	mg/L	<5.0	<5.0	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: 1814565)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1820100)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1820115)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1814555)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1814556)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1814557)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1814558)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1814559)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1814560)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1818511)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1818512)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1818514)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Organic / Inorganic Carbon (QCLot: 1818513)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1817250)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1814982)						
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: 1814982) - 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 (QCLot: 1826724)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1814308)						
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: 1814308) - 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: 1821552)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1815698)						
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	<0.00050	----
Aggregate Organics (QCLot: 1818388)						
Phenols, total (4AAP)	----	E562	0.001	mg/L	<0.0010	----
Volatile Organic Compounds (QCLot: 1823596)						
Benzene	71-43-2	E611C	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611C	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	<0.50	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	<0.50	----
Chloroethane	75-00-3	E611C	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611C	0.5	µg/L	<0.50	----
Chloromethane	74-87-3	E611C	5	µg/L	<5.0	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611C	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	<0.50	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1823596) - continued						
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611C	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	<0.20	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611C	0.4	µg/L	<0.40	----
Trichloroethane, 1,1,1,-	71-55-6	E611C	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2,-	79-00-5	E611C	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	<0.40	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1821972)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Hydrocarbons (QCLot: 1823597)						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1821973)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----



Sub-Matrix: **Water**

<i>Analyte</i>	<i>CAS Number</i>	<i>Method</i>	<i>LOR</i>	<i>Unit</i>	<i>Result</i>	<i>Qualifier</i>
Polycyclic Aromatic Hydrocarbons (QCLot: 1821973) - continued						
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----
Glycols (QCLot: 1815989)						
Diethylene glycol	111-46-6	E680E	5	mg/L	<5.0	----
Ethylene glycol	107-21-1	E680E	5	mg/L	<5.0	----
Propylene glycol, 1,2-	57-55-6	E680E	5	mg/L	<5.0	----
Triethylene glycol	112-27-6	E680E	5	mg/L	<5.0	----



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: 1814565)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	106	85.0	115	----
Physical Tests (QCLot: 1820100)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	92.4	85.0	115	----
Physical Tests (QCLot: 1820115)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	98.2	85.0	115	----
Anions and Nutrients (QCLot: 1814555)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1814556)									
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: 1814557)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	98.6	90.0	110	----
Anions and Nutrients (QCLot: 1814558)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	106	85.0	115	----
Anions and Nutrients (QCLot: 1814559)									
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: 1814560)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 1818511)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	91.2	80.0	120	----
Anions and Nutrients (QCLot: 1818512)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	96.9	85.0	115	----
Anions and Nutrients (QCLot: 1818514)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	105	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1818513)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	98.0	80.0	120	----
Total Sulfides (QCLot: 1817250)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	96.4	80.0	120	----
Total Metals (QCLot: 1814982)									



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 (QCLot: 1814982) - continued									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	97.0	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	98.8	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	106	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.4	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	100	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	112	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	99.0	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	92.0	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	99.8	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	97.6	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	94.7	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	102	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	101	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	106	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	98.0	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	107	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	96.3	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	103	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	113	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	90.6	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	96.6	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	93.8	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	90.8	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	103	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	106	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	99.9	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.7	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	107	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	105	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 (QCLot: 1814982) - continued									
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	99.4	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	94.4	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.4	80.0	120	----
Total Metals (QCLot: 1826724)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	99.2	80.0	120	----
Dissolved Metals (QCLot: 1814308)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	101	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	100	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	104	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	101	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	104	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	98.4	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.7	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	104	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	101	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	101	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	102	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	103	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	104	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	106	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	100	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.4	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	107	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	100	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	107	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	99.5	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	95.5	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	106	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	96.0	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	102	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	91.7	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 (QCLot: 1814308) - continued									
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	97.3	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	104	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	99.8	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	104	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	100	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	103	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	95.9	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	95.9	80.0	120	----
Speciated Metals (QCLot: 1815698)									
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Aggregate Organics (QCLot: 1818388)									
Phenols, total (4AAP)	----	E562	0.001	mg/L	0.02 mg/L	95.8	85.0	115	----
Volatile Organic Compounds (QCLot: 1823596)									
Benzene	71-43-2	E611C	0.5	µg/L	100 µg/L	92.9	70.0	130	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	100 µg/L	90.9	70.0	130	----
Bromoform	75-25-2	E611C	0.5	µg/L	100 µg/L	93.8	70.0	130	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	100 µg/L	93.4	70.0	130	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	100 µg/L	98.5	70.0	130	----
Chloroethane	75-00-3	E611C	0.5	µg/L	100 µg/L	109	60.0	140	----
Chloroform	67-66-3	E611C	0.5	µg/L	100 µg/L	92.6	70.0	130	----
Chloromethane	74-87-3	E611C	5	µg/L	100 µg/L	124	60.0	140	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	100 µg/L	94.6	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	100 µg/L	96.8	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	100 µg/L	99.7	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	100 µg/L	102	70.0	130	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	100 µg/L	95.2	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	100 µg/L	91.7	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	100 µg/L	96.6	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	100 µg/L	92.5	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	100 µg/L	104	70.0	130	----



Sub-Matrix: **Water**

Laboratory Control Sample (LCS) Report

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Target Concentration	Recovery (%)	Recovery Limits (%)		Qualifier
					LCS	Low	High		
Volatile Organic Compounds (QCLot: 1823596) - continued									
Dichloromethane	75-09-2	E611C	1	µg/L	100 µg/L	93.8	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	100 µg/L	94.8	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	100 µg/L	98.7	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	100 µg/L	106	70.0	130	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	100 µg/L	98.5	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	100 µg/L	98.1	70.0	130	----
Styrene	100-42-5	E611C	0.5	µg/L	100 µg/L	102	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	100 µg/L	97.5	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	100 µg/L	91.9	70.0	130	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	100 µg/L	101	70.0	130	----
Toluene	108-88-3	E611C	0.4	µg/L	100 µg/L	96.3	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	100 µg/L	96.6	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	100 µg/L	95.8	70.0	130	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	100 µg/L	97.4	70.0	130	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	100 µg/L	103	60.0	140	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	100 µg/L	124	60.0	140	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	200 µg/L	104	70.0	130	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	100 µg/L	98.2	70.0	130	----
Hydrocarbons (QCLot: 1821972)									
EPH (C10-C19)	---	E601A	250	µg/L	6490 µg/L	92.9	70.0	130	----
EPH (C19-C32)	---	E601A	250	µg/L	3360 µg/L	93.5	70.0	130	----
Hydrocarbons (QCLot: 1823597)									
VHw (C6-C10)	---	E581.VH+F1	100	µg/L	6310 µg/L	77.2	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1821973)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.576 µg/L	94.0	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.605 µg/L	94.1	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.596 µg/L	91.7	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.601 µg/L	89.2	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.644 µg/L	87.2	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.662 µg/L	87.7	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.644 µg/L	90.9	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.565 µg/L	87.9	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.581 µg/L	93.3	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.644 µg/L	93.2	60.0	130	----



Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1821973) - continued									
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.627 µg/L	84.6	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.609 µg/L	94.4	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.539 µg/L	93.0	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.577 µg/L	83.8	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.536 µg/L	94.4	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.592 µg/L	91.9	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.562 µg/L	94.5	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.616 µg/L	92.4	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.597 µg/L	94.0	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.558 µg/L	96.2	60.0	130	----
Glycols (QCLot: 1815989)									
Diethylene glycol	111-46-6	E680E	5	mg/L	25 mg/L	77.2	70.0	130	----
Ethylene glycol	107-21-1	E680E	5	mg/L	25 mg/L	78.0	70.0	130	----
Propylene glycol, 1,2-	57-55-6	E680E	5	mg/L	25 mg/L	79.8	70.0	130	----
Triethylene glycol	112-27-6	E680E	5	mg/L	25 mg/L	75.7	70.0	130	----



Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1814555)										
VA24D3768-001	Anonymous	Chloride	16887-00-6	E235.Cl	106 mg/L	100 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 1814556)										
VA24D3768-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.525 mg/L	0.5 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 1814557)										
VA24D3768-001	Anonymous	Fluoride	16984-48-8	E235.F	1.08 mg/L	1 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 1814558)										
VA24D3768-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.550 mg/L	0.5 mg/L	110	75.0	125	----
Anions and Nutrients (QCLot: 1814559)										
VA24D3768-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.64 mg/L	2.5 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 1814560)										
VA24D3768-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	107 mg/L	100 mg/L	107	75.0	125	----
Anions and Nutrients (QCLot: 1818511)										
VA24D3777-008	Anonymous	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 1818512)										
VA24D3773-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1818513)										
VA24D3773-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.20 mg/L	5 mg/L	104	70.0	130	----
Total Sulfides (QCLot: 1817250)										
VA24D3800-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.162 mg/L	0.2 mg/L	81.1	75.0	125	----
Total Metals (QCLot: 1814982)										
VA24D3601-001	Anonymous	Aluminum, total	7429-90-5	E420	0.186 mg/L	0.2 mg/L	93.0	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0184 mg/L	0.02 mg/L	91.9	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0200 mg/L	0.02 mg/L	100.0	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0404 mg/L	0.04 mg/L	101	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00940 mg/L	0.01 mg/L	94.0	70.0	130	----
		Boron, total	7440-42-8	E420	0.116 mg/L	0.1 mg/L	116	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00372 mg/L	0.004 mg/L	93.1	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00894 mg/L	0.01 mg/L	89.4	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0404 mg/L	0.04 mg/L	101	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0192 mg/L	0.02 mg/L	96.2	70.0	130	----
		Copper, total	7440-50-8	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1814982) - continued										
VA24D3601-001	Anonymous	Iron, total	7439-89-6	E420	1.92 mg/L	2 mg/L	95.9	70.0	130	---
		Lead, total	7439-92-1	E420	0.0192 mg/L	0.02 mg/L	96.0	70.0	130	---
		Lithium, total	7439-93-2	E420	0.0991 mg/L	0.1 mg/L	99.1	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	96.2	70.0	130	---
		Molybdenum, total	7439-98-7	E420	0.0185 mg/L	0.02 mg/L	92.4	70.0	130	---
		Nickel, total	7440-02-0	E420	0.0390 mg/L	0.04 mg/L	97.4	70.0	130	---
		Phosphorus, total	7723-14-0	E420	9.86 mg/L	10 mg/L	98.6	70.0	130	---
		Potassium, total	7440-09-7	E420	3.78 mg/L	4 mg/L	94.5	70.0	130	---
		Rubidium, total	7440-17-7	E420	0.0189 mg/L	0.02 mg/L	94.6	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	10.0 mg/L	10 mg/L	100	70.0	130	---
		Silver, total	7440-22-4	E420	0.00366 mg/L	0.004 mg/L	91.6	70.0	130	---
		Sodium, total	7440-23-5	E420	ND mg/L	---	ND	70.0	130	---
		Strontium, total	7440-24-6	E420	ND mg/L	---	ND	70.0	130	---
		Sulfur, total	7704-34-9	E420	20.1 mg/L	20 mg/L	100	70.0	130	---
		Tellurium, total	13494-80-9	E420	0.0368 mg/L	0.04 mg/L	92.0	70.0	130	---
		Thallium, total	7440-28-0	E420	0.00386 mg/L	0.004 mg/L	96.4	70.0	130	---
		Thorium, total	7440-29-1	E420	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	---
		Tin, total	7440-31-5	E420	0.0188 mg/L	0.02 mg/L	94.2	70.0	130	---
		Titanium, total	7440-32-6	E420	0.0384 mg/L	0.04 mg/L	96.1	70.0	130	---
		Tungsten, total	7440-33-7	E420	0.0196 mg/L	0.02 mg/L	98.0	70.0	130	---
		Uranium, total	7440-61-1	E420	0.00392 mg/L	0.004 mg/L	98.0	70.0	130	---
		Vanadium, total	7440-62-2	E420	0.0941 mg/L	0.1 mg/L	94.1	70.0	130	---
		Zinc, total	7440-66-6	E420	0.364 mg/L	0.4 mg/L	91.1	70.0	130	---
		Zirconium, total	7440-67-7	E420	0.0373 mg/L	0.04 mg/L	93.3	70.0	130	---
Total Metals (QCLot: 1826724)										
VA24D3628-003	Anonymous	Mercury, total	7439-97-6	E508	0.000101 mg/L	0 mg/L	101	70.0	130	---
Dissolved Metals (QCLot: 1814308)										
VA24D3752-004	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.190 mg/L	0.2 mg/L	95.2	70.0	130	---
		Antimony, dissolved	7440-36-0	E421	0.0203 mg/L	0.02 mg/L	101	70.0	130	---
		Arsenic, dissolved	7440-38-2	E421	0.0203 mg/L	0.02 mg/L	101	70.0	130	---
		Barium, dissolved	7440-39-3	E421	0.0179 mg/L	0.02 mg/L	89.5	70.0	130	---
		Beryllium, dissolved	7440-41-7	E421	0.0372 mg/L	0.04 mg/L	93.0	70.0	130	---
		Boron, dissolved	7440-42-8	E421	0.080 mg/L	0.1 mg/L	79.7	70.0	130	---
		Cadmium, dissolved	7440-43-9	E421	ND mg/L	---	ND	70.0	130	---
		Calcium, dissolved	7440-70-2	E421	ND mg/L	---	ND	70.0	130	---
		Cesium, dissolved	7440-46-2	E421	0.00989 mg/L	0.01 mg/L	98.9	70.0	130	---
		Chromium, dissolved	7440-47-3	E421	0.0376 mg/L	0.04 mg/L	94.1	70.0	130	---
		Cobalt, dissolved	7440-48-4	E421	0.0181 mg/L	0.02 mg/L	90.3	70.0	130	---
		Copper, dissolved	7440-50-8	E421	ND mg/L	---	ND	70.0	130	---
		Iron, dissolved	7439-89-6	E421	1.81 mg/L	2 mg/L	90.7	70.0	130	---
		Lead, dissolved	7439-92-1	E421	0.0180 mg/L	0.02 mg/L	90.0	70.0	130	---



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1814308) - continued										
VA24D3752-004	Anonymous	Lithium, dissolved	7439-93-2	E421	0.0915 mg/L	0.1 mg/L	91.5	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0210 mg/L	0.02 mg/L	105	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0362 mg/L	0.04 mg/L	90.6	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	3.77 mg/L	4 mg/L	94.2	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0404 mg/L	0.04 mg/L	101	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.71 mg/L	10 mg/L	97.1	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00385 mg/L	0.004 mg/L	96.2	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	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00364 mg/L	0.004 mg/L	91.1	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0168 mg/L	0.02 mg/L	83.8	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0396 mg/L	0.04 mg/L	98.9	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00359 mg/L	0.004 mg/L	89.7	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0961 mg/L	0.1 mg/L	96.1	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	ND mg/L	----	ND	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0426 mg/L	0.04 mg/L	106	70.0	130	----
Dissolved Metals (QCLot: 1821552)										
VA24D3626-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.000105 mg/L	0 mg/L	105	70.0	130	----
Speciated Metals (QCLot: 1815698)										
VA24D3769-007	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.761 mg/L	0.75 mg/L	101	70.0	130	----
Aggregate Organics (QCLot: 1818388)										
VA24D3901-002	Anonymous	Phenols, total (4AAP)	----	E562	0.0193 mg/L	0.02 mg/L	96.4	75.0	125	----
Volatile Organic Compounds (QCLot: 1823596)										
VA24D3755-002	Anonymous	Benzene	71-43-2	E611C	97.7 µg/L	100 µg/L	97.7	60.0	140	----
		Bromodichloromethane	75-27-4	E611C	99.4 µg/L	100 µg/L	99.4	60.0	140	----
		Bromoform	75-25-2	E611C	95.8 µg/L	100 µg/L	95.8	60.0	140	----
		Carbon tetrachloride	56-23-5	E611C	97.8 µg/L	100 µg/L	97.8	60.0	140	----
		Chlorobenzene	108-90-7	E611C	103 µg/L	100 µg/L	103	60.0	140	----
		Chloroethane	75-00-3	E611C	86.7 µg/L	100 µg/L	86.7	50.0	150	----
		Chloroform	67-66-3	E611C	99.7 µg/L	100 µg/L	99.7	60.0	140	----
		Chloromethane	74-87-3	E611C	73.8 µg/L	100 µg/L	73.8	50.0	150	----
		Dibromochloromethane	124-48-1	E611C	98.6 µg/L	100 µg/L	98.6	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	105 µg/L	100 µg/L	105	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	108 µg/L	100 µg/L	108	60.0	140	----



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1823596) - continued										
VA24D3755-002	Anonymous	Dichloroethane, 1,1-	75-34-3	E611C	98.3 µg/L	100 µg/L	98.3	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611C	99.5 µg/L	100 µg/L	99.5	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611C	86.5 µg/L	100 µg/L	86.5	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	97.7 µg/L	100 µg/L	97.7	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	96.8 µg/L	100 µg/L	96.8	60.0	140	----
		Dichloromethane	75-09-2	E611C	95.7 µg/L	100 µg/L	95.7	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611C	102 µg/L	100 µg/L	102	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	109 µg/L	100 µg/L	109	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	112 µg/L	100 µg/L	112	60.0	140	----
		Ethylbenzene	100-41-4	E611C	104 µg/L	100 µg/L	104	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	106 µg/L	100 µg/L	106	60.0	140	----
		Styrene	100-42-5	E611C	107 µg/L	100 µg/L	107	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	102 µg/L	100 µg/L	102	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	90.8 µg/L	100 µg/L	90.8	60.0	140	----
		Tetrachloroethylene	127-18-4	E611C	106 µg/L	100 µg/L	106	60.0	140	----
		Toluene	108-88-3	E611C	99.7 µg/L	100 µg/L	99.7	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	99.5 µg/L	100 µg/L	99.5	60.0	140	----
		Trichloroethylene	79-01-6	E611C	105 µg/L	100 µg/L	105	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611C	83.6 µg/L	100 µg/L	83.6	50.0	150	----
		Vinyl chloride	75-01-4	E611C	78.0 µg/L	100 µg/L	78.0	50.0	150	----
		Xylene, m+p-	179601-23-1	E611C	220 µg/L	200 µg/L	110	60.0	140	----
		Xylene, o-	95-47-6	E611C	104 µg/L	100 µg/L	104	60.0	140	----
Hydrocarbons (QCLot: 1823597)										
VA24D3757-002	Anonymous	VHw (C6-C10)	----	E581.VH+F1	4440 µg/L	6310 µg/L	70.4	60.0	140	----



www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 -

Page of

Environmental Division
Vancouver
Work Order Reference
VA24D3766



Telephone: +1 604-253 4188

Turnaround Time (TAT) Requested

Routine [R] if received by 3pm M-F - no surcharges apply
 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
 1 day [P1] if received by 3pm M-F - 100% rush surcharge minimum
 Same day [E] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekdays.

Date and Time Required for all EXP. TATs:

For all tests with rush TATs requested, please contact your AM to confirm availability.

Reports / Recipients

Select Report Format: PDF EXCEL EDD (DIGITAL)
 Merge QC/QCI Reports with COA YES NO N/A
 Compare Results to Criteria on Report - provide details below if box checked
 Select Distribution: EMAIL MAIL FAX

Email 1 or Fax
 Email 2
 Email 3

Select Invoice to
 Email 1 or Fax
 Email 2

Oil

A/E/Coast Center: VA23-TRIT100-012
 Major/Minor Code:
 Requisitioner:
 Location:
 ALS Contact:

Contact and company name below will appear on the final report

Company: Triton Environmental
 Contact:
 Phone:
 Street:
 City/Province:
 Postal Code:
 Invoice To
 Company:
 Contact:

ALS Account # / Quote #: VA23-TRIT100-012
 Job #: 11964
 PO / AFE: 11964 - Task 40 - Phase 3C-4C
 LSD:

ALS Lab Work Order # (ALS use only):

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

WLLNG EOP
 pH: 7.1 cond: 63 Turbid: 1.13 temp: 9.7

NUMBER OF CONTAINERS

Total metals + mercury	R	R	R	R	R	R	R	R	R	15
Dissolved metals + mercury	R	R	R	R	R	R	R	R	R	
Total hexavalent chromium	R	R	R	R	R	R	R	R	R	
Total trivalent chromium	R	R	R	R	R	R	R	R	R	
TS, TDS, T-Alkalinity, Anions scan (Br, Cl, F, NO2, NO3, SO4)	R	R	R	R	R	R	R	R	R	
Total sulfide (low) (as H2S)	R	R	R	R	R	R	R	R	R	
Nutrients (ammonia, ammonium, total nitrogen, total phosphorus, phosho)	R	R	R	R	R	R	R	R	R	
VOC/NPH	R	R	R	R	R	R	R	R	R	
PH, PAH, LEPAH/HEPH	R	R	R	R	R	R	R	R	R	
DOC	R	R	R	R	R	R	R	R	R	
Glycols	R	R	R	R	R	R	R	R	R	
General parameters (alkalinity)	R	R	R	R	R	R	R	R	R	

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FP) below

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: NONE ICE ICE PACKS FROZEN COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: YES NO

Cooler Custody Seals Intact: YES N/A Sample Custody Seals Intact: YES N/A

INITIAL COOLER TEMPERATURES °C:
 FINAL COOLER TEMPERATURES °C:
 5

SHIPMENT RELEASE (client use)
 Date: 7:35
 Time: 15
 Received by: [Signature]

INITIAL SHIPMENT RECEPTION (ALS use only)
 Date: 17-Dec-24
 Time: 10:12
 Received by: [Signature]

FINAL SHIPMENT RECEPTION (ALS use only)
 Date: [Signature]
 Time: [Signature]

Drinking Water (DW) Samples (client use)

Are samples taken from a Regulated DW System?
 YES NO

Are samples for human consumption/ use?
 YES NO


Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

ESDAT EDD to EScat_CA+trilomeniv@ESdatLabSync.net

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.

 Eagle Mountain - Woodfibre Gas Pipeline Project Waste Discharge Permit PE-110163 Report	Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
	Report #	39
	Appendix C	C-4

Woodfibre Site WTP Discharge Field Notes and Logs



FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-12-17-Shafiei-730CA

Project Component:	Tunnel	Site Name:	WLNG Treatment Discharge
Inspection Date:	12/17/2024	Location:	WLNG
Triton QP:	Farshad Shafiei	Latitude/Longitude:	49.669293 -123.249818
Temperature(c): Low 1	High 6	Permit:	PE 110136
Weather Conditions:	Light Rain	Ground Conditions:	Wet

Observations

Time: 09:38:19 **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	LC50 sample collected
TSS	Yes	Anions	Yes	
TDS	Yes	Total Trivalent Chromium	Yes	QA Samples: No
Nutrients	Yes	VOC/VPH	Yes	LC50 sample collected
DOC	Yes	EPH, PAH, LEPH/HEPH	Yes	
		Trout LC50	Yes	

Logger Maintenance

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

Photos



Photo: 1
Location: EOP
Description: Sampling location



Photo: 2
Location: LC50 COC
Description: LC 50 COC

Photos

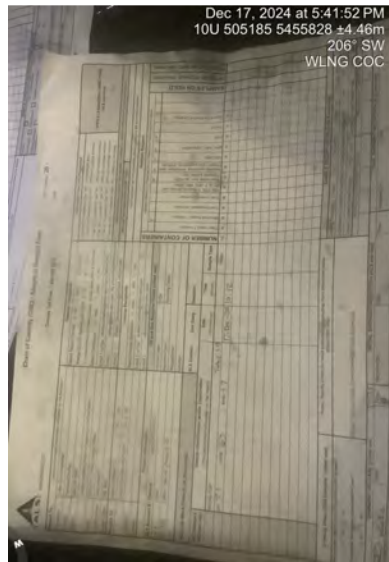


Photo: 3
Location: EOP Lab COC
Description: EOP Lab COC



Sign Off

Report Prepared By:

Report Reviewed: Yes

Report Reviewer:

Professional(s) of Record:

Name:

Designation:

Designation Number:

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Table of Contents:

1. Executive Summary and Notes
2. Discharge Parameter Summary
3. WTP Calibration Log

Appendices:

- Appendix A- WTP Data Log
- Appendix B- YSI Data Log
- Appendix C- Photos

1. Executive Summary and Field Notes:

The discharged water consistently remained within regulatory guidelines. The key parameters, including temperature, pH, NTU, salinity, conductivity, and oxidation-reduction potential (ORP), were monitored throughout the discharge process and remained within the prescribed limits. No visible sheen observed on top of the WTP tanks and discharged water. All relevant parameters were measured using YSI instruments and WTP probes. The total discharge volume up to December 16th was 36,352 m³.

Daily Volume Summary:

Table 1: Discharge Volumes Daily Summary

Date	Location	Volume (m3)	Comments
December 16	Woodfibre (WF)	349	None
December 17	WF	366	None
December 18	WF	357	None
December 19	WF	431	None
December 20	WF	415	None
December 21	WF	413	None
December 22	WF	449	None
Total		2,780	None

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

2. Discharge Parameter Summary:

Table 2: Discharge Parameter Summary

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/16/2024	0:00:00	7.7	0.816	0	36,352	10.1	118
12/16/2024	0:15:00	7.7	0.820	0	36,364	10.2	117
12/16/2024	2:30:00	7.6	0.813	0	36,370	10.4	119
12/16/2024	2:45:00	7.7	0.801	0	36,382	10.1	118
12/16/2024	3:00:00	7.7	0.782	0	36,395	10.1	119
12/16/2024	3:15:00	7.7	0.813	0	36,407	10.1	119
12/16/2024	5:30:00	7.6	0.412	4.7	36,416	10.4	119
12/16/2024	5:45:00	7.7	0.790	5.6	36,426	10.1	119
12/16/2024	6:00:00	7.7	0.779	0.8	36,438	10	119
12/16/2024	6:15:00	7.7	0.813	0	36,450	10	119
12/16/2024	6:30:00	7.7	0.805	0	36,462	10	119
12/16/2024	8:45:00	7.5	0.658	0	36,463	16.8	119
12/16/2024	9:15:00	7.7	0.786	0	36,467	10	119
12/16/2024	9:30:00	7.7	0.820	0	36,480	9.8	114
12/16/2024	9:45:00	7.7	0.816	0	36,492	9.8	115
12/16/2024	10:00:00	7.7	0.786	0	36,504	9.7	115
12/16/2024	10:15:00	7.7	0.809	0	36,516	9.8	116
12/16/2024	12:30:00	7.7	0.816	36	36,541	9.6	118
12/16/2024	12:45:00	7.7	0.816	29.9	36,553	9.6	117
12/16/2024	13:00:00	7.7	0.461	27	36,564	10.1	117
12/16/2024	15:15:00	7.8	0.386	0	36,566	9.9	114

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/16/2024	15:30:00	7.7	0.832	0	36,578	9.4	113
12/16/2024	15:45:00	7.7	0.801	0	36,591	9.4	115
12/16/2024	16:00:00	7.7	0.798	0	36,603	9.5	116
12/16/2024	16:15:00	7.7	0.824	0	36,615	9.7	117
12/16/2024	18:30:00	7.7	0.816	13.9	36,618	9.1	113
12/16/2024	18:45:00	7.7	0.816	3.8	36,631	9.2	113
12/16/2024	19:00:00	7.7	0.809	0	36,643	9.2	113
12/16/2024	19:15:00	7.7	0.798	0	36,655	9.2	115
12/16/2024	21:15:00	7.5	0.654	0	36,666	13.8	116
12/16/2024	21:30:00	7.7	0.771	0	36,678	9.2	116
12/16/2024	21:45:00	7.7	0.782	0	36,690	9.2	116
12/16/2024	22:00:00	7.7	0.794	0	36,701	9.3	116
12/17/2024	0:45:00	7.7	0.805	7.5	36,712	9.7	118
12/17/2024	1:00:00	7.7	0.786	0	36,724	9.8	118
12/17/2024	1:15:00	7.7	0.805	0	36,736	9.8	117
12/17/2024	1:30:00	7.7	0.801	0	36,748	9.7	117
12/17/2024	1:45:00	7.7	0.798	0	36,760	9.6	114
12/17/2024	4:00:00	7.6	0.786	0	36,762	11.4	119
12/17/2024	4:15:00	7.7	0.790	0	36,774	9.7	117
12/17/2024	4:30:00	7.7	0.805	0	36,786	9.7	117
12/17/2024	4:45:00	7.7	0.801	0	36,798	9.7	118
12/17/2024	7:15:00	7.6	0.798	0	36,810	9.3	111
12/17/2024	7:30:00	7.7	0.835	0	36,822	9.4	114
12/17/2024	7:45:00	7.7	0.813	0	36,834	9.6	116
12/17/2024	8:00:00	7.7	0.756	0	36,846	9.7	117

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/17/2024	10:30:00	7.7	0.794	0	36,869	9.8	117
12/17/2024	10:45:00	7.7	0.764	0	36,880	9.8	118
12/17/2024	11:00:00	7.7	0.798	0	36,892	9.8	118
12/17/2024	11:15:00	7.8	0.798	0	36,903	9.8	118
12/17/2024	11:30:00	7.8	0.790	0	36,915	9.8	116
12/17/2024	12:45:00	7.7	0.737	0	36,921	11.2	118
12/17/2024	13:00:00	7.7	0.771	0	36,933	9.8	116
12/17/2024	16:00:00	7.7	0.767	0	36,947	9.9	119
12/17/2024	16:15:00	7.7	0.771	1.4	36,959	10	118
12/17/2024	16:30:00	7.7	0.790	12.2	36,970	10.1	118
12/17/2024	17:00:00	7.8	0.832	0	36,981	9.9	116
12/17/2024	18:45:00	7.7	0.828	0	36,993	10	119
12/17/2024	19:00:00	7.7	0.832	0	37,006	9.8	117
12/17/2024	19:15:00	7.8	0.824	0	37,019	9.6	114
12/17/2024	21:15:00	7.7	0.828	0	37,038	9.6	119
12/17/2024	21:30:00	7.7	0.835	0	37,051	9.4	116
12/17/2024	21:45:00	7.7	0.828	0	37,063	9.3	114
12/17/2024	22:00:00	7.7	0.805	0	37,075	9.2	113
12/18/2024	0:15:00	7.6	0.851	0	37,086	9.6	118
12/18/2024	0:30:00	7.7	0.851	0	37,099	9.6	117
12/18/2024	0:45:00	7.7	0.847	0	37,112	9.5	115
12/18/2024	1:00:00	7.7	0.854	0	37,125	9.3	114
12/18/2024	2:45:00	7.6	0.854	0	37,131	9.3	114
12/18/2024	3:00:00	7.7	0.851	0	37,144	9.1	116
12/18/2024	3:15:00	7.7	0.847	0	37,156	9.2	116

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/18/2024	3:30:00	7.7	0.858	0	37,169	9.3	116
12/18/2024	5:15:00	7.6	0.809	0	37,184	10	118
12/18/2024	5:30:00	7.7	0.862	2.4	37,196	9.3	118
12/18/2024	9:30:00	7.6	0.839	8.2	37,231	9.4	117
12/18/2024	9:45:00	7.7	0.816	4.7	37,244	9.4	117
12/18/2024	10:00:00	7.7	0.835	5.4	37,256	9.5	118
12/18/2024	10:15:00	7.7	0.816	3.3	37,268	9.5	116
12/18/2024	12:45:00	7.6	0.835	8.2	37,271	9.6	113
12/18/2024	13:00:00	7.7	0.835	0	37,284	9.7	113
12/18/2024	13:15:00	7.7	0.851	0	37,296	9.8	113
12/18/2024	16:00:00	7.7	0.858	0	37,323	10.4	117
12/18/2024	16:15:00	7.7	0.835	0	37,335	10.5	119
12/18/2024	16:30:00	7.7	0.843	0	37,348	10.5	119
12/18/2024	19:00:00	7.6	0.843	0	37,368	10.8	118
12/18/2024	19:15:00	7.7	0.847	0	37,381	10.7	117
12/18/2024	19:30:00	7.7	0.851	0	37,394	10.6	116
12/18/2024	21:45:00	7.6	0.843	0	37,405	11.1	119
12/18/2024	22:00:00	7.7	0.839	0	37,418	10.6	119
12/18/2024	22:15:00	7.7	0.839	0	37,430	10.6	118
12/18/2024	22:30:00	7.7	0.843	0	37,443	10.6	119
12/19/2024	0:45:00	7.6	0.835	0	37,449	11.3	119
12/19/2024	1:00:00	7.7	0.828	0	37,462	10.5	118
12/19/2024	1:15:00	7.7	0.832	0	37,474	10.4	117
12/19/2024	1:30:00	7.7	0.839	0	37,487	10.5	118
12/19/2024	3:15:00	7.6	0.805	0	37,497	10.1	114

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/19/2024	3:30:00	7.6	0.832	4.9	37,509	10.3	115
12/19/2024	3:45:00	7.5	0.824	4.7	37,521	11.1	116
12/19/2024	4:00:00	7.4	0.813	4	37,534	11.9	116
12/19/2024	6:15:00	7.5	0.798	4.3	37,545	10.9	116
12/19/2024	6:30:00	7.6	0.835	4.1	37,557	10.1	117
12/19/2024	6:45:00	7.7	0.820	3.4	37,570	10.1	117
12/19/2024	7:00:00	7.7	0.816	4.7	37,582	10.1	116
12/19/2024	9:15:00	7.7	0.828	0	37,595	10.2	116
12/19/2024	9:30:00	7.7	0.832	0	37,607	10	116
12/19/2024	9:45:00	7.7	0.820	0	37,620	9.9	114
12/19/2024	10:00:00	7.7	0.813	0	37,632	9.7	113
12/19/2024	11:30:00	7.4	0.816	0	37,642	14.3	119
12/19/2024	12:00:00	7.7	0.805	0	37,655	10	118
12/19/2024	13:00:00	7.6	0.832	0	37,658	10.2	119
12/19/2024	13:15:00	7.6	0.813	0	37,671	10	116
12/19/2024	13:30:00	7.6	0.858	0	37,683	10	117
12/19/2024	14:30:00	7.6	0.809	0	37,694	10.1	116
12/19/2024	16:00:00	7.5	0.801	0	37,713	11.6	119
12/19/2024	16:15:00	7.6	0.820	0	37,726	9.8	117
12/19/2024	16:30:00	7.6	0.820	0	37,738	9.7	113
12/19/2024	16:45:00	7.6	0.832	0	37,750	9.7	114
12/19/2024	18:45:00	7.6	0.427	0	37,765	10.3	118
12/19/2024	19:00:00	7.6	0.843	0	37,776	9.8	115
12/19/2024	20:00:00	7.5	0.809	0	37,786	11.7	118
12/19/2024	20:15:00	7.6	0.820	0	37,798	9.8	119

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/19/2024	20:30:00	7.6	0.828	0	37,810	9.7	116
12/19/2024	20:45:00	7.6	0.828	0	37,823	9.8	118
12/19/2024	21:00:00	7.7	0.832	0	37,835	9.8	118
12/19/2024	23:00:00	7.6	0.397	0	37,845	9.9	115
12/19/2024	23:15:00	7.6	0.809	0	37,856	9.6	115
12/19/2024	23:30:00	7.6	0.843	0	37,868	9.5	114
12/19/2024	23:45:00	7.6	0.839	1.1	37,880	9.5	113
12/20/2024	0:00:00	7.6	0.820	9.1	37,893	9.5	114
12/20/2024	1:45:00	7.6	0.816	7.9	37,903	9.3	113
12/20/2024	2:00:00	7.6	0.828	5.5	37,915	9.3	115
12/20/2024	2:15:00	7.6	0.820	5.9	37,927	9.4	113
12/20/2024	2:30:00	7.6	0.828	4	37,939	9.3	113
12/20/2024	2:45:00	7.6	0.824	2.7	37,952	9.4	114
12/20/2024	4:30:00	7.6	0.820	0	37,961	9.3	114
12/20/2024	4:45:00	7.6	0.809	0	37,974	9.4	116
12/20/2024	5:00:00	7.6	0.805	0	37,986	9.5	116
12/20/2024	6:15:00	7.5	0.805	0	37,994	10.7	114
12/20/2024	6:30:00	7.6	0.824	0	38,006	9.4	113
12/20/2024	6:45:00	7.6	0.809	0	38,019	9.4	114
12/20/2024	7:00:00	7.6	0.839	0	38,031	9.6	114
12/20/2024	9:15:00	7.6	0.816	0	38,040	10.4	119
12/20/2024	9:30:00	7.6	0.835	0	38,052	10.1	119
12/20/2024	9:45:00	7.6	0.828	0	38,065	10.1	119
12/20/2024	10:00:00	7.6	0.847	0	38,077	10.2	118
12/20/2024	12:15:00	7.5	0.820	0	38,090	10.2	118

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/20/2024	12:30:00	7.6	0.835	0	38,103	10.3	118
12/20/2024	12:45:00	7.6	0.816	0	38,115	10.4	118
12/20/2024	15:00:00	7.6	0.397	0	38,129	11.1	119
12/20/2024	15:15:00	7.6	0.813	0	38,139	10.6	119
12/20/2024	15:30:00	7.6	0.854	0	38,151	10.6	119
12/20/2024	15:45:00	7.6	0.824	0	38,164	10.6	119
12/20/2024	16:00:00	7.6	0.824	0	38,176	10.6	119
12/20/2024	18:15:00	7.5	0.832	0	38,180	11.3	121
12/20/2024	18:30:00	7.6	0.847	0	38,192	10.7	119
12/20/2024	18:45:00	7.6	0.839	0	38,205	10.7	119
12/20/2024	19:00:00	7.6	0.824	0	38,217	10.7	119
12/20/2024	19:15:00	7.6	0.832	0	38,230	10.7	119
12/20/2024	21:15:00	7.6	0.820	0	38,236	10.3	114
12/20/2024	21:30:00	7.6	0.832	0	38,248	10.3	116
12/20/2024	22:45:00	7.6	0.832	0	38,258	10.6	119
12/20/2024	23:00:00	7.6	0.824	0	38,270	10.6	119
12/20/2024	23:15:00	7.6	0.816	0	38,283	10.5	119
12/20/2024	23:30:00	7.6	0.824	0	38,295	10.4	116
12/20/2024	23:45:00	7.6	0.839	0	38,308	10.3	117
12/21/2024	2:00:00	7.6	0.926	0	38,316	10.8	119
12/21/2024	2:15:00	7.6	0.953	0	38,330	10.3	119
12/21/2024	2:30:00	7.6	0.926	0	38,344	10.3	119
12/21/2024	2:45:00	7.6	0.926	0	38,358	10.4	119
12/21/2024	4:45:00	7.6	0.949	0	38,375	10.5	119
12/21/2024	5:00:00	7.6	0.953	0	38,389	10.4	117

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/21/2024	6:30:00	7.6	0.953	0	38,402	10.5	119
12/21/2024	6:45:00	7.6	0.953	0	38,417	10.5	119
12/21/2024	7:00:00	7.6	0.968	0	38,431	10.6	119
12/21/2024	8:45:00	7.5	0.968	0	38,437	15.3	118
12/21/2024	9:00:00	7.6	0.945	0	38,451	10.6	119
12/21/2024	9:15:00	7.6	0.990	0	38,465	10.6	119
12/21/2024	9:30:00	7.6	0.990	0	38,479	10.7	119
12/21/2024	11:45:00	7.6	0.922	0	38,499	10.9	119
12/21/2024	12:00:00	7.6	0.971	0	38,513	10.8	119
12/21/2024	12:15:00	7.6	0.949	0	38,527	10.8	118
12/21/2024	12:30:00	7.6	0.926	0	38,541	10.7	119
12/21/2024	14:45:00	7.5	0.987	0	38,550	11.6	121
12/21/2024	15:00:00	7.6	0.930	0	38,565	10.9	119
12/21/2024	15:15:00	7.6	0.971	0	38,579	10.9	119
12/21/2024	15:30:00	7.6	0.964	0	38,593	10.8	119
12/21/2024	17:30:00	7.6	0.964	0	38,611	11	121
12/21/2024	17:45:00	7.6	0.919	0	38,622	10.8	119
12/21/2024	18:00:00	7.6	0.968	0	38,636	10.8	119
12/21/2024	18:15:00	7.6	0.960	0	38,650	10.7	118
12/21/2024	20:30:00	7.5	0.964	0	38,656	11.1	119
12/21/2024	20:45:00	7.6	0.983	0	38,670	10.9	119
12/21/2024	21:45:00	7.5	0.930	0	38,676	12	119
12/21/2024	22:00:00	7.6	0.956	0	38,691	10.9	119
12/21/2024	22:15:00	7.6	0.956	0	38,705	10.9	118
12/21/2024	23:45:00	7.6	1.043	0	38,729	10.8	119

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/22/2024	0:15:00	7.6	0.903	0	38,746	10.8	119
12/22/2024	1:00:00	7.6	0.975	0	38,754	10.8	119
12/22/2024	1:15:00	7.6	1.017	0	38,768	10.7	119
12/22/2024	1:30:00	7.5	1.009	0	38,783	10.7	119
12/22/2024	1:45:00	7.6	0.994	0	38,798	10.7	119
12/22/2024	2:00:00	7.6	0.979	0	38,813	10.7	119
12/22/2024	4:15:00	7.4	0.971	0	38,814	18.4	121
12/22/2024	4:30:00	7.6	0.983	0	38,829	10.7	119
12/22/2024	4:45:00	7.6	0.968	0	38,843	10.6	119
12/22/2024	5:00:00	7.6	0.510	0	38,856	11.3	119
12/22/2024	5:15:00	7.6	0.968	0	38,869	10.6	119
12/22/2024	7:30:00	7.5	0.968	0	38,872	14.7	121
12/22/2024	7:45:00	7.5	0.964	0	38,886	10.8	121
12/22/2024	8:00:00	7.6	0.968	0	38,901	10.8	119
12/22/2024	8:15:00	7.6	0.953	0	38,915	10.7	119
12/22/2024	10:15:00	7.5	0.922	0	38,928	10.8	121
12/22/2024	10:30:00	7.5	0.949	0	38,942	10.7	119
12/22/2024	10:45:00	7.6	0.945	0	38,956	10.7	118
12/22/2024	11:00:00	7.6	0.930	0	38,970	10.7	119
12/22/2024	13:15:00	7.5	0.915	0	38,985	10.8	119
12/22/2024	13:30:00	7.6	0.960	0	38,999	10.7	119
12/22/2024	13:45:00	7.6	0.903	0	39,013	10.7	119
12/22/2024	14:00:00	7.6	0.919	0	39,027	10.7	119
12/22/2024	16:15:00	7.5	0.427	0	39,033	10.6	116
12/22/2024	16:30:00	7.5	0.926	0	39,045	10.4	114

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by:	SD
		Approved by:	BC2
		Date:	January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/22/2024	16:45:00	7.6	0.953	0	39,059	10.5	117
12/22/2024	17:00:00	7.6	0.956	0	39,074	10.5	117
12/22/2024	17:15:00	7.6	0.953	0	39,088	10.4	114
12/22/2024	19:30:00	7.5	0.960	0	39,100	10.3	116
12/22/2024	19:45:00	7.5	0.960	0	39,114	10.4	116
12/22/2024	20:00:00	7.6	0.960	0	39,129	10.5	117
12/22/2024	22:15:00	7.5	0.926	0	39,138	16.4	119
12/22/2024	22:30:00	7.5	0.956	0	39,152	10.7	119
12/22/2024	22:45:00	7.5	0.945	0	39,167	10.6	119
12/22/2024	23:00:00	7.6	0.945	0	39,181	10.6	119
12/22/2024	23:15:00	7.6	0.941	0	39,195	10.6	119

Table 3. In-Situ Parameters

Date	Time	Temperature °C	DO mg/L	Conductivity SPC-uS/cm	SAL-ppt	pH	ORP (mV)	NTU
12/16/2024	08:12:01PM	10.6	11.77	128.3	0.06	8.29	126.8	2.11
12/17/2024	09:17:40AM	10.1	11.54	128.5	0.06	8.37	124.6	2.30
12/18/2024	02:47:10PM	10.9	11.03	120.8	0.06	7.97	133.9	5.29
12/19/2024	09:37:44AM	10.6	11.48	129.6	0.06	7.78	123.6	0.93
12/20/2024	09:22:29AM	10.1	11.76	129.3	0.06	8.10	129.4	3.51
12/21/2024	08:12:56PM	9.1	11.22	127.6	0.06	7.89	120.9	3.04
12/22/2024	11:33:44AM	10.5	12.43	117.5	0.06	8.00	122.2	2.66



Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

3. Calibration Log:

Table 4. Calibration Log


Date	Unit	pH	Conductivity/Temp.	Salinity	NTU
12/17/2024	YSI	✓	✓	✓	✓
12/17/2024	WTP	✓	N/A	N/A	✓




Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


APPENDIX A: WTP Log

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/16/2024	0:00:00	7.7	0.816	0	36,352	Open	10.1	118
12/16/2024	0:15:00	7.7	0.820	0	36,364	Open	10.2	117
12/16/2024	0:30:00	7.7	0.000	0	36,367	Open	10.7	117
12/16/2024	0:45:00	7.6	0.000	0	36,367	Open	11.5	118
12/16/2024	1:00:00	7.5	0.000	0	36,367	Open	12.4	119
12/16/2024	1:15:00	7.5	0.000	0	36,367	Open	13.2	118
12/16/2024	1:30:00	7.4	0.000	0	36,367	Open	13.6	117
12/16/2024	1:45:00	7.4	0.000	0	36,367	Open	14.1	116
12/16/2024	2:00:00	7.4	0.000	0	36,367	Open	14.5	118
12/16/2024	2:15:00	7.4	0.000	0	36,367	Open	15	118
12/16/2024	2:30:00	7.6	0.813	0	36,370	Open	10.4	119
12/16/2024	2:45:00	7.7	0.801	0	36,382	Open	10.1	118
12/16/2024	3:00:00	7.7	0.782	0	36,395	Open	10.1	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/16/2024	3:15:00	7.7	0.813	0	36,407	Open	10.1	119
12/16/2024	3:30:00	7.7	0.000	0	36,410	Closed	10.7	118
12/16/2024	3:45:00	7.6	0.000	0	36,410	Closed	11.6	118
12/16/2024	4:00:00	7.5	0.000	0	36,410	Closed	12.2	118
12/16/2024	4:15:00	7.5	0.000	0	36,410	Closed	13	118
12/16/2024	4:30:00	7.4	0.000	0	36,410	Closed	13.8	119
12/16/2024	4:45:00	7.4	0.000	0	36,410	Closed	14.5	119
12/16/2024	5:00:00	7.4	0.000	0	36,410	Closed	15	119
12/16/2024	5:15:00	7.4	0.000	0.4	36,410	Closed	15.5	119
12/16/2024	5:30:00	7.6	0.412	4.7	36,416	Open	10.4	119
12/16/2024	5:45:00	7.7	0.790	5.6	36,426	Open	10.1	119
12/16/2024	6:00:00	7.7	0.779	0.8	36,438	Open	10	119
12/16/2024	6:15:00	7.7	0.813	0	36,450	Open	10	119
12/16/2024	6:30:00	7.7	0.805	0	36,462	Open	10	119
12/16/2024	6:45:00	7.7	0.000	0	36,463	Closed	10.8	120

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/16/2024	7:00:00	7.6	0.000	0	36,463	Closed	11.7	118
12/16/2024	7:15:00	7.5	0.000	0	36,463	Open	12.6	119
12/16/2024	7:30:00	7.5	0.000	0	36,463	Open	13.5	119
12/16/2024	7:45:00	7.4	0.000	0	36,463	Open	14.2	119
12/16/2024	8:00:00	7.4	0.000	0	36,463	Open	14.9	119
12/16/2024	8:15:00	7.4	0.000	0	36,463	Open	15.5	118
12/16/2024	8:30:00	7.4	0.000	0	36,463	Open	15.9	243
12/16/2024	8:45:00	7.5	0.658	0	36,463	Open	16.8	119
12/16/2024	9:00:00	7.7	0.344	192.2	36,464	Closed	10	119
12/16/2024	9:15:00	7.7	0.786	0	36,467	Open	10	119
12/16/2024	9:30:00	7.7	0.820	0	36,480	Open	9.8	114
12/16/2024	9:45:00	7.7	0.816	0	36,492	Open	9.8	115
12/16/2024	10:00:00	7.7	0.786	0	36,504	Open	9.7	115
12/16/2024	10:15:00	7.7	0.809	0	36,516	Open	9.8	116
12/16/2024	10:30:00	7.7	0.000	0	36,518	Closed	10.4	117

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/16/2024	10:45:00	7.6	0.000	0	36,518	Closed	11.3	119
12/16/2024	11:00:00	7.5	0.000	0	36,518	Closed	12.3	119
12/16/2024	11:15:00	7.5	0.000	0	36,518	Closed	13.1	119
12/16/2024	11:30:00	7.4	0.000	0	36,518	Closed	13.9	119
12/16/2024	11:45:00	7.4	0.000	0	36,518	Closed	14.5	119
12/16/2024	12:00:00	7.7	0.798	89.2	36,518	Closed	9.7	118
12/16/2024	12:15:00	7.7	0.816	41.8	36,529	Open	9.6	117
12/16/2024	12:30:00	7.7	0.816	36	36,541	Open	9.6	118
12/16/2024	12:45:00	7.7	0.816	29.9	36,553	Open	9.6	117
12/16/2024	13:00:00	7.7	0.461	27	36,564	Open	10.1	117
12/16/2024	13:15:00	7.8	0.000	0	36,565	Open	12.5	116
12/16/2024	13:30:00	7.7	0.000	0.3	36,565	Open	14.5	117
12/16/2024	13:45:00	7.7	0.000	8.5	36,565	Open	16	119
12/16/2024	14:00:00	7.7	0.000	26.2	36,565	Open	17.1	119
12/16/2024	14:15:00	7.6	0.000	50.7	36,565	Open	17.7	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/16/2024	14:30:00	7.6	0.000	52	36,565	Open	18.2	119
12/16/2024	14:45:00	7.6	0.000	51.8	36,565	Open	18.8	120
12/16/2024	15:00:00	7.7	0.779	200.5	36,566	Closed	9.7	119
12/16/2024	15:15:00	7.8	0.386	0	36,566	Closed	9.9	114
12/16/2024	15:30:00	7.7	0.832	0	36,578	Open	9.4	113
12/16/2024	15:45:00	7.7	0.801	0	36,591	Open	9.4	115
12/16/2024	16:00:00	7.7	0.798	0	36,603	Open	9.5	116
12/16/2024	16:15:00	7.7	0.824	0	36,615	Open	9.7	117
12/16/2024	16:30:00	7.6	0.000	0	36,615	Closed	10.5	118
12/16/2024	16:45:00	7.5	0.000	0	36,615	Closed	11.2	116
12/16/2024	17:00:00	7.5	0.000	0	36,615	Closed	11.9	117
12/16/2024	17:15:00	7.5	0.000	0	36,615	Closed	12.6	118
12/16/2024	17:30:00	7.4	0.000	0	36,615	Closed	13.4	119
12/16/2024	17:45:00	7.4	0.000	0.8	36,615	Closed	14.1	119
12/16/2024	18:00:00	7.4	0.000	16.9	36,615	Closed	14.5	116

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/16/2024	18:15:00	7.7	0.344	25.9	36,615	Closed	9.2	114
12/16/2024	18:30:00	7.7	0.816	13.9	36,618	Open	9.1	113
12/16/2024	18:45:00	7.7	0.816	3.8	36,631	Open	9.2	113
12/16/2024	19:00:00	7.7	0.809	0	36,643	Open	9.2	113
12/16/2024	19:15:00	7.7	0.798	0	36,655	Open	9.2	115
12/16/2024	19:30:00	7.7	0.000	0	36,666	Open	9.3	116
12/16/2024	19:45:00	7.6	0.000	0	36,666	Open	10.1	117
12/16/2024	20:00:00	7.5	0.000	0	36,666	Open	11	118
12/16/2024	20:15:00	7.5	0.000	0	36,666	Open	11.9	118
12/16/2024	20:30:00	7.5	0.000	0	36,666	Open	12.3	116
12/16/2024	20:45:00	7.4	0.000	0	36,666	Open	12.7	115
12/16/2024	21:00:00	7.4	0.000	0	36,666	Open	13	115
12/16/2024	21:15:00	7.5	0.654	0	36,666	Open	13.8	116
12/16/2024	21:30:00	7.7	0.771	0	36,678	Open	9.2	116
12/16/2024	21:45:00	7.7	0.782	0	36,690	Open	9.2	116

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/16/2024	22:00:00	7.7	0.794	0	36,701	Open	9.3	116
12/16/2024	22:15:00	7.7	0.000	0	36,709	Closed	9.6	116
12/16/2024	22:30:00	7.6	0.000	0	36,709	Closed	10.5	117
12/16/2024	22:45:00	7.5	0.000	0	36,709	Closed	11.4	118
12/16/2024	23:00:00	7.5	0.000	0	36,709	Closed	12.2	117
12/16/2024	23:15:00	7.5	0.000	0	36,709	Closed	13	118
12/16/2024	23:30:00	7.4	0.000	0	36,709	Closed	13.7	118
12/16/2024	23:45:00	7.4	0.000	0	36,709	Closed	14.4	119
12/17/2024	0:00:00	7.4	0.000	14.6	36,709	Closed	15	119
12/17/2024	0:15:00	7.4	0.000	45.3	36,709	Closed	15.6	119
12/17/2024	0:30:00	7.7	0.779	31.1	36,709	Closed	9.5	119
12/17/2024	0:45:00	7.7	0.805	7.5	36,712	Open	9.7	118
12/17/2024	1:00:00	7.7	0.786	0	36,724	Open	9.8	118
12/17/2024	1:15:00	7.7	0.805	0	36,736	Open	9.8	117
12/17/2024	1:30:00	7.7	0.801	0	36,748	Open	9.7	117

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/17/2024	1:45:00	7.7	0.798	0	36,760	Open	9.6	114
12/17/2024	2:00:00	7.7	0.000	0	36,761	Closed	9.9	113
12/17/2024	2:15:00	7.6	0.000	0	36,761	Closed	10.3	113
12/17/2024	2:30:00	7.5	0.000	0	36,761	Closed	11.1	116
12/17/2024	2:45:00	7.5	0.000	0	36,761	Closed	11.8	116
12/17/2024	3:00:00	7.5	0.000	0	36,761	Closed	12.5	117
12/17/2024	3:15:00	7.4	0.000	0	36,761	Closed	13.2	117
12/17/2024	3:30:00	7.4	0.000	0	36,761	Closed	13.8	118
12/17/2024	3:45:00	7.4	0.000	0	36,761	Closed	14.4	119
12/17/2024	4:00:00	7.6	0.786	0	36,762	Open	11.4	119
12/17/2024	4:15:00	7.7	0.790	0	36,774	Open	9.7	117
12/17/2024	4:30:00	7.7	0.805	0	36,786	Open	9.7	117
12/17/2024	4:45:00	7.7	0.801	0	36,798	Open	9.7	118
12/17/2024	5:00:00	7.7	0.000	0	36,806	Closed	10	119
12/17/2024	5:15:00	7.6	0.000	0	36,806	Closed	10.5	114

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/17/2024	5:30:00	7.5	0.000	0	36,806	Closed	10.8	112
12/17/2024	5:45:00	7.5	0.000	0	36,806	Closed	11	111
12/17/2024	6:00:00	7.4	0.000	0	36,806	Closed	11.2	110
12/17/2024	6:15:00	7.4	0.000	0	36,806	Closed	11.3	111
12/17/2024	6:30:00	7.4	0.000	0	36,806	Closed	11.7	114
12/17/2024	6:45:00	7.4	0.000	0	36,806	Closed	12.1	114
12/17/2024	7:00:00	7.4	0.000	0	36,806	Closed	12.2	111
12/17/2024	7:15:00	7.6	0.798	0	36,810	Open	9.3	111
12/17/2024	7:30:00	7.7	0.835	0	36,822	Open	9.4	114
12/17/2024	7:45:00	7.7	0.813	0	36,834	Open	9.6	116
12/17/2024	8:00:00	7.7	0.756	0	36,846	Open	9.7	117
12/17/2024	8:15:00	7.7	0.000	0	36,853	Closed	10	116
12/17/2024	8:30:00	7.6	0.000	0	36,853	Closed	10.8	117
12/17/2024	8:45:00	7.5	0.000	0	36,853	Closed	11.7	118
12/17/2024	9:00:00	7.5	0.000	0	36,853	Closed	12.5	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/17/2024	9:15:00	7.4	0.000	0	36,853	Closed	13.2	117
12/17/2024	9:30:00	7.4	0.000	0	36,853	Closed	13.8	118
12/17/2024	9:45:00	7.4	0.000	0	36,853	Closed	14.4	119
12/17/2024	10:00:00	7.4	0.000	0	36,853	Closed	15	119
12/17/2024	10:15:00	7.7	0.000	0	36,858	Open	10	119
12/17/2024	10:30:00	7.7	0.794	0	36,869	Open	9.8	117
12/17/2024	10:45:00	7.7	0.764	0	36,880	Open	9.8	118
12/17/2024	11:00:00	7.7	0.798	0	36,892	Open	9.8	118
12/17/2024	11:15:00	7.8	0.798	0	36,903	Open	9.8	118
12/17/2024	11:30:00	7.8	0.790	0	36,915	Open	9.8	116
12/17/2024	11:45:00	7.7	0.000	0	36,920	Open	10.2	119
12/17/2024	12:00:00	7.6	0.000	0	36,920	Open	11.2	118
12/17/2024	12:15:00	7.5	0.000	0	36,920	Open	12.2	119
12/17/2024	12:30:00	7.5	0.000	0	36,920	Open	13.1	119
12/17/2024	12:45:00	7.7	0.737	0	36,921	Open	11.2	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/17/2024	13:00:00	7.7	0.771	0	36,933	Open	9.8	116
12/17/2024	13:15:00	7.7	0.000	0	36,940	Open	10.1	118
12/17/2024	13:30:00	7.6	0.000	0	36,940	Open	11	118
12/17/2024	13:45:00	7.5	0.000	0	36,940	Open	12	119
12/17/2024	14:00:00	7.5	0.000	11.9	36,940	Open	13	119
12/17/2024	14:15:00	7.4	0.000	45.5	36,940	Open	13.8	120
12/17/2024	14:30:00	7.4	0.000	99.4	36,940	Open	14.5	119
12/17/2024	14:45:00	7.4	0.000	16.7	36,940	Open	15.2	119
12/17/2024	15:00:00	7.4	0.000	21.7	36,940	Open	15.8	120
12/17/2024	15:15:00	7.4	0.000	0	36,940	Open	16.4	242
12/17/2024	15:30:00	7.4	0.000	0	36,940	Open	16.9	243
12/17/2024	15:45:00	7.4	0.000	21.7	36,940	Open	17.3	243
12/17/2024	16:00:00	7.7	0.767	0	36,947	Open	9.9	119
12/17/2024	16:15:00	7.7	0.771	1.4	36,959	Open	10	118
12/17/2024	16:30:00	7.7	0.790	12.2	36,970	Open	10.1	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/17/2024	16:45:00	7.7	0.329	28	36,977	Closed	10.1	118
12/17/2024	17:00:00	7.8	0.832	0	36,981	Open	9.9	116
12/17/2024	17:15:00	7.6	0.000	0	36,982	Closed	10.5	116
12/17/2024	17:30:00	7.5	0.000	0	36,982	Closed	11.4	118
12/17/2024	17:45:00	7.5	0.000	0	36,982	Closed	12.3	118
12/17/2024	18:00:00	7.4	0.000	0	36,982	Closed	13.2	119
12/17/2024	18:15:00	7.4	0.000	0	36,982	Closed	14	119
12/17/2024	18:30:00	7.4	0.000	0	36,982	Closed	14.7	120
12/17/2024	18:45:00	7.7	0.828	0	36,993	Open	10	119
12/17/2024	19:00:00	7.7	0.832	0	37,006	Open	9.8	117
12/17/2024	19:15:00	7.8	0.824	0	37,019	Open	9.6	114
12/17/2024	19:30:00	7.7	0.000	0	37,027	Closed	9.8	117
12/17/2024	19:45:00	7.6	0.000	0	37,027	Closed	10.6	118
12/17/2024	20:00:00	7.5	0.000	0	37,027	Closed	11.6	118
12/17/2024	20:15:00	7.5	0.000	0	37,027	Closed	12.3	116

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/17/2024	20:30:00	7.4	0.000	0	37,027	Closed	12.7	116
12/17/2024	20:45:00	7.4	0.000	0	37,027	Closed	13.3	118
12/17/2024	21:00:00	7.4	0.000	0	37,027	Closed	13.9	118
12/17/2024	21:15:00	7.7	0.828	0	37,038	Open	9.6	119
12/17/2024	21:30:00	7.7	0.835	0	37,051	Open	9.4	116
12/17/2024	21:45:00	7.7	0.828	0	37,063	Open	9.3	114
12/17/2024	22:00:00	7.7	0.805	0	37,075	Open	9.2	113
12/17/2024	22:15:00	7.7	0.000	0	37,078	Closed	9.8	116
12/17/2024	22:30:00	7.6	0.000	0	37,078	Closed	10.6	117
12/17/2024	22:45:00	7.5	0.000	0	37,078	Closed	11.4	116
12/17/2024	23:00:00	7.4	0.000	0	37,078	Closed	12.2	118
12/17/2024	23:15:00	7.4	0.000	0	37,078	Closed	12.8	117
12/17/2024	23:30:00	7.4	0.000	0	37,078	Closed	13.5	118
12/17/2024	23:45:00	7.4	0.000	0	37,078	Closed	14	117
12/18/2024	0:00:00	7.4	0.000	0	37,078	Closed	14.6	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/18/2024	0:15:00	7.6	0.851	0	37,086	Open	9.6	118
12/18/2024	0:30:00	7.7	0.851	0	37,099	Open	9.6	117
12/18/2024	0:45:00	7.7	0.847	0	37,112	Open	9.5	115
12/18/2024	1:00:00	7.7	0.854	0	37,125	Open	9.3	114
12/18/2024	1:15:00	7.6	0.000	0	37,127	Closed	9.6	113
12/18/2024	1:30:00	7.6	0.000	0	37,127	Closed	9.9	112
12/18/2024	1:45:00	7.5	0.000	0	37,127	Closed	10.2	111
12/18/2024	2:00:00	7.4	0.000	0	37,127	Closed	10.5	111
12/18/2024	2:15:00	7.4	0.000	0	37,127	Closed	10.9	113
12/18/2024	2:30:00	7.4	0.000	0	37,127	Closed	11.3	113
12/18/2024	2:45:00	7.6	0.854	0	37,131	Open	9.3	114
12/18/2024	3:00:00	7.7	0.851	0	37,144	Open	9.1	116
12/18/2024	3:15:00	7.7	0.847	0	37,156	Open	9.2	116
12/18/2024	3:30:00	7.7	0.858	0	37,169	Open	9.3	116
12/18/2024	3:45:00	7.7	0.000	0	37,182	Closed	9.3	117

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/18/2024	4:00:00	7.6	0.000	0	37,182	Closed	10.1	116
12/18/2024	4:15:00	7.5	0.000	0	37,182	Closed	10.7	115
12/18/2024	4:30:00	7.5	0.000	0	37,182	Closed	11.2	115
12/18/2024	4:45:00	7.4	0.000	0	37,182	Closed	11.9	116
12/18/2024	5:00:00	7.4	0.000	0	37,182	Closed	12.6	116
12/18/2024	5:15:00	7.6	0.809	0	37,184	Open	10	118
12/18/2024	5:30:00	7.7	0.862	2.4	37,196	Open	9.3	118
12/18/2024	5:45:00	7.7	0.843	8.6	37,209	Open	9.3	115
12/18/2024	6:00:00	7.7	0.000	10.3	37,217	Closed	9.3	114
12/18/2024	6:15:00	7.6	0.000	10.2	37,217	Closed	9.9	115
12/18/2024	6:30:00	7.7	0.790	19.5	37,221	Closed	9.1	116
12/18/2024	6:45:00	7.7	0.828	19.9	37,221	Closed	9.2	116
12/18/2024	7:00:00	7.7	0.828	14.4	37,221	Closed	9.3	116
12/18/2024	7:15:00	7.7	0.832	15.9	37,221	Closed	9.4	116
12/18/2024	7:30:00	7.6	0.000	12.6	37,221	Open	9.7	116

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/18/2024	7:45:00	7.6	0.000	11.9	37,221	Open	10.6	117
12/18/2024	8:00:00	7.5	0.000	12.3	37,221	Open	11.5	117
12/18/2024	8:15:00	7.4	0.000	11.4	37,221	Open	12.5	118
12/18/2024	8:30:00	7.4	0.000	11.7	37,221	Open	13.3	119
12/18/2024	8:45:00	7.4	0.000	11.5	37,221	Open	14.1	119
12/18/2024	9:00:00	7.4	0.000	11.6	37,221	Open	14.8	118
12/18/2024	9:15:00	7.4	0.000	11.2	37,221	Open	15	117
12/18/2024	9:30:00	7.6	0.839	8.2	37,231	Open	9.4	117
12/18/2024	9:45:00	7.7	0.816	4.7	37,244	Open	9.4	117
12/18/2024	10:00:00	7.7	0.835	5.4	37,256	Open	9.5	118
12/18/2024	10:15:00	7.7	0.816	3.3	37,268	Open	9.5	116
12/18/2024	10:30:00	7.6	0.000	2.8	37,269	Closed	10	116
12/18/2024	10:45:00	7.5	0.000	3	37,269	Closed	10.9	117
12/18/2024	11:00:00	7.5	0.000	2.8	37,269	Closed	11.8	118
12/18/2024	11:15:00	7.4	0.000	2.4	37,269	Closed	12.8	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/18/2024	11:30:00	7.4	0.000	2.9	37,269	Closed	13.4	118
12/18/2024	11:45:00	7.4	0.000	2.7	37,269	Closed	14.1	119
12/18/2024	12:00:00	7.4	0.000	7.1	37,269	Closed	14.9	119
12/18/2024	12:15:00	7.3	0.000	27.7	37,269	Closed	15.2	116
12/18/2024	12:30:00	7.6	0.329	34.9	37,269	Closed	9.4	114
12/18/2024	12:45:00	7.6	0.835	8.2	37,271	Open	9.6	113
12/18/2024	13:00:00	7.7	0.835	0	37,284	Open	9.7	113
12/18/2024	13:15:00	7.7	0.851	0	37,296	Open	9.8	113
12/18/2024	13:30:00	7.7	0.000	0	37,307	Closed	9.9	113
12/18/2024	13:45:00	7.6	0.000	0	37,307	Closed	10.6	116
12/18/2024	14:00:00	7.5	0.000	0	37,307	Closed	11.5	118
12/18/2024	14:15:00	7.4	0.000	0	37,307	Closed	12.4	118
12/18/2024	14:30:00	7.4	0.000	0	37,307	Closed	13.3	119
12/18/2024	14:45:00	7.4	0.000	0	37,307	Closed	14.1	119
12/18/2024	15:00:00	7.4	0.000	0	37,307	Closed	14.9	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/18/2024	15:15:00	7.4	0.000	0	37,307	Closed	15.5	118
12/18/2024	15:30:00	7.4	0.000	0	37,307	Closed	15.6	116
12/18/2024	15:45:00	7.6	0.000	0	37,311	Closed	10.7	117
12/18/2024	16:00:00	7.7	0.858	0	37,323	Open	10.4	117
12/18/2024	16:15:00	7.7	0.835	0	37,335	Open	10.5	119
12/18/2024	16:30:00	7.7	0.843	0	37,348	Open	10.5	119
12/18/2024	16:45:00	7.6	0.000	0	37,356	Closed	10.9	119
12/18/2024	17:00:00	7.5	0.000	0	37,356	Closed	11.8	119
12/18/2024	17:15:00	7.5	0.000	0	37,356	Closed	12.6	116
12/18/2024	17:30:00	7.4	0.000	0	37,356	Closed	13.1	117
12/18/2024	17:45:00	7.4	0.000	0	37,356	Closed	13.9	119
12/18/2024	18:00:00	7.4	0.000	0	37,356	Closed	14.7	119
12/18/2024	18:15:00	7.4	0.000	0	37,356	Closed	15.4	120
12/18/2024	18:30:00	7.4	0.000	0	37,356	Closed	16.1	119
12/18/2024	18:45:00	7.4	0.000	0	37,356	Closed	16.8	121

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/18/2024	19:00:00	7.6	0.843	0	37,368	Open	10.8	118
12/18/2024	19:15:00	7.7	0.847	0	37,381	Open	10.7	117
12/18/2024	19:30:00	7.7	0.851	0	37,394	Open	10.6	116
12/18/2024	19:45:00	7.6	0.000	0	37,402	Closed	10.8	118
12/18/2024	20:00:00	7.5	0.000	0	37,402	Closed	11.7	118
12/18/2024	20:15:00	7.5	0.000	0	37,402	Closed	12.6	119
12/18/2024	20:30:00	7.4	0.000	0	37,402	Closed	13	116
12/18/2024	20:45:00	7.4	0.000	0	37,402	Closed	13.6	117
12/18/2024	21:00:00	7.4	0.000	0	37,402	Closed	14.2	119
12/18/2024	21:15:00	7.4	0.000	0	37,402	Closed	14.9	119
12/18/2024	21:30:00	7.4	0.000	0	37,402	Closed	15.5	119
12/18/2024	21:45:00	7.6	0.843	0	37,405	Open	11.1	119
12/18/2024	22:00:00	7.7	0.839	0	37,418	Open	10.6	119
12/18/2024	22:15:00	7.7	0.839	0	37,430	Open	10.6	118
12/18/2024	22:30:00	7.7	0.843	0	37,443	Open	10.6	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/18/2024	22:45:00	7.6	0.000	0	37,447	Closed	11.1	119
12/18/2024	23:00:00	7.5	0.000	0	37,447	Closed	12.1	119
12/18/2024	23:15:00	7.5	0.000	0	37,447	Closed	13	119
12/18/2024	23:30:00	7.4	0.000	0	37,447	Closed	13.9	119
12/18/2024	23:45:00	7.4	0.000	0	37,447	Closed	14.7	119
12/19/2024	0:00:00	7.4	0.000	0	37,447	Closed	15.3	119
12/19/2024	0:15:00	7.4	0.000	0	37,447	Closed	15.8	119
12/19/2024	0:30:00	7.4	0.000	0	37,447	Closed	16.2	244
12/19/2024	0:45:00	7.6	0.835	0	37,449	Open	11.3	119
12/19/2024	1:00:00	7.7	0.828	0	37,462	Open	10.5	118
12/19/2024	1:15:00	7.7	0.832	0	37,474	Open	10.4	117
12/19/2024	1:30:00	7.7	0.839	0	37,487	Open	10.5	118
12/19/2024	1:45:00	7.6	0.000	0	37,493	Closed	10.8	119
12/19/2024	2:00:00	7.5	0.000	0	37,493	Closed	11.7	119
12/19/2024	2:15:00	7.5	0.000	0	37,493	Closed	12.6	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/19/2024	2:30:00	7.4	0.000	0	37,493	Closed	13	114
12/19/2024	2:45:00	7.4	0.000	0	37,493	Closed	13.1	113
12/19/2024	3:00:00	7.4	0.000	0	37,493	Closed	13.2	112
12/19/2024	3:15:00	7.6	0.805	0	37,497	Open	10.1	114
12/19/2024	3:30:00	7.6	0.832	4.9	37,509	Open	10.3	115
12/19/2024	3:45:00	7.5	0.824	4.7	37,521	Open	11.1	116
12/19/2024	4:00:00	7.4	0.813	4	37,534	Open	11.9	116
12/19/2024	4:15:00	7.4	0.000	3.8	37,539	Closed	12.7	117
12/19/2024	4:30:00	7.4	0.000	4	37,539	Closed	13.5	119
12/19/2024	4:45:00	7.4	0.000	4	37,539	Closed	14.2	119
12/19/2024	5:00:00	7.4	0.000	4.3	37,539	Closed	14.4	114
12/19/2024	5:15:00	7.3	0.000	4.7	37,539	Closed	14.4	113
12/19/2024	5:30:00	7.3	0.000	4.9	37,539	Closed	14.4	113
12/19/2024	5:45:00	7.3	0.000	4.3	37,539	Closed	14.3	113
12/19/2024	6:00:00	7.3	0.000	3.7	37,539	Closed	14.6	117

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/19/2024	6:15:00	7.5	0.798	4.3	37,545	Open	10.9	116
12/19/2024	6:30:00	7.6	0.835	4.1	37,557	Open	10.1	117
12/19/2024	6:45:00	7.7	0.820	3.4	37,570	Open	10.1	117
12/19/2024	7:00:00	7.7	0.816	4.7	37,582	Open	10.1	116
12/19/2024	7:15:00	7.6	0.000	1.8	37,583	Closed	10.7	117
12/19/2024	7:30:00	7.5	0.000	1.4	37,583	Closed	11.5	116
12/19/2024	7:45:00	7.4	0.000	1.6	37,583	Closed	12.3	118
12/19/2024	8:00:00	7.4	0.000	1.8	37,583	Closed	13.1	119
12/19/2024	8:15:00	7.4	0.000	1.8	37,583	Closed	13.9	119
12/19/2024	8:30:00	7.4	0.000	1.3	37,583	Closed	14.6	119
12/19/2024	8:45:00	7.4	0.000	1.2	37,583	Closed	15.2	119
12/19/2024	9:00:00	7.4	0.000	0.8	37,583	Closed	15.8	119
12/19/2024	9:15:00	7.7	0.828	0	37,595	Open	10.2	116
12/19/2024	9:30:00	7.7	0.832	0	37,607	Open	10	116
12/19/2024	9:45:00	7.7	0.820	0	37,620	Open	9.9	114

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/19/2024	10:00:00	7.7	0.813	0	37,632	Open	9.7	113
12/19/2024	10:15:00	7.7	0.000	0	37,642	Closed	9.8	114
12/19/2024	10:30:00	7.6	0.000	0	37,642	Closed	10.5	117
12/19/2024	10:45:00	7.5	0.000	0	37,642	Closed	11.3	118
12/19/2024	11:00:00	7.4	0.000	0	37,642	Closed	12.2	118
12/19/2024	11:15:00	7.4	0.000	0	37,642	Closed	13.1	119
12/19/2024	11:30:00	7.4	0.816	0	37,642	Open	14.3	119
12/19/2024	11:45:00	7.6	0.000	0	37,649	Open	10.1	118
12/19/2024	12:00:00	7.7	0.805	0	37,655	Open	10	118
12/19/2024	12:15:00	7.6	0.000	0	37,655	Closed	10.8	119
12/19/2024	12:30:00	7.5	0.000	0	37,655	Closed	11.8	119
12/19/2024	12:45:00	7.4	0.000	0	37,655	Closed	12.7	119
12/19/2024	13:00:00	7.6	0.832	0	37,658	Open	10.2	119
12/19/2024	13:15:00	7.6	0.813	0	37,671	Open	10	116
12/19/2024	13:30:00	7.6	0.858	0	37,683	Open	10	117

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/19/2024	13:45:00	7.6	0.000	0	37,688	Closed	10.4	117
12/19/2024	14:00:00	7.5	0.000	0	37,688	Closed	11.3	118
12/19/2024	14:15:00	7.5	0.000	0	37,688	Closed	12.3	119
12/19/2024	14:30:00	7.6	0.809	0	37,694	Open	10.1	116
12/19/2024	14:45:00	7.6	0.000	0	37,703	Closed	10.2	116
12/19/2024	15:00:00	7.5	0.000	0	37,703	Closed	10.9	117
12/19/2024	15:15:00	7.5	0.000	0	37,703	Closed	11.8	118
12/19/2024	15:30:00	7.6	0.000	0	37,713	Closed	9.9	115
12/19/2024	15:45:00	7.5	0.000	0	37,713	Closed	10.6	117
12/19/2024	16:00:00	7.5	0.801	0	37,713	Open	11.6	119
12/19/2024	16:15:00	7.6	0.820	0	37,726	Open	9.8	117
12/19/2024	16:30:00	7.6	0.820	0	37,738	Open	9.7	113
12/19/2024	16:45:00	7.6	0.832	0	37,750	Open	9.7	114
12/19/2024	17:00:00	7.6	0.000	0	37,759	Closed	9.9	113
12/19/2024	17:15:00	7.5	0.000	0	37,759	Closed	10.4	114

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/19/2024	17:30:00	7.5	0.000	0	37,759	Closed	11.2	116
12/19/2024	17:45:00	7.4	0.000	0	37,759	Closed	12.1	118
12/19/2024	18:00:00	7.4	0.000	0	37,759	Closed	12.9	119
12/19/2024	18:15:00	7.4	0.000	0	37,759	Closed	13.7	119
12/19/2024	18:30:00	7.4	0.000	0	37,759	Closed	14.4	119
12/19/2024	18:45:00	7.6	0.427	0	37,765	Open	10.3	118
12/19/2024	19:00:00	7.6	0.843	0	37,776	Open	9.8	115
12/19/2024	19:15:00	7.6	0.000	0	37,785	Closed	9.8	114
12/19/2024	19:30:00	7.5	0.000	0	37,785	Closed	10.5	117
12/19/2024	19:45:00	7.4	0.000	0	37,785	Closed	11.4	118
12/19/2024	20:00:00	7.5	0.809	0	37,786	Open	11.7	118
12/19/2024	20:15:00	7.6	0.820	0	37,798	Open	9.8	119
12/19/2024	20:30:00	7.6	0.828	0	37,810	Open	9.7	116
12/19/2024	20:45:00	7.6	0.828	0	37,823	Open	9.8	118
12/19/2024	21:00:00	7.7	0.832	0	37,835	Open	9.8	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/19/2024	21:15:00	7.6	0.000	0	37,837	Closed	10.5	118
12/19/2024	21:30:00	7.5	0.000	0	37,837	Closed	11.4	118
12/19/2024	21:45:00	7.4	0.000	0	37,837	Closed	12.1	117
12/19/2024	22:00:00	7.4	0.000	0	37,837	Closed	12.9	117
12/19/2024	22:15:00	7.4	0.000	0	37,837	Closed	13.6	119
12/19/2024	22:30:00	7.3	0.000	0	37,837	Closed	14.3	119
12/19/2024	22:45:00	7.3	0.000	0	37,837	Closed	15	118
12/19/2024	23:00:00	7.6	0.397	0	37,845	Open	9.9	115
12/19/2024	23:15:00	7.6	0.809	0	37,856	Open	9.6	115
12/19/2024	23:30:00	7.6	0.843	0	37,868	Open	9.5	114
12/19/2024	23:45:00	7.6	0.839	1.1	37,880	Open	9.5	113
12/20/2024	0:00:00	7.6	0.820	9.1	37,893	Open	9.5	114
12/20/2024	0:15:00	7.6	0.000	7.6	37,897	Closed	9.9	116
12/20/2024	0:30:00	7.5	0.000	7.4	37,897	Closed	10.6	116
12/20/2024	0:45:00	7.4	0.000	7	37,897	Closed	11.5	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/20/2024	1:00:00	7.4	0.000	7	37,897	Closed	12.3	117
12/20/2024	1:15:00	7.4	0.000	7.5	37,897	Closed	12.8	114
12/20/2024	1:30:00	7.3	0.000	7.4	37,897	Closed	12.9	113
12/20/2024	1:45:00	7.6	0.816	7.9	37,903	Open	9.3	113
12/20/2024	2:00:00	7.6	0.828	5.5	37,915	Open	9.3	115
12/20/2024	2:15:00	7.6	0.820	5.9	37,927	Open	9.4	113
12/20/2024	2:30:00	7.6	0.828	4	37,939	Open	9.3	113
12/20/2024	2:45:00	7.6	0.824	2.7	37,952	Open	9.4	114
12/20/2024	3:00:00	7.5	0.000	2	37,953	Closed	9.9	113
12/20/2024	3:15:00	7.5	0.000	1.7	37,953	Closed	10.3	113
12/20/2024	3:30:00	7.4	0.000	2.1	37,953	Closed	10.6	113
12/20/2024	3:45:00	7.4	0.000	1.9	37,953	Closed	10.9	111
12/20/2024	4:00:00	7.3	0.000	2	37,953	Closed	11.1	111
12/20/2024	4:15:00	7.3	0.000	1.9	37,953	Closed	11.3	111
12/20/2024	4:30:00	7.6	0.820	0	37,961	Open	9.3	114

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/20/2024	4:45:00	7.6	0.809	0	37,974	Open	9.4	116
12/20/2024	5:00:00	7.6	0.805	0	37,986	Open	9.5	116
12/20/2024	5:15:00	7.6	0.000	0	37,993	Closed	9.9	116
12/20/2024	5:30:00	7.5	0.000	0	37,993	Closed	10.7	118
12/20/2024	5:45:00	7.4	0.000	0	37,993	Closed	11.7	118
12/20/2024	6:00:00	7.4	0.000	0	37,993	Closed	12.5	116
12/20/2024	6:15:00	7.5	0.805	0	37,994	Open	10.7	114
12/20/2024	6:30:00	7.6	0.824	0	38,006	Open	9.4	113
12/20/2024	6:45:00	7.6	0.809	0	38,019	Open	9.4	114
12/20/2024	7:00:00	7.6	0.839	0	38,031	Open	9.6	114
12/20/2024	7:15:00	7.5	0.000	0	38,037	Closed	10	116
12/20/2024	7:30:00	7.5	0.000	0	38,037	Closed	10.9	118
12/20/2024	7:45:00	7.4	0.000	0	38,037	Closed	11.8	118
12/20/2024	8:00:00	7.3	0.000	0	38,037	Closed	12.7	119
12/20/2024	8:15:00	7.3	0.000	0	38,037	Closed	13.5	116

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/20/2024	8:30:00	7.3	0.000	0	38,037	Closed	14	119
12/20/2024	8:45:00	7.3	0.000	0	38,037	Closed	14.6	119
12/20/2024	9:00:00	7.3	0.000	0	38,037	Closed	15.2	119
12/20/2024	9:15:00	7.6	0.816	0	38,040	Open	10.4	119
12/20/2024	9:30:00	7.6	0.835	0	38,052	Open	10.1	119
12/20/2024	9:45:00	7.6	0.828	0	38,065	Open	10.1	119
12/20/2024	10:00:00	7.6	0.847	0	38,077	Open	10.2	118
12/20/2024	10:15:00	7.6	0.000	0	38,082	Closed	10.6	119
12/20/2024	10:30:00	7.5	0.000	0	38,082	Closed	11.6	119
12/20/2024	10:45:00	7.4	0.000	0	38,082	Closed	12.2	115
12/20/2024	11:00:00	7.4	0.000	0	38,082	Closed	12.5	114
12/20/2024	11:15:00	7.3	0.000	0	38,082	Closed	12.7	113
12/20/2024	11:30:00	7.3	0.000	0	38,082	Closed	12.9	113
12/20/2024	11:45:00	7.3	0.000	0	38,082	Closed	13	113
12/20/2024	12:00:00	7.3	0.000	0	38,082	Closed	13.5	116

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/20/2024	12:15:00	7.5	0.820	0	38,090	Open	10.2	118
12/20/2024	12:30:00	7.6	0.835	0	38,103	Open	10.3	118
12/20/2024	12:45:00	7.6	0.816	0	38,115	Open	10.4	118
12/20/2024	13:00:00	7.6	0.000	0	38,125	Closed	10.6	119
12/20/2024	13:15:00	7.5	0.000	0	38,125	Closed	11.4	119
12/20/2024	13:30:00	7.4	0.000	0	38,125	Closed	12.3	119
12/20/2024	13:45:00	7.4	0.000	0	38,125	Closed	13.3	119
12/20/2024	14:00:00	7.4	0.000	0	38,125	Closed	14.1	119
12/20/2024	14:15:00	7.3	0.000	0	38,125	Closed	14.9	119
12/20/2024	14:30:00	7.3	0.000	0	38,125	Closed	15.6	120
12/20/2024	14:45:00	7.3	0.000	0	38,125	Closed	16.2	120
12/20/2024	15:00:00	7.6	0.397	0	38,129	Open	11.1	119
12/20/2024	15:15:00	7.6	0.813	0	38,139	Open	10.6	119
12/20/2024	15:30:00	7.6	0.854	0	38,151	Open	10.6	119
12/20/2024	15:45:00	7.6	0.824	0	38,164	Open	10.6	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/20/2024	16:00:00	7.6	0.824	0	38,176	Open	10.6	119
12/20/2024	16:15:00	7.5	0.000	0	38,177	Closed	11.3	119
12/20/2024	16:30:00	7.5	0.000	0	38,177	Closed	12.1	116
12/20/2024	16:45:00	7.4	0.000	0	38,177	Closed	12.9	119
12/20/2024	17:00:00	7.4	0.000	0	38,177	Closed	13.8	119
12/20/2024	17:15:00	7.3	0.000	0	38,177	Closed	14.5	119
12/20/2024	17:30:00	7.3	0.000	0	38,177	Closed	15.3	119
12/20/2024	17:45:00	7.3	0.000	0	38,177	Closed	16	121
12/20/2024	18:00:00	7.3	0.000	0	38,177	Closed	16.6	121
12/20/2024	18:15:00	7.5	0.832	0	38,180	Open	11.3	121
12/20/2024	18:30:00	7.6	0.847	0	38,192	Open	10.7	119
12/20/2024	18:45:00	7.6	0.839	0	38,205	Open	10.7	119
12/20/2024	19:00:00	7.6	0.824	0	38,217	Open	10.7	119
12/20/2024	19:15:00	7.6	0.832	0	38,230	Open	10.7	119
12/20/2024	19:30:00	7.5	0.000	0	38,230	Closed	11.5	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/20/2024	19:45:00	7.5	0.000	0	38,230	Closed	12.5	119
12/20/2024	20:00:00	7.4	0.000	0	38,230	Closed	13.5	119
12/20/2024	20:15:00	7.4	0.000	0	38,230	Closed	14.4	119
12/20/2024	20:30:00	7.3	0.000	0	38,230	Closed	15.1	118
12/20/2024	20:45:00	7.3	0.000	0	38,230	Closed	15.2	116
12/20/2024	21:00:00	7.3	0.000	0	38,230	Closed	15.2	114
12/20/2024	21:15:00	7.6	0.820	0	38,236	Open	10.3	114
12/20/2024	21:30:00	7.6	0.832	0	38,248	Open	10.3	116
12/20/2024	21:45:00	7.6	0.000	0	38,254	Closed	10.7	116
12/20/2024	22:00:00	7.5	0.000	0	38,254	Closed	11.5	117
12/20/2024	22:15:00	7.4	0.000	0	38,254	Closed	12.3	118
12/20/2024	22:30:00	7.4	0.000	0	38,254	Closed	13.2	119
12/20/2024	22:45:00	7.6	0.832	0	38,258	Open	10.6	119
12/20/2024	23:00:00	7.6	0.824	0	38,270	Open	10.6	119
12/20/2024	23:15:00	7.6	0.816	0	38,283	Open	10.5	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/20/2024	23:30:00	7.6	0.824	0	38,295	Open	10.4	116
12/20/2024	23:45:00	7.6	0.839	0	38,308	Open	10.3	117
12/21/2024	0:00:00	7.6	0.000	0	38,312	Closed	10.8	118
12/21/2024	0:15:00	7.5	0.000	0	38,312	Closed	11.7	119
12/21/2024	0:30:00	7.4	0.000	0	38,312	Closed	12.6	119
12/21/2024	0:45:00	7.4	0.000	0	38,312	Closed	13.6	119
12/21/2024	1:00:00	7.3	0.000	0	38,312	Open	14.4	119
12/21/2024	1:15:00	7.3	0.000	0	38,312	Closed	15.1	119
12/21/2024	1:30:00	7.3	0.000	0	38,312	Closed	15.5	119
12/21/2024	1:45:00	7.3	0.000	0	38,312	Closed	16	120
12/21/2024	2:00:00	7.6	0.926	0	38,316	Open	10.8	119
12/21/2024	2:15:00	7.6	0.953	0	38,330	Open	10.3	119
12/21/2024	2:30:00	7.6	0.926	0	38,344	Open	10.3	119
12/21/2024	2:45:00	7.6	0.926	0	38,358	Open	10.4	119
12/21/2024	3:00:00	7.6	0.000	0	38,365	Closed	10.7	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/21/2024	3:15:00	7.5	0.000	0	38,365	Closed	11.6	119
12/21/2024	3:30:00	7.4	0.000	0	38,365	Closed	12.6	119
12/21/2024	3:45:00	7.4	0.000	0	38,365	Closed	13.6	119
12/21/2024	4:00:00	7.3	0.000	0	38,365	Closed	14.4	119
12/21/2024	4:15:00	7.3	0.000	0	38,365	Closed	15.2	121
12/21/2024	4:30:00	7.3	0.000	0	38,365	Closed	15.9	121
12/21/2024	4:45:00	7.6	0.949	0	38,375	Open	10.5	119
12/21/2024	5:00:00	7.6	0.953	0	38,389	Open	10.4	117
12/21/2024	5:15:00	7.6	0.000	0	38,396	Closed	10.5	117
12/21/2024	5:30:00	7.5	0.000	0	38,396	Closed	11.2	116
12/21/2024	5:45:00	7.4	0.000	0	38,396	Closed	12	118
12/21/2024	6:00:00	7.4	0.000	0	38,396	Closed	12.9	118
12/21/2024	6:15:00	7.3	0.000	0	38,396	Closed	13.8	119
12/21/2024	6:30:00	7.6	0.953	0	38,402	Open	10.5	119
12/21/2024	6:45:00	7.6	0.953	0	38,417	Open	10.5	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/21/2024	7:00:00	7.6	0.968	0	38,431	Open	10.6	119
12/21/2024	7:15:00	7.5	0.000	0	38,436	Closed	11	116
12/21/2024	7:30:00	7.5	0.000	0	38,436	Closed	11.7	119
12/21/2024	7:45:00	7.4	0.000	0	38,436	Closed	12.6	119
12/21/2024	8:00:00	7.4	0.000	0	38,436	Closed	13.5	119
12/21/2024	8:15:00	7.3	0.000	0	38,436	Closed	14.3	119
12/21/2024	8:30:00	7.3	0.000	0	38,436	Closed	14.9	119
12/21/2024	8:45:00	7.5	0.968	0	38,437	Open	15.3	118
12/21/2024	9:00:00	7.6	0.945	0	38,451	Open	10.6	119
12/21/2024	9:15:00	7.6	0.990	0	38,465	Open	10.6	119
12/21/2024	9:30:00	7.6	0.990	0	38,479	Open	10.7	119
12/21/2024	9:45:00	7.6	0.000	0	38,489	Closed	10.9	119
12/21/2024	10:00:00	7.5	0.000	0	38,489	Closed	11.7	119
12/21/2024	10:15:00	7.4	0.000	0	38,489	Closed	12.7	119
12/21/2024	10:30:00	7.4	0.000	0	38,489	Closed	13.6	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/21/2024	10:45:00	7.4	0.000	0	38,489	Closed	14.5	119
12/21/2024	11:00:00	7.3	0.000	0	38,489	Closed	15.2	120
12/21/2024	11:15:00	7.3	0.000	0	38,489	Closed	15.9	121
12/21/2024	11:30:00	7.3	0.000	0	38,489	Closed	16.5	121
12/21/2024	11:45:00	7.6	0.922	0	38,499	Open	10.9	119
12/21/2024	12:00:00	7.6	0.971	0	38,513	Open	10.8	119
12/21/2024	12:15:00	7.6	0.949	0	38,527	Open	10.8	118
12/21/2024	12:30:00	7.6	0.926	0	38,541	Open	10.7	119
12/21/2024	12:45:00	7.6	0.000	0	38,548	Closed	11.1	119
12/21/2024	13:00:00	7.5	0.000	0	38,548	Closed	12.1	119
12/21/2024	13:15:00	7.4	0.000	0	38,548	Closed	13.1	119
12/21/2024	13:30:00	7.4	0.000	0	38,548	Closed	14.1	121
12/21/2024	13:45:00	7.3	0.000	0	38,548	Closed	14.9	121
12/21/2024	14:00:00	7.3	0.000	0	38,548	Closed	15.7	121
12/21/2024	14:15:00	7.3	0.000	0	38,548	Closed	16.4	121

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/21/2024	14:30:00	7.3	0.000	0	38,548	Closed	17	121
12/21/2024	14:45:00	7.5	0.987	0	38,550	Open	11.6	121
12/21/2024	15:00:00	7.6	0.930	0	38,565	Open	10.9	119
12/21/2024	15:15:00	7.6	0.971	0	38,579	Open	10.9	119
12/21/2024	15:30:00	7.6	0.964	0	38,593	Open	10.8	119
12/21/2024	15:45:00	7.6	0.000	0	38,599	Closed	11.3	119
12/21/2024	16:00:00	7.5	0.000	0	38,599	Closed	12.3	119
12/21/2024	16:15:00	7.4	0.000	0	38,599	Closed	13.3	119
12/21/2024	16:30:00	7.4	0.000	0	38,599	Closed	14.3	119
12/21/2024	16:45:00	7.3	0.000	0	38,599	Closed	15.1	121
12/21/2024	17:00:00	7.3	0.000	0	38,599	Closed	15.9	121
12/21/2024	17:15:00	7.3	0.000	0	38,599	Closed	16.5	121
12/21/2024	17:30:00	7.6	0.964	0	38,611	Open	11	121
12/21/2024	17:45:00	7.6	0.919	0	38,622	Open	10.8	119
12/21/2024	18:00:00	7.6	0.968	0	38,636	Open	10.8	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/21/2024	18:15:00	7.6	0.960	0	38,650	Open	10.7	118
12/21/2024	18:30:00	7.5	0.000	0	38,652	Closed	11.3	118
12/21/2024	18:45:00	7.4	0.000	0	38,652	Closed	12.2	119
12/21/2024	19:00:00	7.4	0.000	0	38,652	Closed	13.2	119
12/21/2024	19:15:00	7.3	0.000	0	38,652	Closed	14.1	119
12/21/2024	19:30:00	7.3	0.000	0	38,652	Closed	14.6	118
12/21/2024	19:45:00	7.3	0.000	0	38,652	Closed	15.2	119
12/21/2024	20:00:00	7.3	0.000	0	38,652	Closed	15.9	119
12/21/2024	20:15:00	7.3	0.000	0	38,652	Closed	16.5	122
12/21/2024	20:30:00	7.5	0.964	0	38,656	Open	11.1	119
12/21/2024	20:45:00	7.6	0.983	0	38,670	Open	10.9	119
12/21/2024	21:00:00	7.5	0.000	0	38,675	Closed	11.2	119
12/21/2024	21:15:00	7.4	0.000	0	38,675	Closed	12.2	119
12/21/2024	21:30:00	7.4	0.000	0	38,675	Closed	13.1	119
12/21/2024	21:45:00	7.5	0.930	0	38,676	Open	12	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/21/2024	22:00:00	7.6	0.956	0	38,691	Open	10.9	119
12/21/2024	22:15:00	7.6	0.956	0	38,705	Open	10.9	118
12/21/2024	22:30:00	7.6	0.000	0	38,716	Closed	10.9	117
12/21/2024	22:45:00	7.5	0.000	0	38,716	Closed	11.7	119
12/21/2024	23:00:00	7.4	0.000	0	38,716	Closed	12.7	119
12/21/2024	23:15:00	7.4	0.000	0	38,716	Closed	13.6	119
12/21/2024	23:30:00	7.3	0.000	0	38,716	Closed	14.5	119
12/21/2024	23:45:00	7.6	1.043	0	38,729	Open	10.8	119
12/22/2024	0:00:00	7.6	0.000	0	38,742	Closed	10.8	119
12/22/2024	0:15:00	7.6	0.903	0	38,746	Open	10.8	119
12/22/2024	0:30:00	7.5	0.000	0	38,746	Closed	11.6	119
12/22/2024	0:45:00	7.4	0.000	0	38,746	Closed	12.7	119
12/22/2024	1:00:00	7.6	0.975	0	38,754	Open	10.8	119
12/22/2024	1:15:00	7.6	1.017	0	38,768	Open	10.7	119
12/22/2024	1:30:00	7.5	1.009	0	38,783	Open	10.7	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/22/2024	1:45:00	7.6	0.994	0	38,798	Open	10.7	119
12/22/2024	2:00:00	7.6	0.979	0	38,813	Open	10.7	119
12/22/2024	2:15:00	7.5	0.000	0	38,814	Closed	11.5	119
12/22/2024	2:30:00	7.4	0.000	0	38,814	Closed	12.6	119
12/22/2024	2:45:00	7.4	0.000	0	38,814	Closed	13.7	119
12/22/2024	3:00:00	7.3	0.000	0	38,814	Closed	14.6	119
12/22/2024	3:15:00	7.3	0.000	0	38,814	Closed	15.5	121
12/22/2024	3:30:00	7.3	0.000	0	38,814	Closed	16.3	121
12/22/2024	3:45:00	7.3	0.000	0	38,814	Closed	17	121
12/22/2024	4:00:00	7.3	0.000	0	38,814	Closed	17.6	121
12/22/2024	4:15:00	7.4	0.971	0	38,814	Open	18.4	121
12/22/2024	4:30:00	7.6	0.983	0	38,829	Open	10.7	119
12/22/2024	4:45:00	7.6	0.968	0	38,843	Open	10.6	119
12/22/2024	5:00:00	7.6	0.510	0	38,856	Open	11.3	119
12/22/2024	5:15:00	7.6	0.968	0	38,869	Open	10.6	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/22/2024	5:30:00	7.5	0.000	0	38,871	Closed	11.3	119
12/22/2024	5:45:00	7.4	0.000	0	38,871	Closed	12.4	119
12/22/2024	6:00:00	7.3	0.000	0	38,871	Closed	13.5	119
12/22/2024	6:15:00	7.3	0.000	0	38,871	Closed	14.4	121
12/22/2024	6:30:00	7.3	0.000	0	38,871	Closed	15.3	121
12/22/2024	6:45:00	7.3	0.000	0	38,871	Closed	16.1	121
12/22/2024	7:00:00	7.3	0.000	0	38,871	Closed	16.8	122
12/22/2024	7:15:00	7.2	0.000	0	38,871	Closed	17.4	121
12/22/2024	7:30:00	7.5	0.968	0	38,872	Open	14.7	121
12/22/2024	7:45:00	7.5	0.964	0	38,886	Open	10.8	121
12/22/2024	8:00:00	7.6	0.968	0	38,901	Open	10.8	119
12/22/2024	8:15:00	7.6	0.953	0	38,915	Open	10.7	119
12/22/2024	8:30:00	7.5	0.000	0	38,921	Closed	11.1	119
12/22/2024	8:45:00	7.4	0.000	0	38,921	Closed	12.1	120
12/22/2024	9:00:00	7.4	0.000	0	38,921	Closed	12.8	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025


Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/22/2024	9:15:00	7.3	0.000	0	38,921	Closed	13.6	119
12/22/2024	9:30:00	7.3	0.000	0	38,921	Closed	14.5	119
12/22/2024	9:45:00	7.3	0.000	0	38,921	Closed	15.2	119
12/22/2024	10:00:00	7.3	0.000	0	38,921	Closed	15.9	121
12/22/2024	10:15:00	7.5	0.922	0	38,928	Open	10.8	121
12/22/2024	10:30:00	7.5	0.949	0	38,942	Open	10.7	119
12/22/2024	10:45:00	7.6	0.945	0	38,956	Open	10.7	118
12/22/2024	11:00:00	7.6	0.930	0	38,970	Open	10.7	119
12/22/2024	11:15:00	7.5	0.000	0	38,972	Closed	11.4	119
12/22/2024	11:30:00	7.4	0.000	0	38,972	Closed	12.2	116
12/22/2024	11:45:00	7.4	0.000	0	38,972	Closed	12.8	116
12/22/2024	12:00:00	7.3	0.000	0	38,972	Closed	13.5	118
12/22/2024	12:15:00	7.3	0.000	0	38,972	Closed	14.3	119
12/22/2024	12:30:00	7.3	0.000	0	38,972	Closed	15	119
12/22/2024	12:45:00	7.3	0.000	0	38,972	Closed	15.7	119

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/22/2024	13:00:00	7.3	0.000	0	38,972	Closed	16.3	122
12/22/2024	13:15:00	7.5	0.915	0	38,985	Open	10.8	119
12/22/2024	13:30:00	7.6	0.960	0	38,999	Open	10.7	119
12/22/2024	13:45:00	7.6	0.903	0	39,013	Open	10.7	119
12/22/2024	14:00:00	7.6	0.919	0	39,027	Open	10.7	119
12/22/2024	14:15:00	7.5	0.000	0	39,029	Closed	11.4	119
12/22/2024	14:30:00	7.4	0.000	0	39,029	Closed	12.4	119
12/22/2024	14:45:00	7.4	0.000	0	39,029	Closed	13.4	119
12/22/2024	15:00:00	7.3	0.000	0	39,029	Closed	14.3	119
12/22/2024	15:15:00	7.3	0.000	0	39,029	Closed	14.8	117
12/22/2024	15:30:00	7.3	0.000	0	39,029	Closed	15	114
12/22/2024	15:45:00	7.3	0.000	0	39,029	Closed	15.1	113
12/22/2024	16:00:00	7.3	0.000	0	39,029	Closed	15.1	113
12/22/2024	16:15:00	7.5	0.427	0	39,033	Open	10.6	116
12/22/2024	16:30:00	7.5	0.926	0	39,045	Open	10.4	114

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/22/2024	16:45:00	7.6	0.953	0	39,059	Open	10.5	117
12/22/2024	17:00:00	7.6	0.956	0	39,074	Open	10.5	117
12/22/2024	17:15:00	7.6	0.953	0	39,088	Open	10.4	114
12/22/2024	17:30:00	7.5	0.000	0	39,088	Closed	10.8	113
12/22/2024	17:45:00	7.4	0.000	0	39,088	Closed	11.1	112
12/22/2024	18:00:00	7.4	0.000	0	39,088	Closed	11.4	112
12/22/2024	18:15:00	7.3	0.000	0	39,088	Closed	11.7	112
12/22/2024	18:30:00	7.3	0.000	0	39,088	Closed	11.9	113
12/22/2024	18:45:00	7.3	0.000	0	39,088	Closed	12.2	113
12/22/2024	19:00:00	7.3	0.000	0	39,088	Closed	12.4	113
12/22/2024	19:15:00	7.3	0.000	0	39,088	Closed	12.7	113
12/22/2024	19:30:00	7.5	0.960	0	39,100	Open	10.3	116
12/22/2024	19:45:00	7.5	0.960	0	39,114	Open	10.4	116
12/22/2024	20:00:00	7.6	0.960	0	39,129	Open	10.5	117
12/22/2024	20:15:00	7.5	0.000	0	39,138	Closed	10.8	118

		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by: Approved by: Date:	SD BC2 January 3, 2025

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/22/2024	20:30:00	7.4	0.000	0	39,138	Closed	11.6	118
12/22/2024	20:45:00	7.4	0.000	0	39,138	Closed	12.5	118
12/22/2024	21:00:00	7.3	0.000	0	39,138	Closed	13.2	119
12/22/2024	21:15:00	7.3	0.000	0	39,138	Closed	14	119
12/22/2024	21:30:00	7.3	0.000	0	39,138	Closed	14.7	119
12/22/2024	21:45:00	7.3	0.000	0	39,138	Closed	15.4	119
12/22/2024	22:00:00	7.3	0.000	0	39,138	Closed	15.8	119
12/22/2024	22:15:00	7.5	0.926	0	39,138	Open	16.4	119
12/22/2024	22:30:00	7.5	0.956	0	39,152	Open	10.7	119
12/22/2024	22:45:00	7.5	0.945	0	39,167	Open	10.6	119
12/22/2024	23:00:00	7.6	0.945	0	39,181	Open	10.6	119
12/22/2024	23:15:00	7.6	0.941	0	39,195	Open	10.6	119
12/22/2024	23:30:00	7.5	0.000	0	39,204	Closed	10.9	119
12/22/2024	23:45:00	7.4	0.000	0	39,204	Closed	11.7	119

Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by:	SD
		Approved by:	BC2
		Date:	January 3, 2025

Photos:

Photo 1: No visible sheen observed in the WTP water, December 16th

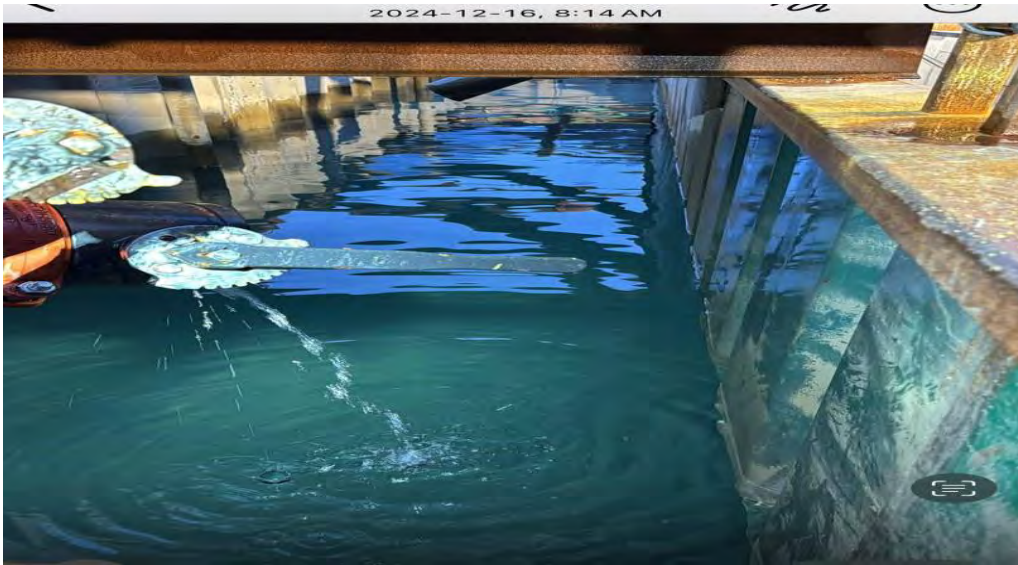



Photo 2: No visible sheen observed in the WTP water, December 17th




Title	Woodfibre Weekly Water Discharge Report	Revision:	0
Data Date Range	December 16 to December 22, 2024	Prepared by:	SD
		Approved by:	BC2
		Date:	January 3, 2025

Photo 3: No visible sheen observed in the WTP water, December 18th



 Eagle Mountain - Woodfibre Gas Pipeline Project Waste Discharge Permit PE-110163 Report	Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
	Report #	39
	Appendix D	D-1

Appendix D: Woodfibre Site Receiving Environment Documentation

 Eagle Mountain - Woodfibre Gas Pipeline Project Waste Discharge Permit PE-110163 Report	Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
	Report #	39
	Appendix D	D-2

Woodfibre Site Receiving Environment Sample Analysis

TRITON				EAS DB 1 (Short-term)	EAS DB 1 (Long-term)	Sample or value index	BCWG FAL - Short Term	BCWG FAL - Long Term	BCWG MAL - Short Term	BCWG MAL - Long Term
Sample ID	Review and signed off by	Time Sampled	Facility (Short Term, FAL, FAL, MAL)							
Parameter	Units	FAC L1 ¹²	FAC L1 ¹³	FAC L1 ¹⁴	FAC L1 ¹⁵	FAC L1 ¹⁶	FAC L1 ¹⁷	FAC L1 ¹⁸	FAC L1 ¹⁹	FAC L1 ²⁰
<p>In Situ Parameters</p> <p>pH (acid)</p> <p>Temperature (acid)</p> <p>Conductivity (acid)</p> <p>Turbidity (acid)</p> <p>Dissolved Oxygen (acid)</p> <p>General Parameters</p> <p>Acidity (as CaCO₃) (acid)</p> <p>Total Dissolved Solids</p> <p>Total Suspended Solids</p> <p>Dissolved Organic Carbon (DOC)</p> <p>Total Alkalinity (CaCO₃)</p> <p>Total Sulfide (as S)</p> <p>Total Sulfide (as SO₄)</p> <p>Total Sulfide (as H₂S)</p> <p>Metals and Nutrients</p> <p>Arsenic</p> <p>Boron</p> <p>Chloride</p> <p>Fluoride</p> <p>Nitrite (as N)</p> <p>Nitrate (as N)</p> <p>Total Phosphorus</p> <p>Sulfate (as SO₄)</p> <p>Total Metals</p> <p>Aluminum (Al)-Total</p> <p>Antimony (Sb)-Total</p> <p>Arsenic (As)-Total</p> <p>Barium (Ba)-Total</p> <p>Bismuth (Bi)-Total</p> <p>Cadmium (Cd)-Total</p> <p>Calcium (Ca)-Total</p> <p>Chromium (Cr)-Total</p> <p>Copper (Cu)-Total</p> <p>Iron (Fe)-Total</p> <p>Lead (Pb)-Total</p> <p>Lithium (Li)-Total</p> <p>Magnesium (Mg)-Total</p> <p>Manganese (Mn)-Total</p> <p>Mercury (Hg)-Total</p> <p>Molybdenum (Mo)-Total</p> <p>Nickel (Ni)-Total</p> <p>Phosphorus (P)-Total</p> <p>Potassium (K)-Total</p> <p>Rubidium (Rb)-Total</p> <p>Selenium (Se)-Total</p> <p>Silver (Ag)-Total</p> <p>Sodium (Na)-Total</p> <p>Strontium (Sr)-Total</p> <p>Sulfur (S)-Total</p> <p>Talium (Tl)-Total</p> <p>Thallium (Tl)-Total</p> <p>Thoron (Th)-Total</p> <p>Uranium (U)-Total</p> <p>Zinc (Zn)-Total</p> <p>Zirconium (Zr)-Total</p>										
<p>BCWG FAL - Short Term</p> <p>BCWG FAL - Long Term</p> <p>BCWG MAL - Short Term</p> <p>BCWG MAL - Long Term</p>										

Color Key: EAS DB 1 (Short-term) EAS DB 1 (Long-term) BCWG FAL, MAL and Short Term (ST) & Long Term (LT)

BC MECCEM: 2021, BC Water Quality Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from: www.mccem.ca

BC MECCEM: 2021, BC Drinking Water Quality Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from: www.mccem.ca

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BC MECCEM: 2021, BC Drinking Water Quality Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from: www.mccem.ca

Parameter used to Calculate Guidelines	Measurement method	Value
pH (acid)	Field pH meter using standard buffer solution	7.3
Temperature (acid)	Field thermometer	5.0
Conductivity (acid)	Field conductivity meter	45
Turbidity (acid)	Field turbidity meter	0.85
Dissolved Oxygen (acid)	Field dissolved oxygen meter	11.41
Acidity (as CaCO ₃) (acid)	Titrimetric method	6.3
Total Dissolved Solids	Gravimetric method	28
Total Suspended Solids	Gravimetric method	3.0
Dissolved Organic Carbon (DOC)	Ultraviolet absorption method	2.31
Total Alkalinity (CaCO ₃)	Titrimetric method	11
Total Sulfide (as S)	Gravimetric method	0.0015
Total Sulfide (as SO ₄)	Gravimetric method	0.0015
Total Sulfide (as H ₂ S)	Gravimetric method	0.0015
Arsenic	Ascorbic acid reduction method	0.0050
Boron	Ascorbic acid reduction method	0.0050
Chloride	Mercuric nitrate method	1.11
Fluoride	SPAD method	0.021
Nitrite (as N)	Diazotization method	0.0271
Nitrate (as N)	Cadmium reduction method	0.020
Total Phosphorus	Ascorbic acid reduction method	0.0050
Sulfate (as SO ₄)	Gravimetric method	3.67
Aluminum (Al)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.0079
Antimony (Sb)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00024
Arsenic (As)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00044
Barium (Ba)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00024
Bismuth (Bi)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Cadmium (Cd)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Calcium (Ca)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Chromium (Cr)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Copper (Cu)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Iron (Fe)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Lead (Pb)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Lithium (Li)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Magnesium (Mg)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Manganese (Mn)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Mercury (Hg)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Molybdenum (Mo)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Nickel (Ni)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Phosphorus (P)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Potassium (K)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Rubidium (Rb)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Selenium (Se)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Silver (Ag)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Sodium (Na)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Strontium (Sr)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Sulfur (S)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Talium (Tl)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Thallium (Tl)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Thoron (Th)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Uranium (U)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Zinc (Zn)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003
Zirconium (Zr)-Total	Inductively coupled plasma atomic emission spectrometry (ICP-AES)	0.00003



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

Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
Report #	39
Appendix D	D-3

Woodfibre Site Receiving Environment Lab Documentation



CERTIFICATE OF ANALYSIS

Work Order	: VA24D3911	Laboratory	: ALS Environmental - Vancouver
Client	: Triton Environmental Consultants Ltd.	Account Manager	: [Redacted]
Contact	: [Redacted]	Address	: [Redacted]
Address	: [Redacted]	Telephone	: [Redacted]
Telephone	: [Redacted]	Date Samples Received	: 17-Dec-2024 17:45
Project	: 11964	Date Analysis Commenced	: 19-Dec-2024
PO	: 11964- Task 20- Phase 3C-4C	Issue Date	: 02-Jan-2025 14:33
C-O-C number	: ----		
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012		
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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
[Redacted]		Metals, Burnaby, British Columbia
[Redacted]		Metals, Burnaby, British Columbia
[Redacted]		Metals, Burnaby, British Columbia
[Redacted]		Metals, Burnaby, British Columbia
[Redacted]		Inorganics, Burnaby, British Columbia
[Redacted]		Administration, Burnaby, British Columbia
[Redacted]		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
mg/L	milligrams per litre
pH units	pH units
µS/cm	microsiemens per centimetre

<: 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

Sub-Matrix: Water (Matrix: Water)					Client sample ID	WLNG US 1	WLNG DS 1	----	----	----
					Client sampling date / time	17-Dec-2024 11:04	17-Dec-2024 11:46	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3911-001	VA24D3911-002	----	----	----	
					Result	Result	----	----	----	
Field Tests										
Conductivity, field	----	EF001/VA	0.10	µS/cm	40.000	43.000	----	----	----	
pH, field	----	EF001/VA	0.10	pH units	7.30	7.40	----	----	----	
Temperature, field	----	EF001/VA	0.10	°C	6.00	5.80	----	----	----	
Physical Tests										
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	8.61	22.7	----	----	----	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	8.78	23.1	----	----	----	
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	29	41	----	----	----	
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	<3.0	<3.0	----	----	----	
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L	6.3	19.4	----	----	----	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	0.0054	----	----	----	
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	1.11	0.88	----	----	----	
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.021	0.068	----	----	----	
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.0721	0.0403	----	----	----	
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0010	<0.0010	----	----	----	
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L	0.146	0.100	----	----	----	
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0579	0.0302	----	----	----	
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	3.87	3.74	----	----	----	
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	2.31	1.58	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNG US 1	WLNG DS 1	----	----	----
					Client sampling date / time	17-Dec-2024 11:04	17-Dec-2024 11:46	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3911-001	VA24D3911-002	----	----	----	----
					Result	Result	----	----	----	----
Total Sulfides										
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	<0.0015	<0.0015	----	----	----	----
Sulfide, un-ionized (as H2S), from total	7783-06-4	EC395/VA	0.0015	mg/L	<0.0015	<0.0015	----	----	----	----
Sulfide, total (as H2S)	7783-06-4	E395/VA	0.0016	mg/L	<0.0016	<0.0016	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0975	0.0844	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.00022	0.00074	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.00317	0.00382	----	----	----	----
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	0.0000081	0.0000083	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	2.76	8.32	----	----	----	----
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	0.00101	0.00082	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L	0.042	0.042	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000051	<0.000050	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	<0.0010	<0.0010	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	0.458	0.564	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNG US 1	WLNG DS 1	---	---	---
					Client sampling date / time	17-Dec-2024 11:04	17-Dec-2024 11:46	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3911-001	VA24D3911-002	---	---	---	
					Result	Result	---	---	---	
Total Metals										
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.00178	0.00158	---	---	---	
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	0.000448	0.00608	---	---	---	
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	0.096	0.059	---	---	---	
Potassium, total	7440-09-7	E420/VA	0.050	mg/L	0.527	0.412	---	---	---	
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00029	0.00062	---	---	---	
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	4.60	---	---	---	
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	0.000024	0.000015	---	---	---	
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	1.51	1.80	---	---	---	
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.0124	0.0214	---	---	---	
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	0.98	1.12	---	---	---	
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	---	---	---	
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	0.00111	0.00133	---	---	---	
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00010	0.00012	---	---	---	
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.000146	0.00266	---	---	---	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	<0.00050	<0.00050	---	---	---	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNG US 1	WLNG DS 1	----	----	----
					Client sampling date / time	17-Dec-2024 11:04	17-Dec-2024 11:46	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3911-001	VA24D3911-002	----	----	----	
					Result	Result	----	----	----	
Total Metals										
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	<0.0030	0.0067	----	----	----	
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	0.0714	0.0547	----	----	----	
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	0.00019	0.00078	----	----	----	
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.00286	0.00357	----	----	----	
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	0.0000081	<0.0000050	----	----	----	
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	2.70	8.15	----	----	----	
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	0.00085	0.00053	----	----	----	
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.021	0.019	----	----	----	
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L	<0.000050	0.000078	----	----	----	
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	0.454	0.563	----	----	----	
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L	0.00091	0.00097	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	WLNG US 1	WLNG DS 1	----	----	----
					Client sampling date / time	17-Dec-2024 11:04	17-Dec-2024 11:46	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3911-001	VA24D3911-002	----	----	----	
					Result	Result	----	----	----	
Dissolved Metals										
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	0.000431	0.00600	----	----	----	
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L	<0.00050	<0.00050	----	----	----	
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L	0.060	<0.050	----	----	----	
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L	0.527	0.419	----	----	----	
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L	0.00030	0.00053	----	----	----	
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	3.89	4.49	----	----	----	
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	1.47	1.87	----	----	----	
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L	0.0120	0.0215	----	----	----	
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	1.17	1.15	----	----	----	
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00020	<0.00020	----	----	----	
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000010	<0.000010	----	----	----	
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00030	0.00031	----	----	----	
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	0.000119	0.00266	----	----	----	
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	0.0023	0.0061	----	----	----	



Analytical Results

Sub-Matrix: Water
(Matrix: Water)

					Client sample ID		WLNG US 1	WLNG DS 1	----	----	----
					Client sampling date / time		17-Dec-2024 11:04	17-Dec-2024 11:46	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D3911-001	VA24D3911-002	----	----	----	----	----
					Result	Result	----	----	----	----	----
Dissolved Metals											
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.

QUALITY CONTROL INTERPRETIVE REPORT

<p>Work Order : VA24D3911</p> <p>Client : Triton Environmental Consultants Ltd.</p> <p>Contact : [REDACTED]</p> <p>Address : [REDACTED]</p> <p>Telephone : ----</p> <p>Project : 11964</p> <p>PO : 11964- Task 20- Phase 3C-4C</p> <p>C-O-C number : ----</p> <p>Sampler : ----</p> <p>Site : Water Analysis</p> <p>Quote number : VA23-TRIT100-012 _V2</p> <p>No. of samples received : 2</p> <p>No. of samples analysed : 2</p>	<p>Page : 1 of 14</p> <p>Laboratory : ALS Environmental - Vancouver</p> <p>Account Manager : [REDACTED]</p> <p>Address : [REDACTED]</p> <p>Telephone : [REDACTED]</p> <p>Date Samples Received : 17-Dec-2024 17:45</p> <p>Issue Date : 02-Jan-2025 14:32</p>
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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			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) WLNG DS 1	E298	17-Dec-2024	21-Dec-2024	28 days	4 days	✔	23-Dec-2024	28 days	6 days	✔
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) WLNG US 1	E298	17-Dec-2024	21-Dec-2024	28 days	4 days	✔	23-Dec-2024	28 days	6 days	✔
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE WLNG DS 1	E235.Br-L	17-Dec-2024	19-Dec-2024	28 days	2 days	✔	19-Dec-2024	28 days	2 days	✔
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE WLNG US 1	E235.Br-L	17-Dec-2024	19-Dec-2024	28 days	2 days	✔	19-Dec-2024	28 days	2 days	✔
Anions and Nutrients : Chloride in Water by IC										
HDPE WLNG DS 1	E235.Cl	17-Dec-2024	19-Dec-2024	28 days	2 days	✔	19-Dec-2024	28 days	2 days	✔
Anions and Nutrients : Chloride in Water by IC										
HDPE WLNG US 1	E235.Cl	17-Dec-2024	19-Dec-2024	28 days	2 days	✔	19-Dec-2024	28 days	2 days	✔
Anions and Nutrients : Fluoride in Water by IC										
HDPE WLNG DS 1	E235.F	17-Dec-2024	19-Dec-2024	28 days	2 days	✔	19-Dec-2024	28 days	2 days	✔



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Fluoride in Water by IC											
HDPE WLNG US 1	E235.F	17-Dec-2024	19-Dec-2024	28 days	2 days	✓	19-Dec-2024	28 days	2 days	✓	
Anions and Nutrients : Nitrate in Water by IC (Low Level)											
HDPE WLNG DS 1	E235.NO3-L	17-Dec-2024	19-Dec-2024	3 days	2 days	✓	19-Dec-2024	3 days	2 days	✓	
Anions and Nutrients : Nitrate in Water by IC (Low Level)											
HDPE WLNG US 1	E235.NO3-L	17-Dec-2024	19-Dec-2024	3 days	2 days	✓	19-Dec-2024	3 days	2 days	✓	
Anions and Nutrients : Nitrite in Water by IC (Low Level)											
HDPE WLNG DS 1	E235.NO2-L	17-Dec-2024	19-Dec-2024	3 days	2 days	✓	19-Dec-2024	3 days	2 days	✓	
Anions and Nutrients : Nitrite in Water by IC (Low Level)											
HDPE WLNG US 1	E235.NO2-L	17-Dec-2024	19-Dec-2024	3 days	2 days	✓	19-Dec-2024	3 days	2 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE WLNG DS 1	E235.SO4	17-Dec-2024	19-Dec-2024	28 days	2 days	✓	19-Dec-2024	28 days	2 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE WLNG US 1	E235.SO4	17-Dec-2024	19-Dec-2024	28 days	2 days	✓	19-Dec-2024	28 days	2 days	✓	
Anions and Nutrients : Total Nitrogen by Colourimetry											
Amber glass total (sulfuric acid) WLNG DS 1	E366	17-Dec-2024	21-Dec-2024	28 days	4 days	✓	22-Dec-2024	28 days	5 days	✓	
Anions and Nutrients : Total Nitrogen by Colourimetry											
Amber glass total (sulfuric acid) WLNG US 1	E366	17-Dec-2024	21-Dec-2024	28 days	4 days	✓	22-Dec-2024	28 days	5 days	✓	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) WLNG DS 1	E372-U	17-Dec-2024	21-Dec-2024	28 days	4 days	✔	23-Dec-2024	28 days	6 days	✔
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) WLNG US 1	E372-U	17-Dec-2024	21-Dec-2024	28 days	4 days	✔	23-Dec-2024	28 days	6 days	✔
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) WLNG DS 1	E509	17-Dec-2024	29-Dec-2024	28 days	12 days	✔	29-Dec-2024	28 days	12 days	✔
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) WLNG US 1	E509	17-Dec-2024	29-Dec-2024	28 days	12 days	✔	29-Dec-2024	28 days	12 days	✔
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) WLNG DS 1	E421	17-Dec-2024	19-Dec-2024	180 days	2 days	✔	23-Dec-2024	180 days	6 days	✔
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) WLNG US 1	E421	17-Dec-2024	19-Dec-2024	180 days	2 days	✔	23-Dec-2024	180 days	6 days	✔
Field Tests : Field pH,EC,Salinity, TDS, Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial dissolved (hydrochloric acid) WLNG DS 1	EF001	17-Dec-2024	----	----	----		19-Dec-2024	----	2 days	
Field Tests : Field pH,EC,Salinity, TDS, Cl2,CIO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial dissolved (hydrochloric acid) WLNG US 1	EF001	17-Dec-2024	----	----	----		19-Dec-2024	----	2 days	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) WLNG DS 1	E358-L	17-Dec-2024	21-Dec-2024	28 days	4 days	✔	21-Dec-2024	28 days	4 days	✔



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis				
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) WLNG US 1	E358-L	17-Dec-2024	21-Dec-2024	28 days	4 days	✔	21-Dec-2024	28 days	4 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE WLNG DS 1	E290	17-Dec-2024	19-Dec-2024	14 days	2 days	✔	19-Dec-2024	14 days	2 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE WLNG US 1	E290	17-Dec-2024	19-Dec-2024	14 days	2 days	✔	19-Dec-2024	14 days	2 days	✔	
Physical Tests : TDS by Gravimetry											
HDPE WLNG DS 1	E162	17-Dec-2024	----	----	----		22-Dec-2024	7 days	5 days	✔	
Physical Tests : TDS by Gravimetry											
HDPE WLNG US 1	E162	17-Dec-2024	----	----	----		22-Dec-2024	7 days	5 days	✔	
Physical Tests : TSS by Gravimetry											
HDPE WLNG DS 1	E160	17-Dec-2024	----	----	----		22-Dec-2024	7 days	5 days	✔	
Physical Tests : TSS by Gravimetry											
HDPE WLNG US 1	E160	17-Dec-2024	----	----	----		22-Dec-2024	7 days	5 days	✔	
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC											
Opaque HDPE - total (sodium hydroxide) WLNG DS 1	E532	17-Dec-2024	----	----	----		19-Dec-2024	28 days	2 days	✔	
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC											
Opaque HDPE - total (sodium hydroxide) WLNG US 1	E532	17-Dec-2024	----	----	----		19-Dec-2024	28 days	2 days	✔	



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

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) WLNG DS 1	E508	17-Dec-2024	30-Dec-2024	28 days	13 days	✔	30-Dec-2024	28 days	13 days	✔
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) WLNG US 1	E508	17-Dec-2024	30-Dec-2024	28 days	13 days	✔	30-Dec-2024	28 days	13 days	✔
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) WLNG DS 1	E420	17-Dec-2024	19-Dec-2024	180 days	2 days	✔	23-Dec-2024	180 days	6 days	✔
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) WLNG US 1	E420	17-Dec-2024	19-Dec-2024	180 days	2 days	✔	23-Dec-2024	180 days	6 days	✔
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) WLNG DS 1	E395	17-Dec-2024	----	----	----		19-Dec-2024	7 days	2 days	✔
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) WLNG US 1	E395	17-Dec-2024	----	----	----		19-Dec-2024	7 days	2 days	✔

Legend & Qualifier Definitions

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



Quality Control Parameter Frequency Compliance

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

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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1815825	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1819321	1	20	5.0	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1815832	1	6	16.6	5.0	✔
Chloride in Water by IC	E235.Cl	1815828	1	14	7.1	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1824888	1	16	6.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1816273	1	19	5.2	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1819317	1	6	16.6	5.0	✔
Fluoride in Water by IC	E235.F	1815827	1	12	8.3	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1815829	1	9	11.1	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1815830	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1815831	1	14	7.1	5.0	✔
TDS by Gravimetry	E162	1820115	1	20	5.0	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1815698	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1825702	1	9	11.1	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1816255	1	17	5.8	5.0	✔
Total Nitrogen by Colourimetry	E366	1819323	1	16	6.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1819319	1	20	5.0	5.0	✔
Total Sulfide by Colourimetry (Automated Flow)	E395	1817250	1	6	16.6	5.0	✔
TSS by Gravimetry	E160	1820100	1	20	5.0	5.0	✔
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1815825	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1819321	1	20	5.0	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1815832	1	6	16.6	5.0	✔
Chloride in Water by IC	E235.Cl	1815828	1	14	7.1	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1824888	1	16	6.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1816273	1	19	5.2	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1819317	1	6	16.6	5.0	✔
Fluoride in Water by IC	E235.F	1815827	1	12	8.3	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1815829	1	9	11.1	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1815830	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1815831	1	14	7.1	5.0	✔
TDS by Gravimetry	E162	1820115	1	20	5.0	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1815698	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1825702	1	9	11.1	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1816255	1	17	5.8	5.0	✔
Total Nitrogen by Colourimetry	E366	1819323	1	16	6.2	5.0	✔



Matrix: **Water**

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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Control Samples (LCS) - Continued							
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1819319	1	20	5.0	5.0	✔
Total Sulfide by Colourimetry (Automated Flow)	E395	1817250	1	6	16.6	5.0	✔
TSS by Gravimetry	E160	1820100	1	20	5.0	5.0	✔
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1815825	1	10	10.0	5.0	✔
Ammonia by Fluorescence	E298	1819321	1	20	5.0	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1815832	1	6	16.6	5.0	✔
Chloride in Water by IC	E235.Cl	1815828	1	14	7.1	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1824888	1	16	6.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1816273	1	19	5.2	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1819317	1	6	16.6	5.0	✔
Fluoride in Water by IC	E235.F	1815827	1	12	8.3	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1815829	1	9	11.1	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1815830	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1815831	1	14	7.1	5.0	✔
TDS by Gravimetry	E162	1820115	1	20	5.0	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1815698	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1825702	1	9	11.1	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1816255	1	17	5.8	5.0	✔
Total Nitrogen by Colourimetry	E366	1819323	1	16	6.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1819319	1	20	5.0	5.0	✔
Total Sulfide by Colourimetry (Automated Flow)	E395	1817250	1	6	16.6	5.0	✔
TSS by Gravimetry	E160	1820100	1	20	5.0	5.0	✔
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1819321	1	20	5.0	5.0	✔
Bromide in Water by IC (Low Level)	E235.Br-L	1815832	1	6	16.6	5.0	✔
Chloride in Water by IC	E235.Cl	1815828	1	14	7.1	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	1824888	1	16	6.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	1816273	1	19	5.2	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1819317	1	6	16.6	5.0	✔
Fluoride in Water by IC	E235.F	1815827	1	12	8.3	5.0	✔
Nitrate in Water by IC (Low Level)	E235.NO3-L	1815829	1	9	11.1	5.0	✔
Nitrite in Water by IC (Low Level)	E235.NO2-L	1815830	1	19	5.2	5.0	✔
Sulfate in Water by IC	E235.SO4	1815831	1	14	7.1	5.0	✔
Total Hexavalent Chromium (Cr VI) by IC	E532	1815698	1	14	7.1	5.0	✔
Total Mercury in Water by CVAAS	E508	1825702	1	9	11.1	5.0	✔
Total Metals in Water by CRC ICPMS	E420	1816255	1	17	5.8	5.0	✔
Total Nitrogen by Colourimetry	E366	1819323	1	16	6.2	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1819319	1	20	5.0	5.0	✔



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

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
<i>Analytical Methods</i>							
Matrix Spikes (MS) - Continued							
Total Sulfide by Colourimetry (Automated Flow)	E395	1817250	1	6	16.6	5.0	✔



Methodology References and Summaries

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

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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 - Vancouver	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Nitrogen by Colourimetry	E366 ALS Environmental - Vancouver	Water	Chinchilla Scientific Nitrate Method, 2011	Following digestion, total nitrogen is determined colourimetrically using a discrete analyzer utilizing the vanadium chloride reduction method. This method of analysis is approved under US EPA 40 CFR Part 136 (May 2021).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Sulfide by Colourimetry (Automated Flow)	E395 ALS Environmental - Vancouver	Water	APHA 4500 -S E-Auto-Colorimetry	Sulfide is determined using the gas dialysis automated methylene blue colourimetric method. Results expressed "as H ₂ S" if reported represent the maximum possible H ₂ S concentration based on the total sulfide concentration in the sample. The H ₂ S calculation converts Total Sulphide as (S ₂ ⁻) and reports it as Total Sulphide as (H ₂ S)
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Vancouver	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
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)	Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. Results are based on an un-filtered, field-preserved sample.
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, TDS, 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, TDS, 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 - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Nitrogen in water	EP366 ALS Environmental - Vancouver	Water	APHA 4500-P J (mod)	Samples for total nitrogen analysis are digested using a heated persulfate digestion. Nitrogen compounds are converted to nitrate in this digestion.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.



<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO ₃ .
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 : **VA24D3911**
Client : Triton Environmental Consultants Ltd.
Contact : [Redacted]
Address : [Redacted]
Telephone : ----
Project : 11964
PO : 11964- Task 20- Phase 3C-4C
C-O-C number : ----
Sampler : ----
Site : Water Analysis
Quote number : VA23-TRIT100-012 _V2
No. of samples received : 2
No. of samples analysed : 2

Page : 1 of 17
Laboratory : ALS Environmental - Vancouver
Account Manager : [Redacted]
Address : [Redacted]
Telephone : [Redacted]
Date Samples Received : 17-Dec-2024 17:45
Date Analysis Commenced : 19-Dec-2024
Issue Date : 02-Jan-2025 14:32

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
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Metals, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Inorganics, Burnaby, British Columbia
[Redacted]	[Redacted]	Vancouver Administration, Burnaby, British Columbia
[Redacted]	[Redacted]	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: 1815825)											
VA24D3695-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	117	118	0.682%	20%	----
Physical Tests (QC Lot: 1820100)											
VA24D3695-003	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1820115)											
VA24D3695-003	Anonymous	Solids, total dissolved [TDS]	----	E162	13	mg/L	98	102	4	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1815827)											
VA24D3788-005	Anonymous	Fluoride	16984-48-8	E235.F	0.400	mg/L	<0.400	<0.400	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1815828)											
VA24D3788-005	Anonymous	Chloride	16887-00-6	E235.Cl	10.0	mg/L	1320	1540	15.2%	20%	----
Anions and Nutrients (QC Lot: 1815829)											
VA24D3788-005	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.100	mg/L	0.447	0.616	0.169	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1815830)											
VA24D3788-005	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0200	mg/L	<0.0200	<0.0200	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1815831)											
VA24D3788-005	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	6.00	mg/L	232	274	16.4%	20%	----
Anions and Nutrients (QC Lot: 1815832)											
VA24D3788-005	Anonymous	Bromide	24959-67-9	E235.Br-L	1.00	mg/L	4.49	5.20	0.708	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1819319)											
VA24D3851-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0104	0.0103	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1819321)											
VA24D3851-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0250	mg/L	0.159	0.151	0.0084	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1819323)											
VA24D3911-001	WLNG US 1	Nitrogen, total	7727-37-9	E366	0.030	mg/L	0.146	0.144	0.002	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1819317)											
VA24D3851-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	0.64	0.68	0.04	Diff <2x LOR	----
Total Sulfides (QC Lot: 1817250)											
VA24D3766-001	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: 1816255)											
VA24D3866-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0362	0.0376	3.93%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00935	0.00939	0.439%	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: 1816255) - continued											
VA24D3866-001	Anonymous	Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00363	0.00392	7.72%	20%	---
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0385	0.0393	1.99%	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	0.112	0.117	4.05%	20%	---
		Cadmium, total	7440-43-9	E420	0.000050	mg/L	0.0000196	0.0000110	0.0000086	Diff <2x LOR	---
		Calcium, total	7440-70-2	E420	0.050	mg/L	27.3	27.3	0.00812%	20%	---
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.00171	0.00170	0.414%	20%	---
		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	0.000174	0.000177	0.000003	Diff <2x LOR	---
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0574	0.0587	2.19%	20%	---
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	1.81	1.84	1.81%	20%	---
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0621	0.0632	1.78%	20%	---
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0109	0.0108	0.744%	20%	---
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	---
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	---
		Potassium, total	7440-09-7	E420	0.050	mg/L	12.3	12.6	2.70%	20%	---
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.0156	0.0164	4.87%	20%	---
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000794	0.000708	11.3%	20%	---
		Silicon, total	7440-21-3	E420	0.10	mg/L	1.67	1.63	2.64%	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	28.7	29.5	2.72%	20%	---
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.487	0.485	0.542%	20%	---
		Sulfur, total	7704-34-9	E420	0.50	mg/L	24.5	24.6	0.324%	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	0.000048	0.000047	0.0000008	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	0.00036	0.00006	Diff <2x LOR	---
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00120	0.00119	0.396%	20%	---
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000432	0.000447	3.36%	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: 1816255) - continued											
VA24D3866-001	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: 1825702)											
VA24D3875-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	0.0000205	0.0000189	0.0000016	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1816273)											
VA24D3866-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0154	0.0141	8.64%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00941	0.00920	2.22%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00373	0.00354	5.31%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0373	0.0385	3.16%	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	0.106	0.104	1.43%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000175	0.0000158	0.0000017	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	27.1	27.7	2.20%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.00167	0.00173	3.78%	20%	----
		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	<0.00020	<0.00020	0	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	0.0576	0.0578	0.303%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	1.86	1.88	1.16%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0615	0.0628	2.15%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.0109	0.0105	3.17%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	<0.00050	0	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	12.7	12.8	0.705%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.0156	0.0167	7.06%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000798	0.000826	3.37%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	1.66	1.61	3.27%	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	29.2	29.6	1.28%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.486	0.493	1.56%	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: 1816273) - continued											
VA24D3866-001	Anonymous	Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	24.9	23.2	6.96%	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	0.000039	0.000050	0.000011	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	0.00119	0.00116	2.86%	20%	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000431	0.000433	0.575%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1824888)											
FJ2403846-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 1815698)											
VA24D3766-001	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: 1815825)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1820100)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1820115)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1815827)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1815828)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1815829)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1815830)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1815831)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1815832)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1819319)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1819321)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1819323)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Organic / Inorganic Carbon (QCLot: 1819317)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1817250)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1816255)						
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: 1816255) - 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 (QCLot: 1825702)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1816273)						
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**

<i>Analyte</i>	<i>CAS Number</i>	<i>Method</i>	<i>LOR</i>	<i>Unit</i>	<i>Result</i>	<i>Qualifier</i>
Dissolved Metals (QCLot: 1816273) - 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: 1824888)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1815698)						
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: 1815825)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	103	85.0	115	----
Physical Tests (QCLot: 1820100)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	92.4	85.0	115	----
Physical Tests (QCLot: 1820115)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	98.2	85.0	115	----
Anions and Nutrients (QCLot: 1815827)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	98.6	90.0	110	----
Anions and Nutrients (QCLot: 1815828)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1815829)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	99.4	90.0	110	----
Anions and Nutrients (QCLot: 1815830)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	97.3	90.0	110	----
Anions and Nutrients (QCLot: 1815831)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 1815832)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1819319)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	94.6	80.0	120	----
Anions and Nutrients (QCLot: 1819321)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	90.4	85.0	115	----
Anions and Nutrients (QCLot: 1819323)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	101	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1819317)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	92.1	80.0	120	----
Total Sulfides (QCLot: 1817250)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	96.4	80.0	120	----
Total Metals (QCLot: 1816255)									



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 (QCLot: 1816255) - continued									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	101	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	109	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	101	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	99.0	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	103	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	110	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	99.5	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	106	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.0	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	97.5	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	95.1	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	103	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	104	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	105	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	97.8	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	99.8	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	112	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	96.0	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	107	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	98.6	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	99.6	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	95.8	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	113	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	100	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	99.9	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	108	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	112	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	104	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	101	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	105	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.3	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	109	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	103	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 (QCLot: 1816255) - 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	97.0	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	107	80.0	120	----
Total Metals (QCLot: 1825702)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	101	80.0	120	----
Dissolved Metals (QCLot: 1816273)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	100	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	107	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	103	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	97.3	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	105	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	102	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	104	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.4	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	103	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	97.7	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	96.3	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	102	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	104	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	95.6	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	97.0	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	109	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	93.4	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	99.5	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	97.3	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	95.9	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	100	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	99.3	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	99.5	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	106	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 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
Dissolved Metals (QCLot: 1816273) - continued									
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	104	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	100	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	104	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	100	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	110	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.9	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	99.2	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	106	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	101	80.0	120	----
Speciated Metals (QCLot: 1815698)									
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.25 mg/L	101	80.0	120	----



Matrix Spike (MS) Report

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

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 1815827)										
VA24D3801-001	Anonymous	Fluoride	16984-48-8	E235.F	1.02 mg/L	1 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1815828)										
VA24D3801-001	Anonymous	Chloride	16887-00-6	E235.Cl	104 mg/L	100 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1815829)										
VA24D3801-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.56 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1815830)										
VA24D3801-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.508 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1815831)										
VA24D3801-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	104 mg/L	100 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 1815832)										
VA24D3801-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.546 mg/L	0.5 mg/L	109	75.0	125	----
Anions and Nutrients (QCLot: 1819319)										
VA24D3851-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0475 mg/L	0.05 mg/L	95.0	70.0	130	----
Anions and Nutrients (QCLot: 1819321)										
VA24D3851-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0967 mg/L	0.1 mg/L	96.7	75.0	125	----
Anions and Nutrients (QCLot: 1819323)										
VA24D3911-002	WLNG DS 1	Nitrogen, total	7727-37-9	E366	0.402 mg/L	0.4 mg/L	101	70.0	130	----
Organic / Inorganic Carbon (QCLot: 1819317)										
VA24D3851-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	4.88 mg/L	5 mg/L	97.5	70.0	130	----
Total Sulfides (QCLot: 1817250)										
VA24D3800-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.162 mg/L	0.2 mg/L	81.1	75.0	125	----
Total Metals (QCLot: 1816255)										
VA24D3867-001	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0207 mg/L	0.02 mg/L	104	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0404 mg/L	0.04 mg/L	101	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00968 mg/L	0.01 mg/L	96.8	70.0	130	----
		Boron, total	7440-42-8	E420	0.106 mg/L	0.1 mg/L	106	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00379 mg/L	0.004 mg/L	94.9	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0100 mg/L	0.01 mg/L	100	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----




Sub-Matrix: Water

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1816255) - continued										
VA24D3867-001	Anonymous	Cobalt, total	7440-48-4	E420	0.0188 mg/L	0.02 mg/L	93.9	70.0	130	----
		Copper, total	7440-50-8	E420	0.0185 mg/L	0.02 mg/L	92.5	70.0	130	----
		Iron, total	7439-89-6	E420	1.92 mg/L	2 mg/L	96.0	70.0	130	----
		Lead, total	7439-92-1	E420	0.0196 mg/L	0.02 mg/L	98.1	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0975 mg/L	0.1 mg/L	97.5	70.0	130	----
		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	0.0213 mg/L	0.02 mg/L	106	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0372 mg/L	0.04 mg/L	92.9	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.64 mg/L	10 mg/L	96.4	70.0	130	----
		Potassium, total	7440-09-7	E420	3.73 mg/L	4 mg/L	93.3	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0188 mg/L	0.02 mg/L	94.0	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		Silicon, total	7440-21-3	E420	9.46 mg/L	10 mg/L	94.6	70.0	130	----
		Silver, total	7440-22-4	E420	0.00409 mg/L	0.004 mg/L	102	70.0	130	----
		Sodium, total	7440-23-5	E420	1.95 mg/L	2 mg/L	97.5	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	19.5 mg/L	20 mg/L	97.6	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0421 mg/L	0.04 mg/L	105	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00389 mg/L	0.004 mg/L	97.2	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0196 mg/L	0.02 mg/L	97.8	70.0	130	----
		Tin, total	7440-31-5	E420	0.0202 mg/L	0.02 mg/L	101	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0408 mg/L	0.04 mg/L	102	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0203 mg/L	0.02 mg/L	101	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00388 mg/L	0.004 mg/L	97.1	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0971 mg/L	0.1 mg/L	97.1	70.0	130	----
		Zinc, total	7440-66-6	E420	0.381 mg/L	0.4 mg/L	95.2	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0408 mg/L	0.04 mg/L	102	70.0	130	----
Total Metals (QCLot: 1825702)										
VA24D3899-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000989 mg/L	0 mg/L	98.9	70.0	130	----
Dissolved Metals (QCLot: 1816273)										
VA24D3867-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.184 mg/L	0.2 mg/L	92.2	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0206 mg/L	0.02 mg/L	103	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0416 mg/L	0.04 mg/L	104	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00887 mg/L	0.01 mg/L	88.7	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.100 mg/L	0.1 mg/L	99.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00382 mg/L	0.004 mg/L	95.6	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00990 mg/L	0.01 mg/L	99.0	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0380 mg/L	0.04 mg/L	95.0	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0185 mg/L	0.02 mg/L	92.4	70.0	130	----



Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1816273) - continued										
VA24D3867-001	Anonymous	Copper, dissolved	7440-50-8	E421	0.0182 mg/L	0.02 mg/L	91.3	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.84 mg/L	2 mg/L	92.0	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0200 mg/L	0.02 mg/L	99.9	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0987 mg/L	0.1 mg/L	98.7	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0186 mg/L	0.02 mg/L	93.1	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0207 mg/L	0.02 mg/L	103	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0357 mg/L	0.04 mg/L	89.2	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.48 mg/L	10 mg/L	94.8	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	3.72 mg/L	4 mg/L	92.9	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0179 mg/L	0.02 mg/L	89.7	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0395 mg/L	0.04 mg/L	98.8	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.55 mg/L	10 mg/L	95.5	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00405 mg/L	0.004 mg/L	101	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	1.95 mg/L	2 mg/L	97.6	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	19.2 mg/L	20 mg/L	96.2	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0432 mg/L	0.04 mg/L	108	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00396 mg/L	0.004 mg/L	99.1	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0197 mg/L	0.02 mg/L	98.6	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0394 mg/L	0.04 mg/L	98.5	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00391 mg/L	0.004 mg/L	97.8	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0958 mg/L	0.1 mg/L	95.8	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.394 mg/L	0.4 mg/L	98.5	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0406 mg/L	0.04 mg/L	102	70.0	130	----
Dissolved Metals (QCLot: 1824888)										
VA24D3773-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.000100 mg/L	0 mg/L	100	70.0	130	----
Speciated Metals (QCLot: 1815698)										
VA24D3769-007	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.761 mg/L	0.75 mg/L	101	70.0	130	----

 Eagle Mountain - Woodfibre Gas Pipeline Project Waste Discharge Permit PE-110163 Report	Reporting Week	Dec. 16 th to Dec. 22 nd , 2024
	Report #	39
	Appendix D	D-4

Woodfibre Site Receiving Environment Field Notes and Logs



FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-12-17-Shafiei-90679

Project Component:	Tunnel	Site Name:	Receiving Environment - Downstream of Discharge
Inspection Date:	12/17/2024	Location:	WLNG
Triton QP:	Farshad Shafiei	Latitude/Longitude:	49.669206 -123.24818
Temperature(c): Low 1 High 6		Permit:	PE 110136
Weather Conditions:	Light Rain	Ground Conditions:	Wet

Observations

Time: 11:39:33 **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	
TSS	Yes	Anions	Yes	
TDS	Yes	Total Trivalent Chromium	N/A	QA Samples: No
Nutrients	Yes	VOC/VPH	N/A	
DOC	Yes	EPH, PAH, LEPH/HEPH	N/A	
		Trout LC50	N/A	

Logger Maintenance

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

Describe Logger Maintenance

Sonde was checked and cleaned

Photos



Photo: 1
Location: EAS DS
Description: Upstream view



Photo: 2
Location: EAS DS
Description: Across view

Photos



Photo: 3
Location: EAS DS
Description: Downstream view

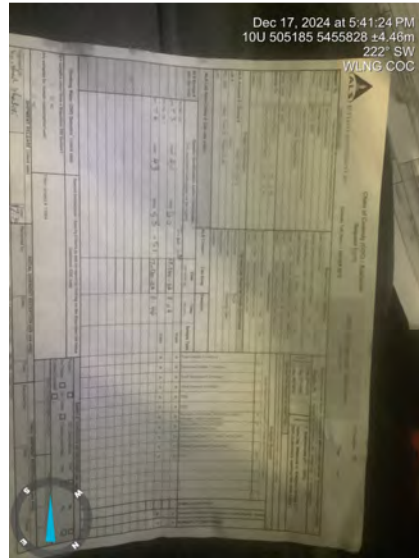


Photo: 4
Location: COC
Description: Lab COC

Sign Off

Report Prepared By: Farshad Shafiei

Report Reviewed: Yes

Report Reviewer:

Professional(s) of Record:

Name:

Designation:

Designation Number:



FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-12-17-Shafiei-833EF

Project Component:	Tunnel	Site Name:	Receiving Environment - Upstream of Discharge
Inspection Date:	12/17/2024	Location:	WLNG
Triton QP:	Farshad Shafiei	Latitude/Longitude:	49.669455 -123.25087
Temperature(c): Low 1 High 6		Permit:	PE 110136
Weather Conditions:	Light Rain	Ground Conditions:	Wet

Observations

Time: 11:02:33 **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	
TSS	Yes	Anions	Yes	
TDS	Yes	Total Trivalent Chromium	N/A	QA Samples: No
Nutrients	Yes	VOC/VPH	N/A	
DOC	Yes	EPH, PAH, LEPH/HEPH	N/A	
		Trout LC50	N/A	

Logger Maintenance

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

Describe Logger Maintenance
Sonde was removed and cleaned

Photos



Photo: 1
Location: EAS US
Description: Upstream view



Photo: 2
Location: EAS US
Description: Downstream view

Photos



Photo: 3
Location: EAS US
Description: Across view

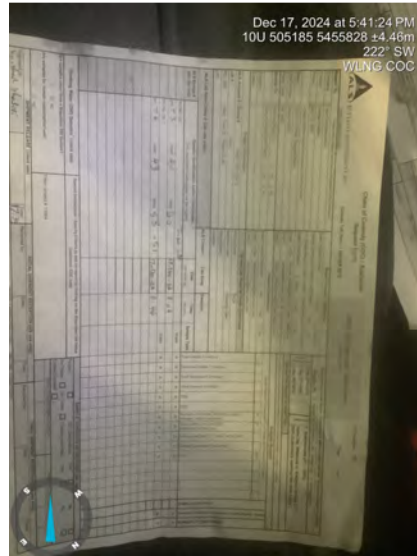


Photo: 4
Location: COC
Description: Lab COC

Sign Off

Report Prepared By: Farshad Shafiei

Report Reviewed: Yes

Report Reviewer:

Professional(s) of Record:

Name:

Designation:

Designation Number:

Woodfibre Plant site East Creek (WC 309-R2)		EAS DS1					EAS US1 (Background)						
Date	Temperature (c)	Specific Conductivity (µS/cm)	Salinity PSU	pH	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Date	Temperature (c)	Specific Conductivity (µS/cm)	Salinity PSU	pH	Dissolved Oxygen (mg/L)	Turbidity (NTU)
12/16/2024 0:00	6.9	51.3	0.0	7.5	15.1	0.9	12/16/2024 0:00	6.1	17.6	0.0	7.1	11.2	0.1
12/16/2024 0:15	6.9	51.5	0.0	7.6	15.1	0.8	12/16/2024 0:15	6.1	17.8	0.0	7.1	11.2	0.0
12/16/2024 0:30	6.3	24.4	0.0	7.1	15.3	0.9	12/16/2024 0:30	6.1	17.9	0.0	7.1	11.3	0.1
12/16/2024 0:45	6.2	23.3	0.0	7.0	15.3	0.8	12/16/2024 0:45	6.1	17.9	0.0	7.1	11.3	0.1
12/16/2024 1:00	6.2	23.0	0.0	7.0	15.4	0.8	12/16/2024 1:00	6.1	17.7	0.0	7.1	11.3	0.0
12/16/2024 1:15	6.2	22.8	0.0	7.0	15.4	1.7	12/16/2024 1:15	6.0	17.7	0.0	7.0	11.3	0.0
12/16/2024 1:30	6.1	22.6	0.0	7.0	15.4	0.8	12/16/2024 1:30	6.0	17.6	0.0	7.1	11.3	0.1
12/16/2024 1:45	6.1	22.6	0.0	6.9	15.4	3.6	12/16/2024 1:45	6.0	17.8	0.0	7.1	11.2	0.1
12/16/2024 2:00	6.1	22.6	0.0	7.0	15.3	0.9	12/16/2024 2:00	6.0	18.0	0.0	7.1	11.3	0.6
12/16/2024 2:15	6.1	23.2	0.0	7.0	15.3	0.8	12/16/2024 2:15	6.0	18.1	0.0	7.1	11.3	0.0
12/16/2024 2:30	6.4	47.3	0.0	7.2	15.3	1.6	12/16/2024 2:30	6.0	18.1	0.0	7.1	11.2	0.0
12/16/2024 2:45	6.7	52.3	0.0	7.5	15.1	0.7	12/16/2024 2:45	6.0	18.1	0.0	7.1	11.3	0.0
12/16/2024 3:00	6.8	52.6	0.0	7.6	15.1	0.7	12/16/2024 3:00	5.9	18.0	0.0	7.0	11.3	0.0
12/16/2024 3:15	6.8	53.0	0.0	7.6	15.1	0.9	12/16/2024 3:15	5.9	17.8	0.0	6.8	11.3	0.0
12/16/2024 3:30	6.1	23.8	0.0	7.1	15.3	0.7	12/16/2024 3:30	5.9	17.7	0.0	7.0	11.3	0.0
12/16/2024 3:45	6.0	23.0	0.0	7.0	15.4	0.9	12/16/2024 3:45	5.9	17.7	0.0	7.0	11.3	0.0
12/16/2024 4:00	6.0	22.8	0.0	7.0	15.4	1.0	12/16/2024 4:00	5.9	17.7	0.0	7.1	11.3	0.0
12/16/2024 4:15	6.0	22.7	0.0	6.9	15.4	1.3	12/16/2024 4:15	5.9	17.6	0.0	7.0	11.3	0.7
12/16/2024 4:30	6.0	22.6	0.0	7.0	15.4	0.7	12/16/2024 4:30	5.9	17.5	0.0	7.1	11.3	0.0
12/16/2024 4:45	6.0	22.6	0.0	6.9	15.4	1.6	12/16/2024 4:45	5.9	17.5	0.0	7.0	11.3	0.1
12/16/2024 5:00	6.0	22.5	0.0	7.0	15.4	1.1	12/16/2024 5:00	5.9	17.5	0.0	7.1	11.3	0.0
12/16/2024 5:15	6.0	22.4	0.0	7.0	15.4	1.1	12/16/2024 5:15	5.9	17.6	0.0	7.1	11.3	0.0
12/16/2024 5:30	6.5	51.5	0.0	7.5	15.2	0.7	12/16/2024 5:30	5.9	17.5	0.0	7.1	11.2	0.1
12/16/2024 5:45	6.7	53.4	0.0	7.6	15.1	0.7	12/16/2024 5:45	5.9	17.6	0.0	7.0	11.2	0.0
12/16/2024 6:00	6.7	53.7	0.0	7.6	15.1	0.8	12/16/2024 6:00	5.9	17.5	0.0	7.0	11.3	0.0
12/16/2024 6:15	6.7	54.0	0.0	7.6	15.1	0.6	12/16/2024 6:15	5.9	17.5	0.0	7.0	11.2	0.0
12/16/2024 6:30	6.7	54.2	0.0	7.6	15.1	0.6	12/16/2024 6:30	5.9	17.5	0.0	7.1	11.3	0.0
12/16/2024 6:45	6.0	23.4	0.0	7.1	15.3	1.0	12/16/2024 6:45	5.9	17.5	0.0	7.1	11.3	0.0
12/16/2024 7:00	6.0	22.9	0.0	6.9	15.3	1.3	12/16/2024 7:00	5.9	17.5	0.0	7.0	11.2	0.0
12/16/2024 7:15	6.0	22.7	0.0	7.0	15.3	1.4	12/16/2024 7:15	5.9	17.5	0.0	7.0	11.3	0.1
12/16/2024 7:30	6.0	24.1	0.0	7.1	15.3	0.9	12/16/2024 7:30	5.9	17.5	0.0	7.0	11.3	0.0
12/16/2024 7:45	6.0	23.4	0.0	7.0	15.3	0.9	12/16/2024 7:45	5.9	17.5	0.0	7.0	11.3	0.0
12/16/2024 8:00	5.9	23.0	0.0	7.0	15.4	0.7	12/16/2024 8:00	5.9	17.4	0.0	7.1	11.3	0.0
12/16/2024 8:15	5.9	22.7	0.0	7.0	15.4	0.8	12/16/2024 8:15	5.9	17.4	0.0	7.0	11.2	0.0
12/16/2024 8:30	5.9	22.9	0.0	7.0	15.3	1.2	12/16/2024 8:30	5.9	17.4	0.0	7.1	11.2	0.0
12/16/2024 8:45	5.9	24.2	0.0	7.0	15.3	0.8	12/16/2024 8:45	5.9	17.4	0.0	6.9	11.3	0.0
12/16/2024 9:00	5.9	22.7	0.0	7.1	15.3	0.7	12/16/2024 9:00	5.9	17.4	0.0	6.9	11.2	0.0
12/16/2024 9:15	6.1	40.1	0.0	7.0	15.4	0.8	12/16/2024 9:15	5.9	17.3	0.0	7.1	11.3	0.1
12/16/2024 9:30	6.7	54.7	0.0	7.6	15.1	0.7	12/16/2024 9:30	5.9	17.3	0.0	7.1	11.2	0.0
12/16/2024 9:45	6.7	55.4	0.0	7.6	15.1	0.7	12/16/2024 9:45	5.9	17.3	0.0	7.1	11.2	0.0
12/16/2024 10:00	6.7	55.6	0.0	7.6	15.1	0.8	12/16/2024 10:00	5.9	17.2	0.0	7.1	11.3	0.0
12/16/2024 10:15	6.7	55.6	0.0	7.6	15.1	0.8	12/16/2024 10:15	5.8	17.2	0.0	7.0	11.3	0.0
12/16/2024 10:30	6.0	23.6	0.0	7.1	15.3	0.8	12/16/2024 10:30	5.8	17.4	0.0	7.1	11.3	0.0
12/16/2024 10:45	5.9	22.9	0.0	7.0	15.4	0.7	12/16/2024 10:45	5.8	17.8	0.0	7.1	11.3	1.1
12/16/2024 11:00	5.8	22.9	0.0	7.0	15.4	0.8	12/16/2024 11:00	5.8	18.0	0.0	7.0	11.3	0.0
12/16/2024 11:15	5.8	23.0	0.0	7.0	15.4	1.0	12/16/2024 11:15	5.7	18.3	0.0	7.1	11.3	0.5
12/16/2024 11:30	5.8	23.1	0.0	7.0	15.4	0.8	12/16/2024 11:30	5.7	19.2	0.0	7.1	11.3	0.0
12/16/2024 11:45	5.8	23.4	0.0	7.0	15.5	0.9	12/16/2024 11:45	5.7	20.2	0.0	7.1	11.3	0.2
12/16/2024 12:00	5.7	24.5	0.0	7.1	15.4	1.5	12/16/2024 12:00	5.6	21.6	0.0	7.0	11.4	0.1
12/16/2024 12:15	6.4	53.9	0.0	7.5	15.2	0.9	12/16/2024 12:15	5.6	22.6	0.0	7.1	11.4	0.8
12/16/2024 12:30	6.5	55.2	0.0	7.6	15.2	0.8	12/16/2024 12:30	5.6	23.7	0.0	7.1	11.4	1.4
12/16/2024 12:45	6.5	55.9	0.0	7.6	15.2	1.0	12/16/2024 12:45	5.5	24.1	0.0	7.2	11.4	1.2
12/16/2024 13:00	6.4	53.9	0.0	7.6	15.2	3.8	12/16/2024 13:00	5.5	24.9	0.0	7.2	11.4	1.4
12/16/2024 13:15	5.7	30.0	0.0	7.2	15.5	2.0	12/16/2024 13:15	5.5	25.6	0.0	7.2	11.4	1.4
12/16/2024 13:30	5.6	29.3	0.0	7.1	15.5	2.2	12/16/2024 13:30	5.5	26.2	0.0	7.2	11.4	1.9
12/16/2024 13:45	5.6	29.3	0.0	7.1	15.5	4.1	12/16/2024 13:45	5.5	26.1	0.0	7.1	11.4	2.7
12/16/2024 14:00	5.6	29.1	0.0	7.1	15.5	2.8	12/16/2024 14:00	5.5	26.0	0.0	7.2	11.4	2.6
12/16/2024 14:15	5.6	29.0	0.0	7.1	15.5	3.8	12/16/2024 14:15	5.5	26.2	0.0	7.2	11.4	2.3
12/16/2024 14:30	5.6	29.0	0.0	7.1	15.5	2.4	12/16/2024 14:30	5.5	26.6	0.0	7.2	11.4	1.7
12/16/2024 14:45	5.6	30.0	0.0	7.1	15.5	3.2	12/16/2024 14:45	5.5	27.4	0.0	7.3	11.4	1.9
12/16/2024 15:00	5.8	40.2	0.0	7.3	15.4	2.0	12/16/2024 15:00	5.5	28.1	0.0	7.2	11.4	2.6
12/16/2024 15:15	5.5	30.2	0.0	7.1	15.5	3.2	12/16/2024 15:15	5.4	29.2	0.0	7.3	11.4	3.2
12/16/2024 15:30	6.3	57.6	0.0	7.6	15.3	2.0	12/16/2024 15:30	5.4	31.3	0.0	7.3	11.4	3.3
12/16/2024 15:45	6.3	59.2	0.0	7.6	15.3	1.6	12/16/2024 15:45	5.4	32.8	0.0	7.3	11.4	3.7
12/16/2024 16:00	6.3	60.4	0.0	7.6	15.3	3.1	12/16/2024 16:00	5.3	35.0	0.0	7.3	11.4	3.5
12/16/2024 16:15	6.3	61.3	0.0	7.6	15.3	2.3	12/16/2024 16:15	5.3	36.0	0.0	7.3	11.5	4.4
12/16/2024 16:30	5.5	36.8	0.0	7.2	15.6	6.3	12/16/2024 16:30	5.3	36.5	0.0	7.3	11.4	4.3
12/16/2024 16:45	5.4	36.9	0.0	7.1	15.6	5.9	12/16/2024 16:45	5.3	36.0	0.0	7.4	11.4	3.0
12/16/2024 17:00	5.4	36.8	0.0	7.1	15.6	4.7	12/16/2024 17:00	5.3	36.8	0.0	7.3	11.4	3.9
12/16/2024 17:15	5.4	36.9	0.0	7.1	15.6	5.2	12/16/2024 17:15	5.3	39.3	0.0	7.4	11.5	4.5
12/16/2024 17:30	5.4	38.2	0.0	7.1	15.6	5.2	12/16/2024 17:30	5.2	40.7	0.0	7.4	11.5	4.4
12/16/2024 17:45	5.3	39.8	0.0	7.1	15.6	4.2	12/16/2024 17:45	5.2	41.3	0.0	7.4	11.5	4.7
12/16/2024 18:00	5.3	40.5	0.0	7.1	15.6	5.1	12/16/2024 18:00	5.2	41.4	0.0	7.4	11.5	3.1
12/16/2024 18:15	5.3	40.8	0.0	7.1	15.7	3.8	12/16/2024 18:15	5.2	41.5	0.0	7.4	11.5	3.5
12/16/2024 18:30	5.4	54.0	0.0	7.2	15.7	2.8	12/16/2024 18:30	5.2	41.9	0.0	7.4	11.5	3.4
12/16/2024 18:45	6.2	65.4	0.0	7.6	15.4	2.2	12/16/2024 18:45	5.3	42.4	0.0	7.4	11.5	1.6
12/16/2024 19:00	6.2	66.1	0.0	7.6	15.3	2.4	12/16/2024 19:00	5.3	42.3	0.0	7.4	11.4	2.0
12/16/2024 19:15	6.2	66.3	0.0	7.6	15.3	2.3	12/16/2024 19:15	5.3	41.8	0.0	7.4	11.5	1.9
12/16/2024 19:30	6.2	66.2	0.0	7.6	15.3	3.2	12/16/2024 19:30	5.3	41.1	0.0	7.4	11.4	1.5
12/16/2024 19:45	5.5	42.8	0.0	7.2	15.6	2.3	12/16/2024 19:45	5.4	40.1	0.0	7.4	11.4	1.0
12/16/2024 20:00	5.5	41.3	0.0	7.2	15.6	2.1	12/16/2024 20:00	5.4	39.2	0.0	7.4	11.4	0.8
12/16/2024 20:15	5.5	40.2	0.0	7.2	15.6	3.0	12/16/2024 20:15	5.4	38.1	0.0	7.3	11.4	0.8
12/16/2024 20:30	5.4	39.3	0.0	7.2	15.6	1.6	12/16/2024 20:30	5.4	37.0	0.0	7.4	11.4	0.6
12/16/2024 2													

12/16/2024 23:45	5.4	31.1	0.0	7.1	15.6	0.9	12/16/2024 23:45	5.4	27.1	0.0	7.3	11.4	0.0
12/17/2024 0:00	5.4	30.7	0.0	7.1	15.6	0.7	12/17/2024 0:00	5.4	26.7	0.0	7.2	11.4	0.0
12/17/2024 0:15	5.4	30.4	0.0	7.1	15.6	1.1	12/17/2024 0:15	5.4	26.3	0.0	7.2	11.4	0.0
12/17/2024 0:30	5.4	30.0	0.0	7.1	15.6	0.8	12/17/2024 0:30	5.4	25.8	0.0	7.2	11.4	0.0
12/17/2024 0:45	5.4	41.5	0.0	7.1	15.6	0.9	12/17/2024 0:45	5.4	25.3	0.0	7.1	11.4	0.0
12/17/2024 1:00	6.3	59.6	0.0	7.6	15.3	2.1	12/17/2024 1:00	5.4	24.9	0.0	7.2	11.4	0.1
12/17/2024 1:15	6.4	59.9	0.0	7.6	15.3	0.7	12/17/2024 1:15	5.4	24.6	0.0	7.2	11.4	0.0
12/17/2024 1:30	6.4	59.9	0.0	7.6	15.3	0.7	12/17/2024 1:30	5.5	24.2	0.0	7.2	11.4	0.0
12/17/2024 1:45	6.4	59.9	0.0	7.7	15.2	0.8	12/17/2024 1:45	5.5	24.0	0.0	7.2	11.4	0.0
12/17/2024 2:00	5.6	29.4	0.0	7.2	15.5	0.7	12/17/2024 2:00	5.5	23.7	0.0	7.2	11.4	0.0
12/17/2024 2:15	5.5	28.6	0.0	7.1	15.6	0.8	12/17/2024 2:15	5.5	23.4	0.0	7.2	11.4	0.0
12/17/2024 2:30	5.5	28.2	0.0	7.1	15.6	1.0	12/17/2024 2:30	5.5	23.2	0.0	7.1	11.4	0.1
12/17/2024 2:45	5.5	27.8	0.0	7.1	15.6	0.7	12/17/2024 2:45	5.5	22.9	0.0	7.2	11.4	0.0
12/17/2024 3:00	5.5	27.6	0.0	7.1	15.6	0.7	12/17/2024 3:00	5.5	22.6	0.0	7.1	11.4	0.0
12/17/2024 3:15	5.5	27.4	0.0	7.1	15.6	0.8	12/17/2024 3:15	5.5	22.4	0.0	7.2	11.4	0.0
12/17/2024 3:30	5.5	27.1	0.0	7.1	15.6	0.7	12/17/2024 3:30	5.5	22.3	0.0	7.1	11.4	0.1
12/17/2024 3:45	5.5	26.9	0.0	7.0	15.6	0.9	12/17/2024 3:45	5.5	22.1	0.0	7.1	11.4	0.0
12/17/2024 4:00	5.5	26.8	0.0	7.1	15.6	0.8	12/17/2024 4:00	5.5	21.9	0.0	7.1	11.4	0.0
12/17/2024 4:15	6.4	58.2	0.0	7.6	15.3	0.7	12/17/2024 4:15	5.5	21.8	0.0	7.1	11.4	0.0
12/17/2024 4:30	6.4	58.5	0.0	7.6	15.2	1.2	12/17/2024 4:30	5.6	21.5	0.0	7.1	11.4	0.0
12/17/2024 4:45	6.5	58.8	0.0	7.6	15.2	0.9	12/17/2024 4:45	5.6	21.4	0.0	7.1	11.4	0.0
12/17/2024 5:00	6.2	43.5	0.0	7.6	15.3	1.2	12/17/2024 5:00	5.6	21.2	0.0	7.2	11.4	0.0
12/17/2024 5:15	5.6	26.8	0.0	7.1	15.6	1.0	12/17/2024 5:15	5.6	21.1	0.0	7.1	11.4	0.0
12/17/2024 5:30	5.6	26.4	0.0	7.1	15.6	0.8	12/17/2024 5:30	5.6	21.0	0.0	7.0	11.4	0.0
12/17/2024 5:45	5.6	26.1	0.0	7.1	15.6	0.8	12/17/2024 5:45	5.6	20.8	0.0	6.9	11.4	0.0
12/17/2024 6:00	5.6	26.0	0.0	7.1	15.6	0.9	12/17/2024 6:00	5.6	20.7	0.0	7.1	11.4	0.0
12/17/2024 6:15	5.6	25.7	0.0	7.0	15.6	0.8	12/17/2024 6:15	5.6	20.5	0.0	7.1	11.4	0.1
12/17/2024 6:30	5.6	25.6	0.0	7.0	15.6	0.7	12/17/2024 6:30	5.6	20.4	0.0	7.1	11.4	0.0
12/17/2024 6:45	5.6	25.5	0.0	7.0	15.6	1.2	12/17/2024 6:45	5.6	20.3	0.0	7.1	11.4	0.0
12/17/2024 7:00	5.6	25.4	0.0	7.0	15.6	0.7	12/17/2024 7:00	5.6	20.3	0.0	7.1	11.4	0.0
12/17/2024 7:15	5.8	49.0	0.0	7.1	15.6	0.9	12/17/2024 7:15	5.6	20.1	0.0	7.1	11.4	0.0
12/17/2024 7:30	6.5	58.3	0.0	7.6	15.2	0.7	12/17/2024 7:30	5.6	20.0	0.0	7.1	11.4	0.0
12/17/2024 7:45	6.5	58.6	0.0	7.6	15.2	0.8	12/17/2024 7:45	5.6	19.9	0.0	7.1	11.4	0.0
12/17/2024 8:00	6.6	58.0	0.0	7.6	15.2	0.6	12/17/2024 8:00	5.6	19.8	0.0	7.1	11.4	0.0
12/17/2024 8:15	6.1	36.7	0.0	7.6	15.3	0.8	12/17/2024 8:15	5.6	19.7	0.0	7.1	11.4	0.0
12/17/2024 8:30	5.7	25.6	0.0	7.1	15.6	0.7	12/17/2024 8:30	5.6	19.6	0.0	7.1	11.4	0.9
12/17/2024 8:45	5.6	25.3	0.0	7.1	15.6	0.8	12/17/2024 8:45	5.6	19.6	0.0	7.1	11.4	0.0
12/17/2024 9:00	5.6	25.0	0.0	7.1	15.6	0.7	12/17/2024 9:00	5.6	19.4	0.0	7.1	11.4	0.0
12/17/2024 9:15	5.6	24.9	0.0	7.1	15.6	0.7	12/17/2024 9:15	5.6	19.3	0.0	7.1	11.4	0.3
12/17/2024 9:30	5.6	24.7	0.0	7.0	15.6	0.7	12/17/2024 9:30	5.6	19.3	0.0	7.1	11.4	0.0
12/17/2024 9:45	5.6	24.6	0.0	7.0	15.6	0.7	12/17/2024 9:45	5.6	19.2	0.0	7.1	11.4	0.0
12/17/2024 10:00	5.6	24.5	0.0	7.0	15.5	0.8	12/17/2024 10:00	5.6	19.0	0.0	7.1	11.4	0.6
12/17/2024 10:15	6.2	49.4	0.0	7.5	15.3	0.6	12/17/2024 10:15	5.6	19.0	0.0	7.1	11.4	0.0
12/17/2024 10:30	6.5	57.3	0.0	7.6	15.2	1.1	12/17/2024 10:30	5.6	18.9	0.0	7.0	11.4	0.0
12/17/2024 10:45	6.5	57.3	0.0	7.6	15.2	0.8	12/17/2024 10:45	5.7	18.8	0.0	7.1	11.4	0.0
12/17/2024 11:00	6.6	57.8	0.0	7.6	15.2	0.9	12/17/2024 11:00	5.7	18.8	0.0	7.1	11.4	0.9
12/17/2024 11:15	6.6	57.7	0.0	7.6	15.2	0.9	12/17/2024 11:15	5.7	18.7	0.0	7.1	11.4	0.0
12/17/2024 11:30	6.6	57.7	0.0	7.7	15.2	1.0	12/17/2024 11:30	5.7	18.8	0.0	7.1	11.4	0.0
12/17/2024 11:45	6.1	35.6	0.0	7.4	15.4	0.9	12/17/2024 11:45	5.7	18.9	0.0	7.1	11.4	0.0
12/17/2024 12:00	5.8	24.9	0.0	7.1	15.5	0.8	12/17/2024 12:00	5.7	19.3	0.0	7.1	11.4	0.0
12/17/2024 12:15	5.7	24.7	0.0	7.1	15.5	0.6	12/17/2024 12:15	5.7	19.7	0.0	7.1	11.4	0.0
12/17/2024 12:30	5.7	24.9	0.0	7.1	15.5	0.8	12/17/2024 12:30	5.7	20.3	0.0	7.0	11.4	0.2
12/17/2024 12:45	5.7	25.5	0.0	7.0	15.5	0.8	12/17/2024 12:45	5.7	20.4	0.0	7.1	11.4	0.2
12/17/2024 13:00	6.6	57.5	0.0	7.6	15.2	0.8	12/17/2024 13:00	5.7	20.5	0.0	7.1	11.4	0.1
12/17/2024 13:15	6.2	37.9	0.0	7.5	15.3	1.3	12/17/2024 13:15	5.8	20.9	0.0	7.2	11.4	0.1
12/17/2024 13:30	5.8	26.2	0.0	7.1	15.5	0.7	12/17/2024 13:30	5.8	21.2	0.0	7.2	11.3	0.0
12/17/2024 13:45	5.8	26.1	0.0	7.1	15.5	0.7	12/17/2024 13:45	5.8	21.3	0.0	7.2	11.4	0.0
12/17/2024 14:00	5.8	26.1	0.0	7.1	15.5	0.7	12/17/2024 14:00	5.8	21.2	0.0	7.1	11.3	0.0
12/17/2024 14:15	5.7	26.1	0.0	7.0	15.5	0.7	12/17/2024 14:15	5.8	21.0	0.0	7.1	11.3	0.1
12/17/2024 14:30	5.7	26.0	0.0	7.1	15.5	1.0	12/17/2024 14:30	5.8	21.2	0.0	7.1	11.3	0.0
12/17/2024 14:45	5.7	26.0	0.0	7.1	15.5	1.2	12/17/2024 14:45	5.8	21.5	0.0	7.2	11.3	1.4
12/17/2024 15:00	5.7	26.1	0.0	7.1	15.5	1.0	12/17/2024 15:00	5.8	21.9	0.0	7.2	11.3	0.1
12/17/2024 15:15	5.7	26.3	0.0	7.1	15.5	1.0	12/17/2024 15:15	5.8	24.6	0.0	7.2	11.3	0.5
12/17/2024 15:30	5.7	27.5	0.0	7.0	15.5	0.8	12/17/2024 15:30	5.7	26.1	0.0	7.2	11.4	0.5
12/17/2024 15:45	5.7	29.2	0.0	7.1	15.5	1.3	12/17/2024 15:45	5.7	26.8	0.0	7.3	11.4	0.9
12/17/2024 16:00	6.3	58.3	0.0	7.5	15.2	1.5	12/17/2024 16:00	5.7	28.1	0.0	7.3	11.3	1.2
12/17/2024 16:15	6.5	59.1	0.0	7.6	15.2	1.1	12/17/2024 16:15	5.7	30.0	0.0	7.3	11.3	2.5
12/17/2024 16:30	6.5	59.6	0.0	7.6	15.2	1.9	12/17/2024 16:30	5.7	31.2	0.0	7.3	11.4	3.8
12/17/2024 16:45	6.0	38.6	0.0	7.4	15.3	6.5	12/17/2024 16:45	5.7	32.1	0.0	7.3	11.3	3.4
12/17/2024 17:00	6.3	58.9	0.0	7.5	15.3	2.4	12/17/2024 17:00	5.6	34.4	0.0	7.4	11.4	6.8
12/17/2024 17:15	5.7	36.3	0.0	7.2	15.5	6.2	12/17/2024 17:15	5.6	37.1	0.0	7.4	11.4	9.9
12/17/2024 17:30	5.6	38.4	0.0	7.2	15.5	8.4	12/17/2024 17:30	5.6	39.1	0.0	7.4	11.4	12.2
12/17/2024 17:45	5.6	40.6	0.0	7.2	15.5	15.5	12/17/2024 17:45	5.5	41.4	0.0	7.4	11.4	12.2
12/17/2024 18:00	5.6	42.5	0.0	7.2	15.5	13.9	12/17/2024 18:00	5.5	44.1	0.0	7.5	11.4	12.3
12/17/2024 18:15	5.5	44.7	0.0	7.2	15.6	8.6	12/17/2024 18:15	5.5	46.1	0.0	7.5	11.4	10.4
12/17/2024 18:30	5.5	47.0	0.0	7.2	15.6	7.8	12/17/2024 18:30	5.5	48.7	0.0	7.5	11.4	10.2
12/17/2024 18:45	6.2	65.8	0.0	7.6	15.3	7.2	12/17/2024 18:45	5.5	51.5	0.0	7.5	11.4	12.6
12/17/2024 19:00	6.1	67.2	0.0	7.6	15.4	11.5	12/17/2024 19:00	5.4	52.7	0.0	7.6	11.4	21.2
12/17/2024 19:15	6.1	67.8	0.0	7.6	15.4	14.5	12/17/2024 19:15	5.4	53.0	0.0	7.6	11.4	21.0
12/17/2024 19:30	5.8	58.6	0.0	7.6	15.5	10.9	12/17/2024 19:30	5.4	51.8	0.0	7.6	11.4	13.2
12/17/2024 19:45	5.5	52.6	0.0	7.3	15.6	11.2	12/17/2024 19:45	5.4	51.2	0.0	7.6	11.4	14.6
12/17/2024 20:00	5.4	52.1	0.0	7.3	15.6	11.2	12/17/2024 20:00	5.4	50.1	0.0	7.6	11.4	18.2
12/17/2024 20:15	5.4	51.2	0.0	7.3	15.6	14.2	12/17/2024 20:15	5.5	48.3	0.0	7.5	11.4	10.5
12/17/2024 20:30	5.4	49.2	0.0	7.3	15.6	10.0	12/17/2024 20:30	5.5	45.7	0.0	7.5	11.4	8.2
12/17/2024 20:45	5.4	47.1	0.0	7.2									

12/18/2024 1:00	6.0	26.0	0.0	7.0	15.3	740.7	12/18/2024 1:00	5.9	24.7	0.0	7.1	11.3	23.5
12/18/2024 1:15	5.9	24.8	0.0	6.8	15.3	641.8	12/18/2024 1:15	5.9	23.6	0.0	7.1	11.2	16.3
12/18/2024 1:30	6.0	24.5	0.0	6.8	15.3	268.4	12/18/2024 1:30	6.0	22.3	0.0	7.1	11.2	12.4
12/18/2024 1:45	6.0	22.5	0.0	6.8	15.3	509.2	12/18/2024 1:45	6.0	22.1	0.0	7.0	11.2	9.4
12/18/2024 2:00	6.0	19.9	0.0	6.8	15.3	840.5	12/18/2024 2:00	6.0	21.7	0.0	7.1	11.2	10.7
12/18/2024 2:15	6.0	19.9	0.0	6.7	15.3		12/18/2024 2:15	6.0	22.1	0.0	7.1	11.2	18.1
12/18/2024 2:30	6.1	19.2	0.0	6.7	15.3	1186.5	12/18/2024 2:30	6.0	21.8	0.0	7.1	11.2	21.0
12/18/2024 2:45	6.1	21.3	0.0	6.9	15.2	2475.8	12/18/2024 2:45	6.0	21.8	0.0	7.0	11.2	24.2
12/18/2024 3:00	6.2	22.3	0.0	6.8	15.2	1864.7	12/18/2024 3:00	6.1	21.1	0.0	7.1	11.2	15.5
12/18/2024 3:15	6.2	18.0	0.0	6.8	15.2	2708.8	12/18/2024 3:15	6.1	20.7	0.0	7.1	11.2	18.2
12/18/2024 3:30	6.2	18.9	0.0	6.8	15.2		12/18/2024 3:30	6.1	20.5	0.0	7.1	11.2	14.7
12/18/2024 3:45	6.3	13.9	0.0	6.8	15.2		12/18/2024 3:45	6.1	20.4	0.0	7.0	11.2	14.6
12/18/2024 4:00	6.2	15.6	0.0	6.7	15.2		12/18/2024 4:00		20.5	0.0	7.0	11.2	19.9
12/18/2024 4:15	6.2	5.7	0.0	6.7	15.2	1609.3	12/18/2024 4:15	6.1	20.5	0.0	7.0	11.2	31.8
12/18/2024 4:30	6.2	11.7	0.0	6.6	15.2	3283.3	12/18/2024 4:30	6.1	20.1	0.0	7.1	11.2	31.6
12/18/2024 4:45	6.2	10.0	0.0	6.7	15.2		12/18/2024 4:45	6.2	19.8	0.0	7.1	11.2	24.6
12/18/2024 5:00	6.3	13.9	0.0	6.7	15.2	3466.4	12/18/2024 5:00	6.2	19.3	0.0	7.0	11.2	23.3
12/18/2024 5:15	6.3	8.3	0.0	6.8	15.2	3698.0	12/18/2024 5:15	6.2	19.2	0.0	6.9	11.2	15.9
12/18/2024 5:30	6.4	16.0	0.0	6.8	15.2	743.8	12/18/2024 5:30	6.2	19.3	0.0	7.0	11.2	26.9
12/18/2024 5:45	6.4	12.2	0.0	6.8	15.2		12/18/2024 5:45	6.3	18.8	0.0	6.9	11.2	13.0
12/18/2024 6:00	6.4	13.7	0.0	6.6	15.2		12/18/2024 6:00	6.3	18.4	0.0	6.9	11.1	9.9
12/18/2024 6:15	6.5	10.4	0.0	6.7	15.1		12/18/2024 6:15	6.4	18.0	0.0	6.9	11.1	6.9
12/18/2024 6:30	6.5	7.9	0.0	6.6	15.1		12/18/2024 6:30	6.4	17.7	0.0	7.0	11.1	7.7
12/18/2024 6:45	6.6	12.1	0.0	6.8	15.1		12/18/2024 6:45	6.5	17.5	0.0	6.9	11.1	6.9
12/18/2024 7:00	6.6	8.7	0.0	6.8	15.1	3930.2	12/18/2024 7:00	6.5	17.3	0.0	6.9	11.1	3.9
12/18/2024 7:15	6.7	12.7	0.0	6.8	15.1		12/18/2024 7:15	6.5	17.3	0.0	6.8	11.1	5.2
12/18/2024 7:30	6.6	12.2	0.0	6.6	15.1		12/18/2024 7:30	6.5	17.1	0.0	6.9	11.1	2.8
12/18/2024 7:45	6.6	13.4	0.0	6.6	15.1		12/18/2024 7:45	6.5	17.1	0.0	6.9	11.1	2.2
12/18/2024 8:00	6.6	12.7	0.0	6.6	15.1	2045.8	12/18/2024 8:00	6.5	17.1	0.0	6.9	11.1	1.7
12/18/2024 8:15	6.6	15.8	0.0	6.7	15.1	1841.6	12/18/2024 8:15	6.5	17.0	0.0	6.8	11.1	1.9
12/18/2024 8:30	6.6	15.9	0.0	6.8	15.2	216.4	12/18/2024 8:30	6.5	17.0	0.0	7.0	11.1	1.3
12/18/2024 8:45	6.6	14.9	0.0	6.9	15.1	341.5	12/18/2024 8:45	6.5	17.0	0.0	6.9	11.1	1.2
12/18/2024 9:00	6.6	14.1	0.0	6.7	15.2		12/18/2024 9:00	6.5	17.0	0.0	7.0	11.1	7.9
12/18/2024 9:15	6.6	14.7	0.0	6.6	15.2	772.6	12/18/2024 9:15	6.5	16.9	0.0	7.0	11.2	0.9
12/18/2024 9:30	6.7	21.1	0.0	6.8	15.2	961.6	12/18/2024 9:30	6.5	16.9	0.0	7.0	11.2	1.9
12/18/2024 9:45	6.7	17.9	0.0	6.9	15.1	527.0	12/18/2024 9:45	6.5	16.8	0.0	7.0	11.2	2.2
12/18/2024 10:00	6.7	17.9	0.0	6.9	15.2	1187.1	12/18/2024 10:00	6.5	16.8	0.0	7.0	11.2	1.2
12/18/2024 10:15	6.7	20.2	0.0	6.9	15.2		12/18/2024 10:15	6.5	16.7	0.0	7.0	11.2	4.2
12/18/2024 10:30	6.6	15.7	0.0	6.8	15.2	719.7	12/18/2024 10:30	6.5	16.7	0.0	7.0	11.2	1.4
12/18/2024 10:45	6.6	13.8	0.0	6.8	15.2	1039.4	12/18/2024 10:45	6.5	16.7	0.0	6.9	11.2	0.9
12/18/2024 11:00	6.7	13.1	0.0	6.8	15.2	286.2	12/18/2024 11:00	6.6	16.6	0.0	7.0	11.2	0.6
12/18/2024 11:15	6.7	15.2	0.0	6.8	15.2		12/18/2024 11:15	6.6	16.7	0.0	6.8	11.2	1.8
12/18/2024 11:30	6.7	14.0	0.0	6.7	15.2	215.4	12/18/2024 11:30	6.6	16.5	0.0	7.0	11.2	0.7
12/18/2024 11:45	6.7	10.0	0.0	6.8	15.2	393.8	12/18/2024 11:45	6.6	16.6	0.0	7.0	11.2	0.7
12/18/2024 12:00	6.8	14.8	0.0	6.8	15.2		12/18/2024 12:00		16.5	0.0	7.0	11.1	2.1
12/18/2024 12:15	6.8	9.7	0.0	6.8	15.2	247.3	12/18/2024 12:15	6.7	16.5	0.0	7.0	11.2	0.4
12/18/2024 12:30	6.8	16.6	0.0	6.8	15.2	690.3	12/18/2024 12:30	6.7	16.4	0.0	7.0	11.1	2.9
12/18/2024 12:45	7.0	24.8	0.0	7.1	15.1	117.0	12/18/2024 12:45	6.8	16.4	0.0	7.1	11.1	0.5
12/18/2024 13:00	7.1	19.1	0.0	7.1	15.1	297.3	12/18/2024 13:00	6.9	16.3	0.0	7.0	11.1	0.6
12/18/2024 13:15	7.2	18.7	0.0	7.2	15.0	435.8	12/18/2024 13:15	6.9	16.3	0.0	7.0	11.1	0.2
12/18/2024 13:30	7.2	18.0	0.0	7.1	15.0	226.1	12/18/2024 13:30	7.0	16.2	0.0	7.1	11.1	0.6
12/18/2024 13:45	7.1	13.8	0.0	6.8	15.1	426.2	12/18/2024 13:45	7.0	16.3	0.0	7.1	11.1	2.2
12/18/2024 14:00	7.1	15.0	0.0	6.8	15.1	35.4	12/18/2024 14:00	7.0	16.1	0.0	6.9	11.1	1.9
12/18/2024 14:15	7.2	13.7	0.0	6.7	15.1	66.2	12/18/2024 14:15	7.0	16.2	0.0	7.0	11.1	0.8
12/18/2024 14:30	7.2	14.7	0.0	6.8	15.1	89.9	12/18/2024 14:30	7.1	16.1	0.0	7.0	11.1	0.7
12/18/2024 14:45	7.2	18.5	0.0	6.7	15.0	1324.7	12/18/2024 14:45	7.1	16.1	0.0	7.1	11.1	0.6
12/18/2024 15:00	7.2	18.1	0.0	6.7	15.0	366.3	12/18/2024 15:00	7.1	16.1	0.0	7.0	11.1	0.2
12/18/2024 15:15	7.2	13.8	0.0	6.7	15.0	8.1	12/18/2024 15:15	7.1	16.1	0.0	7.1	11.1	0.3
12/18/2024 15:30	7.2	17.7	0.0	6.7	15.0	174.4	12/18/2024 15:30	7.2	16.1	0.0	7.0	11.1	0.2
12/18/2024 15:45	7.2	19.0	0.0	6.7	15.0	77.1	12/18/2024 15:45	7.1	16.0	0.0	7.1	11.1	0.7
12/18/2024 16:00	7.5	19.1	0.0	7.1	15.0	984.3	12/18/2024 16:00	7.2	16.0	0.0	7.0	11.0	0.4
12/18/2024 16:15	7.5	29.0	0.0	7.1	15.0	76.0	12/18/2024 16:15	7.2	16.0	0.0	7.0	11.0	0.2
12/18/2024 16:30	7.5	25.5	0.0	7.2	15.0	243.8	12/18/2024 16:30	7.2	15.9	0.0	7.0	11.0	0.3
12/18/2024 16:45	7.3	14.8	0.0	6.8	15.0	307.1	12/18/2024 16:45	7.1	16.0	0.0	7.1	11.1	0.3
12/18/2024 17:00	7.2	16.1	0.0	6.7	15.0	382.8	12/18/2024 17:00	7.1	15.9	0.0	7.0	11.1	0.5
12/18/2024 17:15	7.2	19.2	0.0	6.7	15.0	2.5	12/18/2024 17:15	7.1	15.9	0.0	7.0	11.0	0.1
12/18/2024 17:30	7.2	19.3	0.0	6.7	15.0	2.4	12/18/2024 17:30	7.1	15.9	0.0	6.9	11.1	0.2
12/18/2024 17:45	7.2	19.3	0.0	6.7	15.0	3.6	12/18/2024 17:45	7.1	15.9	0.0	7.0	11.1	1.2
12/18/2024 18:00	7.2	19.3	0.0	6.7	15.0	1.9	12/18/2024 18:00	7.1	15.9	0.0	7.0	11.1	0.3
12/18/2024 18:15	7.1	19.3	0.0	6.7	15.1	2.1	12/18/2024 18:15	7.0	15.9	0.0	7.0	11.1	1.0
12/18/2024 18:30	7.1	19.4	0.0	6.6	15.0	2.3	12/18/2024 18:30	7.0	15.9	0.0	6.9	11.1	0.7
12/18/2024 18:45	7.1	19.3	0.0	6.7	15.1	1.5	12/18/2024 18:45	7.0	15.9	0.0	7.0	11.1	0.4
12/18/2024 19:00	7.4	32.6	0.0	7.0	15.0	3.3	12/18/2024 19:00	7.0	15.9	0.0	7.0	11.1	0.2
12/18/2024 19:15	7.4	33.0	0.0	7.1	15.0	2.3	12/18/2024 19:15	6.9	15.8	0.0	7.1	11.1	0.5
12/18/2024 19:30	7.3	33.2	0.0	7.1	15.0	2.1	12/18/2024 19:30	6.9	15.9	0.0	7.0	11.1	0.6
12/18/2024 19:45	7.1	21.8	0.0	6.8	15.1	2.2	12/18/2024 19:45	6.9	15.8	0.0	7.1	11.1	0.2
12/18/2024 20:00	7.0	19.5	0.0	6.8	15.1	4.3	12/18/2024 20:00	6.9	15.7	0.0	7.0	11.1	0.2
12/18/2024 20:15	7.0	19.4	0.0	6.7	15.2	3.8	12/18/2024 20:15	6.9	15.8	0.0	7.0	11.1	0.0
12/18/2024 20:30	6.9	19.5	0.0	6.7	15.1	3.1	12/18/2024 20:30	6.8	15.7	0.0	7.0	11.2	0.1
12/18/2024 20:45	6.9	19.5	0.0	6.7	15.2	2.4	12/18/2024 20:45	6.8	15.7	0.0	7.0	11.2	0.0
12/18/2024 21:00	6.9	19.4	0.0	6.7	15.2	1.7	12/18/2024 21:00	6.8	15.7	0.0	7.0	11.2	0.2
12/18/2024 21:15	6.9	19.4	0.0	6.7	15.2	1.7	12/18/2024 21:15	6.8	15.7	0.0	7.0	11.2	0.2
12/18/2024 21:30	6.8	19.5	0.0	6.7	15.2	1.6	12/18/2024 21:30	6.7	15.6	0.0	7.1	11.2	0.1
12/18/2024 21:45	7.0	32.5	0.0	6.9	15.1	1.9	12/18/2024 21:45	6.7	15.6	0.0	7.0	11.2	0.3
12/18/2024 22:00	7.2												

12/19/2024 2:15	6.6	19.6	0.0	6.7	15.3	1.4	12/19/2024 2:15	6.5	15.2	0.0	7.1	11.2	0.1
12/19/2024 2:30	6.6	19.6	0.0	6.7	15.3	1.6	12/19/2024 2:30	6.5	15.2	0.0	7.0	11.2	0.0
12/19/2024 2:45	6.5	19.5	0.0	6.7	15.3	2.1	12/19/2024 2:45	6.5	15.2	0.0	7.0	11.2	0.0
12/19/2024 3:00	6.5	19.6	0.0	6.7	15.3	1.5	12/19/2024 3:00	6.5	15.1	0.0	7.0	11.3	0.0
12/19/2024 3:15	6.9	36.2	0.0	7.1	15.1	1.7	12/19/2024 3:15	6.5	15.1	0.0	7.0	11.2	0.1
12/19/2024 3:30	6.9	36.6	0.0	7.2	15.1	4.0	12/19/2024 3:30	6.5	15.1	0.0	7.0	11.2	0.0
12/19/2024 3:45	6.9	36.9	0.0	7.2	15.1	3.4	12/19/2024 3:45	6.5	15.1	0.0	7.0	11.2	0.1
12/19/2024 4:00	6.9	37.0	0.0	7.2	15.1	3.1	12/19/2024 4:00	6.5	15.0	0.0	7.0	11.2	0.2
12/19/2024 4:15	6.6	20.1	0.0	6.8	15.3	1.3	12/19/2024 4:15	6.5	15.0	0.0	7.1	11.2	0.0
12/19/2024 4:30	6.5	19.6	0.0	6.7	15.3	1.4	12/19/2024 4:30	6.5	15.0	0.0	7.0	11.2	0.0
12/19/2024 4:45	6.5	19.6	0.0	6.7	15.3	2.2	12/19/2024 4:45	6.5	15.0	0.0	7.1	11.2	0.1
12/19/2024 5:00	6.5	19.6	0.0	6.8	15.3	1.8	12/19/2024 5:00	6.5	15.0	0.0	7.0	11.2	0.3
12/19/2024 5:15	6.5	19.4	0.0	6.7	15.3	2.4	12/19/2024 5:15	6.5	14.9	0.0	7.0	11.2	0.1
12/19/2024 5:30	6.5	19.4	0.0	6.7	15.3	3.0	12/19/2024 5:30	6.5	14.9	0.0	7.1	11.2	0.1
12/19/2024 5:45	6.6	19.5	0.0	6.7	15.3	1.8	12/19/2024 5:45	6.5	14.9	0.0	7.0	11.2	0.1
12/19/2024 6:00	6.6	19.4	0.0	6.7	15.2	1.9	12/19/2024 6:00	6.5	14.8	0.0	7.1	11.2	0.1
12/19/2024 6:15	6.9	37.0	0.0	7.2	15.1	2.6	12/19/2024 6:15	6.5	14.8	0.0	7.0	11.2	0.0
12/19/2024 6:30	7.0	37.3	0.0	7.3	15.1	2.2	12/19/2024 6:30	6.6	14.8	0.0	7.1	11.2	0.2
12/19/2024 6:45	7.0	37.8	0.0	7.2	15.1	2.9	12/19/2024 6:45	6.6	14.8	0.0	7.0	11.2	0.7
12/19/2024 7:00	7.0	37.9	0.0	7.3	15.1	2.0	12/19/2024 7:00	6.6	14.8	0.0	7.1	11.2	0.2
12/19/2024 7:15	6.6	19.7	0.0	6.7	15.2	1.5	12/19/2024 7:15	6.6	14.7	0.0	7.0	11.2	0.0
12/19/2024 7:30	6.6	19.6	0.0	6.8	15.2	1.5	12/19/2024 7:30	6.6	14.7	0.0	7.0	11.2	0.7
12/19/2024 7:45	6.6	19.5	0.0	6.8	15.2	1.4	12/19/2024 7:45	6.6	14.7	0.0	7.1	11.2	0.0
12/19/2024 8:00	6.6	19.5	0.0	6.8	15.2	1.5	12/19/2024 8:00	6.6	14.8	0.0	7.1	11.2	0.1
12/19/2024 8:15	6.6	19.5	0.0	6.8	15.2	1.5	12/19/2024 8:15	6.6	14.9	0.0	7.0	11.2	0.0
12/19/2024 8:30	6.6	19.6	0.0	6.7	15.2	1.4	12/19/2024 8:30	6.6	15.1	0.0	7.1	11.2	0.1
12/19/2024 8:45	6.6	19.7	0.0	6.8	15.2	1.3	12/19/2024 8:45	6.6	15.4	0.0	7.1	11.2	0.0
12/19/2024 9:00	6.6	20.0	0.0	6.7	15.2	1.5	12/19/2024 9:00	6.6	15.8	0.0	7.1	11.1	0.1
12/19/2024 9:15	7.0	38.5	0.0	7.2	15.0	1.9	12/19/2024 9:15	6.6	16.3	0.0	7.1	11.2	0.1
12/19/2024 9:30	7.1	38.9	0.0	7.3	15.0	2.4	12/19/2024 9:30	6.6	16.5	0.0	7.1	11.2	0.3
12/19/2024 9:45	7.1	38.8	0.0	7.3	15.0	2.5	12/19/2024 9:45	6.6	16.6	0.0	7.1	11.2	0.3
12/19/2024 10:00	7.0	38.5	0.0	7.3	15.0	2.2	12/19/2024 10:00	6.6	16.7	0.0	7.1	11.2	0.1
12/19/2024 10:15	6.9	31.9	0.0	7.2	15.0	1.9	12/19/2024 10:15	6.6	17.4	0.0	7.1	11.2	0.2
12/19/2024 10:30	6.7	22.1	0.0	6.8	15.2	1.7	12/19/2024 10:30	6.6	18.5	0.0	7.2	11.2	0.4
12/19/2024 10:45	6.7	22.6	0.0	6.8	15.2	4.3	12/19/2024 10:45	6.6	18.4	0.0	7.2	11.2	0.4
12/19/2024 11:00	6.7	22.6	0.0	6.8	15.2	1.8	12/19/2024 11:00	6.6	18.7	0.0	7.2	11.2	0.5
12/19/2024 11:15	6.7	22.7	0.0	6.8	15.2	2.6	12/19/2024 11:15	6.6	19.2	0.0	7.2	11.2	0.4
12/19/2024 11:30	6.7	23.5	0.0	6.8	15.2	2.0	12/19/2024 11:30	6.6	20.7	0.0	7.2	11.2	0.7
12/19/2024 11:45	7.0	39.4	0.0	7.2	15.1	3.6	12/19/2024 11:45	6.6	20.7	0.0	7.2	11.2	0.8
12/19/2024 12:00	7.0	39.7	0.0	7.2	15.0	4.7	12/19/2024 12:00	6.6	20.1	0.0	7.2	11.2	0.5
12/19/2024 12:15	6.7	24.2	0.0	6.9	15.2	3.0	12/19/2024 12:15	6.6	21.3	0.0	7.2	11.2	0.7
12/19/2024 12:30	6.7	25.2	0.0	6.9	15.2	2.6	12/19/2024 12:30	6.6	22.8	0.0	7.2	11.2	2.1
12/19/2024 12:45	6.6	26.5	0.0	6.9	15.1	3.2	12/19/2024 12:45	6.6	23.6	0.0	7.2	11.1	3.7
12/19/2024 13:00	6.9	40.1	0.0	7.1	15.1	3.6	12/19/2024 13:00	6.6	23.5	0.0	7.3	11.1	0.8
12/19/2024 13:15	7.0	41.9	0.0	7.2	15.0	2.9	12/19/2024 13:15	6.6	23.3	0.0	7.2	11.2	1.2
12/19/2024 13:30	7.0	42.2	0.0	7.3	15.0	2.6	12/19/2024 13:30	6.6	23.2	0.0	7.2	11.2	0.3
12/19/2024 13:45	6.7	27.2	0.0	7.0	15.1	2.1	12/19/2024 13:45	6.6	23.0	0.0	7.2	11.1	0.6
12/19/2024 14:00	6.6	26.9	0.0	6.9	15.1	1.9	12/19/2024 14:00	6.6	23.0	0.0	7.3	11.1	0.4
12/19/2024 14:15	6.6	26.8	0.0	6.9	15.1	2.1	12/19/2024 14:15	6.6	22.5	0.0	7.2	11.1	0.3
12/19/2024 14:30	7.0	41.3	0.0	7.2	15.0	3.5	12/19/2024 14:30	6.6	21.9	0.0	7.2	11.1	0.4
12/19/2024 14:45	6.8	30.6	0.0	7.1	15.1	2.1	12/19/2024 14:45	6.6	21.5	0.0	7.2	11.1	0.2
12/19/2024 15:00	6.7	25.6	0.0	6.9	15.1	2.6	12/19/2024 15:00	6.6	21.2	0.0	7.2	11.1	0.3
12/19/2024 15:15	6.6	25.4	0.0	6.8	15.1	1.6	12/19/2024 15:15	6.6	22.2	0.0	7.2	11.1	0.4
12/19/2024 15:30	7.0	40.6	0.0	7.2	15.0	2.6	12/19/2024 15:30	6.6	22.1	0.0	7.2	11.1	0.2
12/19/2024 15:45	6.7	26.2	0.0	6.9	15.1	2.3	12/19/2024 15:45	6.6	21.8	0.0	7.2	11.1	0.2
12/19/2024 16:00	6.6	25.7	0.0	6.8	15.1	1.5	12/19/2024 16:00	6.6	21.3	0.0	7.2	11.1	0.6
12/19/2024 16:15	7.0	39.2	0.0	7.2	15.0	2.3	12/19/2024 16:15	6.6	21.7	0.0	7.2	11.1	0.2
12/19/2024 16:30	7.0	39.4	0.0	7.2	15.0	3.0	12/19/2024 16:30	6.6	22.2	0.0	7.2	11.1	1.6
12/19/2024 16:45	7.0	39.7	0.0	7.2	15.0	2.8	12/19/2024 16:45	6.6	26.1	0.0	7.3	11.1	1.9
12/19/2024 17:00	6.7	33.3	0.0	7.1	15.1	7.1	12/19/2024 17:00	6.6	27.3	0.0	7.3	11.1	4.5
12/19/2024 17:15	6.6	30.9	0.0	6.9	15.1	7.8	12/19/2024 17:15	6.5	29.7	0.0	7.4	11.1	9.3
12/19/2024 17:30	6.5	33.5	0.0	7.0	15.1	10.3	12/19/2024 17:30	6.5	32.9	0.0	7.4	11.1	8.5
12/19/2024 17:45	6.5	35.9	0.0	7.0	15.2	9.4	12/19/2024 17:45	6.5	34.1	0.0	7.3	11.1	10.2
12/19/2024 18:00	6.5	36.9	0.0	6.9	15.2	9.9	12/19/2024 18:00	6.4	35.7	0.0	7.4	11.2	11.2
12/19/2024 18:15	6.5	37.9	0.0	7.1	15.2	14.8	12/19/2024 18:15	6.4	36.0	0.0	7.4	11.2	17.9
12/19/2024 18:30	6.4	38.5	0.0	7.0	15.2	20.7	12/19/2024 18:30	6.4	35.8	0.0	7.4	11.2	23.5
12/19/2024 18:45	6.6	42.3	0.0	7.1	15.1	17.4	12/19/2024 18:45	6.4	34.1	0.0	7.4	11.2	15.5
12/19/2024 19:00	6.6	42.1	0.0	7.2	15.1	12.3	12/19/2024 19:00	6.4	32.7	0.0	7.3	11.3	10.3
12/19/2024 19:15	6.4	35.3	0.0	7.0	15.2	16.9	12/19/2024 19:15	6.3	30.8	0.0	7.4	11.2	10.7
12/19/2024 19:30	6.4	32.7	0.0	7.0	15.2	21.5	12/19/2024 19:30	6.3	29.8	0.0	7.3	11.3	23.0
12/19/2024 19:45	6.4	31.5	0.0	6.9	15.2	32.9	12/19/2024 19:45	6.3	28.5	0.0	7.3	11.3	35.6
12/19/2024 20:00	6.3	30.1	0.0	7.0	15.2	54.2	12/19/2024 20:00	6.3	26.4	0.0	7.2	11.2	39.6
12/19/2024 20:15	6.5	32.0	0.0	7.0	15.2	36.4	12/19/2024 20:15	6.3	24.4	0.0	7.2	11.3	48.3
12/19/2024 20:30	6.5	29.4	0.0	7.0	15.2	34.2	12/19/2024 20:30	6.3	21.5	0.0	7.1	11.2	16.9
12/19/2024 20:45	6.5	27.3	0.0	6.9	15.2	28.6	12/19/2024 20:45	6.4	20.5	0.0	7.1	11.2	15.6
12/19/2024 21:00	6.6	26.0	0.0	6.9	15.2	19.6	12/19/2024 21:00	6.5	19.0	0.0	7.0	11.2	10.9
12/19/2024 21:15	6.5	21.5	0.0	6.7	15.2	13.5	12/19/2024 21:15	6.5	18.3	0.0	7.0	11.2	8.3
12/19/2024 21:30	6.6	20.9	0.0	6.7	15.2	11.6	12/19/2024 21:30	6.5	17.7	0.0	7.0	11.2	5.8
12/19/2024 21:45	6.6	20.6	0.0	6.7	15.2	12.2	12/19/2024 21:45	6.6	17.4	0.0	7.0	11.2	3.3
12/19/2024 22:00	6.7	20.3	0.0	6.6	15.2	10.2	12/19/2024 22:00	6.6	17.3	0.0	7.0	11.1	3.9
12/19/2024 22:15	6.7	20.1	0.0	6.7	15.1	9.0	12/19/2024 22:15	6.7	17.2	0.0	7.0	11.1	3.8
12/19/2024 22:30	6.7	20.2	0.0	6.7	15.2	9.1	12/19/2024 22:30	6.7	17.9	0.0	7.1	11.2	3.3
12/19/2024 22:45	6.7	20.9	0.0	6.7	15.2	10.2	12/19/2024 22:45	6.7	18.3	0.0	7.1	11.2	4.8
12/19/2024 23:00	6.8	23.9	0.0	6.9	15.1	9.1	12/19/2024 23:00	6.6	19.3	0.0	7.0	11.1	6.0
12/19/2024 23:15	6.												

12/20/2024 3:30	6.9	18.5	0.0	6.7	15.1	4.8	12/20/2024 3:30	6.8	15.8	0.0	7.0	11.1	1.0
12/20/2024 3:45	6.9	18.5	0.0	6.7	15.1	6.5	12/20/2024 3:45	6.8	15.7	0.0	7.0	11.1	1.2
12/20/2024 4:00	6.9	18.4	0.0	6.7	15.1	4.5	12/20/2024 4:00	6.8	15.6	0.0	6.9	11.1	1.1
12/20/2024 4:15	6.9	18.4	0.0	6.7	15.1	3.2	12/20/2024 4:15	6.9	15.5	0.0	7.0	11.1	0.9
12/20/2024 4:30	7.0	23.1	0.0	7.0	15.1	4.9	12/20/2024 4:30	6.9	15.5	0.0	7.0	11.1	2.8
12/20/2024 4:45	7.0	23.2	0.0	6.9	15.1	5.0	12/20/2024 4:45	6.9	15.5	0.0	6.9	11.1	1.4
12/20/2024 5:00	7.0	23.4	0.0	6.9	15.0	5.1	12/20/2024 5:00	6.9	15.4	0.0	7.0	11.1	1.1
12/20/2024 5:15	6.9	18.3	0.0	6.7	15.1	4.2	12/20/2024 5:15	6.9	15.3	0.0	6.9	11.1	1.7
12/20/2024 5:30	6.9	18.2	0.0	6.7	15.1	3.7	12/20/2024 5:30	6.9	15.3	0.0	7.0	11.1	1.1
12/20/2024 5:45	6.9	18.2	0.0	6.7	15.1	4.4	12/20/2024 5:45	6.9	15.3	0.0	6.9	11.1	0.5
12/20/2024 6:00	6.9	18.2	0.0	6.7	15.1	4.3	12/20/2024 6:00	6.9	15.3	0.0	7.0	11.1	0.8
12/20/2024 6:15	6.9	18.1	0.0	6.7	15.1	3.2	12/20/2024 6:15	6.9	15.2	0.0	7.0	11.1	0.5
12/20/2024 6:30	7.0	23.8	0.0	6.9	15.0	5.0	12/20/2024 6:30	6.9	15.1	0.0	7.0	11.1	0.5
12/20/2024 6:45	7.0	24.0	0.0	7.0	15.1	4.8	12/20/2024 6:45	6.9	15.1	0.0	7.0	11.1	2.4
12/20/2024 7:00	7.1	24.2	0.0	6.9	15.0	2.7	12/20/2024 7:00	6.9	15.1	0.0	7.0	11.1	0.6
12/20/2024 7:15	6.9	18.1	0.0	6.7	15.1	3.3	12/20/2024 7:15	6.9	15.1	0.0	7.0	11.1	1.1
12/20/2024 7:30	6.9	18.1	0.0	6.7	15.1	3.9	12/20/2024 7:30	6.9	14.9	0.0	7.0	11.1	0.3
12/20/2024 7:45	6.9	18.1	0.0	6.7	15.1	5.9	12/20/2024 7:45	6.9	14.9	0.0	7.0	11.1	0.6
12/20/2024 8:00	6.9	18.1	0.0	6.7	15.1	4.0	12/20/2024 8:00	6.9	14.8	0.0	6.9	11.1	1.8
12/20/2024 8:15	6.9	18.0	0.0	6.7	15.1	2.9	12/20/2024 8:15	6.9	14.8	0.0	6.9	11.1	4.0
12/20/2024 8:30	6.9	18.0	0.0	6.7	15.1	3.5	12/20/2024 8:30	6.9	14.8	0.0	7.0	11.1	0.3
12/20/2024 8:45	6.9	18.0	0.0	6.7	15.1	2.5	12/20/2024 8:45	6.9	14.8	0.0	6.9	11.1	2.1
12/20/2024 9:00	6.9	18.0	0.0	6.7	15.1	2.5	12/20/2024 9:00	6.9	14.7	0.0	7.0	11.1	0.5
12/20/2024 9:15	7.0	24.9	0.0	6.9	15.0	3.2	12/20/2024 9:15	6.9	14.6	0.0	7.0	11.1	0.2
12/20/2024 9:30	7.1	25.8	0.0	7.0	15.0	2.3	12/20/2024 9:30	6.9	14.7	0.0	6.9	11.1	0.5
12/20/2024 9:45	7.1	26.5	0.0	7.0	15.0	3.2	12/20/2024 9:45	6.9	14.7	0.0	7.0	11.1	2.2
12/20/2024 10:00	7.2	26.7	0.0	7.0	15.0	1.7	12/20/2024 10:00	7.0	14.6	0.0	7.0	11.1	0.2
12/20/2024 10:15	7.0	18.1	0.0	6.8	15.0	2.2	12/20/2024 10:15	7.0	14.6	0.0	7.0	11.1	0.6
12/20/2024 10:30	7.1	18.0	0.0	6.7	15.0	2.5	12/20/2024 10:30	7.0	14.4	0.0	7.0	11.0	0.4
12/20/2024 10:45	7.1	18.0	0.0	6.7	15.0	3.6	12/20/2024 10:45	7.0	14.6	0.0	6.9	11.0	0.1
12/20/2024 11:00	7.1	18.0	0.0	6.7	15.0	4.1	12/20/2024 11:00	7.0	14.4	0.0	7.0	11.0	1.3
12/20/2024 11:15	7.1	17.9	0.0	6.7	15.0	2.5	12/20/2024 11:15	7.0	14.4	0.0	7.0	11.0	0.5
12/20/2024 11:30	7.1	17.9	0.0	6.7	15.0	2.2	12/20/2024 11:30	7.0	14.4	0.0	7.0	11.0	1.9
12/20/2024 11:45	7.1	17.9	0.0	6.7	15.0	3.4	12/20/2024 11:45	7.1	15.1	0.0	7.0	11.0	1.2
12/20/2024 12:00	7.1	18.8	0.0	6.8	15.0	3.0	12/20/2024 12:00	7.1	16.2	0.0	7.1	11.0	1.3
12/20/2024 12:15	7.3	28.7	0.0	7.1	14.9	4.0	12/20/2024 12:15	7.0	17.4	0.0	7.1	11.0	4.4
12/20/2024 12:30	7.3	29.6	0.0	7.1	14.9	2.7	12/20/2024 12:30	7.0	17.1	0.0	7.1	11.0	2.0
12/20/2024 12:45	7.3	29.6	0.0	7.1	14.9	3.0	12/20/2024 12:45	7.1	17.5	0.0	7.1	11.0	0.8
12/20/2024 13:00	7.3	26.2	0.0	7.2	14.9	3.2	12/20/2024 13:00	7.1	17.7	0.0	7.1	11.0	1.9
12/20/2024 13:15	7.2	20.6	0.0	6.8	15.0	3.0	12/20/2024 13:15	7.1	18.1	0.0	7.0	11.0	1.0
12/20/2024 13:30	7.2	20.9	0.0	6.8	15.0	2.2	12/20/2024 13:30	7.1	18.7	0.0	7.1	11.0	0.2
12/20/2024 13:45	7.2	21.2	0.0	6.8	15.0	2.9	12/20/2024 13:45	7.1	19.2	0.0	7.0	11.0	0.5
12/20/2024 14:00	7.2	21.8	0.0	6.8	14.9	2.6	12/20/2024 14:00	7.1	19.5	0.0	7.1	11.0	1.4
12/20/2024 14:15	7.2	21.7	0.0	6.9	15.0	2.8	12/20/2024 14:15	7.1	19.2	0.0	7.1	11.0	0.7
12/20/2024 14:30	7.2	21.6	0.0	6.9	15.0	3.7	12/20/2024 14:30	7.1	18.8	0.0	7.1	11.0	0.4
12/20/2024 14:45	7.2	21.5	0.0	6.9	14.9	2.1	12/20/2024 14:45	7.1	18.6	0.0	7.1	11.0	0.3
12/20/2024 15:00	7.3	28.2	0.0	7.1	14.9	3.4	12/20/2024 15:00	7.1	18.6	0.0	7.1	11.0	0.3
12/20/2024 15:15	7.4	31.3	0.0	7.1	14.8	3.2	12/20/2024 15:15	7.1	18.3	0.0	7.1	11.0	0.4
12/20/2024 15:30	7.4	31.1	0.0	7.1	14.9	2.5	12/20/2024 15:30	7.1	18.0	0.0	7.0	11.0	1.6
12/20/2024 15:45	7.4	31.0	0.0	7.1	14.9	2.6	12/20/2024 15:45	7.1	17.7	0.0	7.0	11.0	0.3
12/20/2024 16:00	7.4	30.8	0.0	7.2	14.9	2.8	12/20/2024 16:00	7.1	17.4	0.0	7.1	11.0	0.3
12/20/2024 16:15	7.2	20.5	0.0	6.8	14.9	3.9	12/20/2024 16:15	7.1	17.5	0.0	7.0	11.0	1.7
12/20/2024 16:30	7.2	20.7	0.0	6.8	14.9	6.9	12/20/2024 16:30	7.1	18.0	0.0	7.0	11.0	0.3
12/20/2024 16:45	7.2	21.1	0.0	6.8	14.9	4.0	12/20/2024 16:45	7.1	18.4	0.0	7.1	11.0	1.3
12/20/2024 17:00	7.2	21.3	0.0	6.9	15.0	2.9	12/20/2024 17:00	7.1	18.2	0.0	7.0	11.0	0.7
12/20/2024 17:15	7.2	21.0	0.0	6.8	15.0	5.9	12/20/2024 17:15	7.1	18.8	0.0	7.1	11.0	1.2
12/20/2024 17:30	7.2	22.1	0.0	6.8	15.0	3.7	12/20/2024 17:30	7.1	20.3	0.0	7.1	11.0	2.4
12/20/2024 17:45	7.2	22.9	0.0	6.8	15.0	4.1	12/20/2024 17:45	7.1	20.8	0.0	7.2	11.0	4.5
12/20/2024 18:00	7.2	23.1	0.0	6.8	15.0	4.0	12/20/2024 18:00	7.1	20.7	0.0	7.2	11.0	2.8
12/20/2024 18:15	7.3	31.1	0.0	7.0	14.9	4.6	12/20/2024 18:15	7.1	21.0	0.0	7.2	11.0	3.4
12/20/2024 18:30	7.4	32.8	0.0	7.2	14.9	3.2	12/20/2024 18:30	7.1	20.4	0.0	7.2	11.0	1.3
12/20/2024 18:45	7.4	32.8	0.0	7.2	14.9	4.3	12/20/2024 18:45	7.1	20.8	0.0	7.2	11.0	1.9
12/20/2024 19:00	7.4	33.0	0.0	7.2	14.9	4.2	12/20/2024 19:00	7.1	20.7	0.0	7.2	11.0	0.5
12/20/2024 19:15	7.4	32.9	0.0	7.2	14.9	3.4	12/20/2024 19:15	7.1	20.6	0.0	7.2	11.0	1.6
12/20/2024 19:30	7.2	23.2	0.0	6.8	15.0	2.1	12/20/2024 19:30	7.1	20.4	0.0	7.1	11.0	0.3
12/20/2024 19:45	7.2	23.1	0.0	6.8	14.9	3.0	12/20/2024 19:45	7.1	20.2	0.0	7.1	11.0	3.1
12/20/2024 20:00	7.2	22.8	0.0	6.8	15.0	2.9	12/20/2024 20:00	7.1	19.8	0.0	7.1	11.0	0.6
12/20/2024 20:15	7.2	22.5	0.0	6.8	15.0	3.2	12/20/2024 20:15	7.1	19.3	0.0	7.1	11.0	0.4
12/20/2024 20:30	7.2	22.0	0.0	6.8	15.0	2.1	12/20/2024 20:30	7.1	18.9	0.0	7.1	11.0	0.9
12/20/2024 20:45	7.2	21.7	0.0	6.8	15.0	2.0	12/20/2024 20:45	7.1	18.4	0.0	7.1	11.0	0.5
12/20/2024 21:00	7.2	21.4	0.0	6.8	15.0	2.8	12/20/2024 21:00	7.1	18.0	0.0	7.1	11.0	0.3
12/20/2024 21:15	7.4	30.8	0.0	7.1	14.9	2.5	12/20/2024 21:15	7.1	17.6	0.0	7.1	11.0	1.3
12/20/2024 21:30	7.4	30.6	0.0	7.1	14.9	2.5	12/20/2024 21:30	7.1	17.2	0.0	7.0	11.0	0.2
12/20/2024 21:45	7.2	20.7	0.0	6.8	15.0	2.1	12/20/2024 21:45	7.1	16.9	0.0	7.0	11.0	0.7
12/20/2024 22:00	7.2	20.3	0.0	6.8	15.0	2.0	12/20/2024 22:00	7.1	16.7	0.0	7.0	11.0	0.4
12/20/2024 22:15	7.2	20.1	0.0	6.8	15.0	2.2	12/20/2024 22:15	7.1	16.4	0.0	7.1	11.0	1.7
12/20/2024 22:30	7.1	19.9	0.0	6.8	15.0	4.0	12/20/2024 22:30	7.1	16.2	0.0	7.0	11.0	0.2
12/20/2024 22:45	7.3	29.6	0.0	7.1	14.9	2.0	12/20/2024 22:45	7.1	16.1	0.0	7.0	11.1	0.4
12/20/2024 23:00	7.3	29.9	0.0	7.1	14.9	2.0	12/20/2024 23:00	7.1	15.9	0.0	7.1	11.0	0.4
12/20/2024 23:15	7.4	29.9	0.0	7.1	14.9	2.5	12/20/2024 23:15	7.1	15.7	0.0	7.0	11.0	1.1
12/20/2024 23:30	7.4	29.7	0.0	7.1	14.9	2.2	12/20/2024 23:30	7.1	15.7	0.0	6.9	11.0	0.3
12/20/2024 23:45	7.3	29.6	0.0	7.1	14.9	2.2	12/20/2024 23:45	7.0	15.4	0.0	7.0	11.0	1.1
12/21/2024 0:00	7.1	19.3	0.0	6.8	15.0	2.9	12/21/2024 0:00	7.0	15.3	0.0	7.0	11.0	0.2
12/21/2024 0:15	7.1	19.2	0.0	6.8	15.0	3.4	12/21/2024 0:15	7.0	15.2	0.0	7.0	11.0	0.5
12/21/2024 0:30	7.1	19.1	0.0	6.8</									

12/21/2024 4:45	7.3	29.9	0.0	7.1	14.8	2.2	12/21/2024 4:45	7.0	14.2	0.0	7.0	11.0	0.1
12/21/2024 5:00	7.3	30.6	0.0	7.1	14.8	1.4	12/21/2024 5:00	7.0	14.2	0.0	7.0	11.0	0.1
12/21/2024 5:15	7.1	18.6	0.0	6.9	14.9	2.6	12/21/2024 5:15	7.0	14.2	0.0	7.0	11.0	0.2
12/21/2024 5:30	7.1	18.4	0.0	6.8	14.9	2.8	12/21/2024 5:30	7.0	14.1	0.0	7.0	11.0	0.0
12/21/2024 5:45	7.1	18.3	0.0	6.8	14.9	1.4	12/21/2024 5:45	7.0	14.1	0.0	7.0	10.9	0.1
12/21/2024 6:00	7.1	18.3	0.0	6.8	14.9	1.5	12/21/2024 6:00	7.1	14.1	0.0	7.0	10.9	1.5
12/21/2024 6:15	7.1	18.3	0.0	6.7	14.9	1.6	12/21/2024 6:15	7.1	14.1	0.0	7.0	10.9	0.0
12/21/2024 6:30	7.4	30.5	0.0	7.1	14.8	2.9	12/21/2024 6:30	7.1	14.0	0.0	7.0	10.9	0.1
12/21/2024 6:45	7.4	31.0	0.0	7.2	14.8	2.6	12/21/2024 6:45	7.1	14.0	0.0	7.0	10.9	0.1
12/21/2024 7:00	7.4	31.2	0.0	7.2	14.8	2.0	12/21/2024 7:00	7.1	14.1	0.0	7.0	10.9	0.2
12/21/2024 7:15	7.1	18.5	0.0	6.8	14.8	1.9	12/21/2024 7:15	7.1	14.0	0.0	7.0	10.9	0.1
12/21/2024 7:30	7.1	18.3	0.0	6.8	14.8	4.0	12/21/2024 7:30	7.1	13.9	0.0	7.0	10.9	0.1
12/21/2024 7:45	7.1	18.3	0.0	6.8	14.8	3.2	12/21/2024 7:45	7.1	13.9	0.0	7.0	10.9	0.1
12/21/2024 8:00	7.1	18.2	0.0	6.8	14.8	4.4	12/21/2024 8:00	7.1	13.9	0.0	7.0	10.9	0.1
12/21/2024 8:15	7.1	18.2	0.0	6.8	14.8	1.7	12/21/2024 8:15	7.1	13.9	0.0	7.0	10.9	0.1
12/21/2024 8:30	7.2	18.2	0.0	6.8	14.8	2.0	12/21/2024 8:30	7.1	13.8	0.0	7.0	10.9	0.3
12/21/2024 8:45	7.2	18.2	0.0	6.8	14.8	1.5	12/21/2024 8:45	7.1	13.8	0.0	7.0	10.9	0.1
12/21/2024 9:00	7.5	31.5	0.0	7.2	14.7	1.4	12/21/2024 9:00	7.2	13.8	0.0	7.0	10.9	0.0
12/21/2024 9:15	7.5	31.8	0.0	7.2	14.7	2.7	12/21/2024 9:15	7.2	13.8	0.0	7.0	10.9	0.1
12/21/2024 9:30	7.5	31.9	0.0	7.2	14.7	1.5	12/21/2024 9:30	7.2	13.8	0.0	7.0	10.9	0.0
12/21/2024 9:45	7.3	20.5	0.0	7.0	14.8	1.7	12/21/2024 9:45	7.2	13.8	0.0	7.0	10.9	0.9
12/21/2024 10:00	7.2	18.3	0.0	6.8	14.8	1.6	12/21/2024 10:00	7.2	13.8	0.0	7.0	10.9	0.3
12/21/2024 10:15	7.2	18.2	0.0	6.8	14.8	3.1	12/21/2024 10:15	7.2	13.9	0.0	7.0	10.9	0.1
12/21/2024 10:30	7.2	18.3	0.0	6.8	14.8	1.7	12/21/2024 10:30	7.2	14.2	0.0	7.0	10.9	0.0
12/21/2024 10:45	7.2	18.4	0.0	6.8	14.8	3.1	12/21/2024 10:45	7.2	14.4	0.0	7.0	10.9	0.2
12/21/2024 11:00	7.2	18.8	0.0	6.8	14.8	3.2	12/21/2024 11:00	7.2	15.4	0.0	7.0	10.9	0.3
12/21/2024 11:15	7.2	19.6	0.0	6.8	14.8	1.7	12/21/2024 11:15	7.2	15.8	0.0	7.0	10.9	1.2
12/21/2024 11:30	7.2	19.8	0.0	6.8	14.8	4.1	12/21/2024 11:30	7.2	15.7	0.0	7.1	10.9	0.1
12/21/2024 11:45	7.5	33.2	0.0	7.2	14.7	1.9	12/21/2024 11:45	7.2	15.9	0.0	7.1	10.9	0.3
12/21/2024 12:00	7.5	33.6	0.0	7.2	14.7	3.2	12/21/2024 12:00	7.2	15.9	0.0	7.1	10.9	0.6
12/21/2024 12:15	7.5	33.6	0.0	7.2	14.7	4.8	12/21/2024 12:15	7.2	15.8	0.0	7.1	10.9	0.3
12/21/2024 12:30	7.5	33.4	0.0	7.3	14.7	5.2	12/21/2024 12:30	7.2	16.6	0.0	7.1	10.9	0.5
12/21/2024 12:45	7.3	21.0	0.0	6.9	14.8	2.9	12/21/2024 12:45	7.2	17.4	0.0	7.1	10.9	1.3
12/21/2024 13:00	7.2	21.5	0.0	6.8	14.8	2.4	12/21/2024 13:00	7.2	19.1	0.0	7.2	10.9	0.9
12/21/2024 13:15	7.2	23.1	0.0	6.8	14.8	3.5	12/21/2024 13:15	7.2	20.6	0.0	7.2	10.9	3.8
12/21/2024 13:30	7.2	24.5	0.0	6.9	14.8	6.0	12/21/2024 13:30	7.1	22.9	0.0	7.2	10.9	5.2
12/21/2024 13:45	7.2	27.1	0.0	6.9	14.8	8.0	12/21/2024 13:45	7.1	26.0	0.0	7.2	10.9	8.1
12/21/2024 14:00	7.2	29.3	0.0	7.0	14.8	7.6	12/21/2024 14:00	7.1	27.5	0.0	7.3	10.9	3.2
12/21/2024 14:15	7.2	29.9	0.0	7.0	14.8	5.1	12/21/2024 14:15	7.2	26.7	0.0	7.3	10.9	4.9
12/21/2024 14:30	7.2	29.1	0.0	7.0	14.8	5.0	12/21/2024 14:30	7.2	25.8	0.0	7.2	10.9	3.3
12/21/2024 14:45	7.3	34.1	0.0	7.0	14.8	15.2	12/21/2024 14:45	7.2	25.4	0.0	7.2	10.9	1.1
12/21/2024 15:00	7.5	37.7	0.0	7.2	14.7	3.8	12/21/2024 15:00	7.2	27.5	0.0	7.3	10.9	4.3
12/21/2024 15:15	7.5	39.1	0.0	7.2	14.8	9.2	12/21/2024 15:15	7.2	29.1	0.0	7.3	11.0	4.6
12/21/2024 15:30	7.5	39.5	0.0	7.3	14.8	7.2	12/21/2024 15:30	7.2	28.4	0.0	7.3	10.9	3.6
12/21/2024 15:45	7.3	29.9	0.0	7.0	14.8	7.4	12/21/2024 15:45	7.3	26.5	0.0	7.3	10.9	2.8
12/21/2024 16:00	7.4	29.2	0.0	7.0	14.8	7.1	12/21/2024 16:00	7.3	25.6	0.0	7.3	10.9	3.2
12/21/2024 16:15	7.4	28.1	0.0	6.9	14.8	4.7	12/21/2024 16:15	7.3	24.5	0.0	7.3	10.9	1.3
12/21/2024 16:30	7.4	26.8	0.0	6.9	14.8	4.3	12/21/2024 16:30	7.4	23.5	0.0	7.2	10.9	1.2
12/21/2024 16:45	7.5	25.8	0.0	7.0	14.8	4.2	12/21/2024 16:45	7.4	22.1	0.0	7.2	10.9	3.9
12/21/2024 17:00	7.5	24.7	0.0	6.9	14.8	4.3	12/21/2024 17:00	7.4	20.9	0.0	7.2	10.9	1.1
12/21/2024 17:15	7.5	23.7	0.0	6.9	14.8	3.6	12/21/2024 17:15	7.4	19.9	0.0	7.1	10.9	0.7
12/21/2024 17:30	7.7	31.8	0.0	7.2	14.7	3.6	12/21/2024 17:30	7.4	19.3	0.0	7.2	10.9	3.4
12/21/2024 17:45	7.7	31.3	0.0	7.2	14.7	3.7	12/21/2024 17:45	7.4	19.1	0.0	7.2	10.9	3.3
12/21/2024 18:00	7.7	31.3	0.0	7.2	14.7	3.2	12/21/2024 18:00	7.4	18.7	0.0	7.2	10.9	0.8
12/21/2024 18:15	7.7	31.0	0.0	7.1	14.7	5.4	12/21/2024 18:15	7.4	18.1	0.0	7.2	10.9	2.8
12/21/2024 18:30	7.5	21.5	0.0	6.8	14.8	3.3	12/21/2024 18:30	7.4	17.7	0.0	7.1	10.9	0.4
12/21/2024 18:45	7.5	21.1	0.0	6.9	14.8	2.4	12/21/2024 18:45	7.4	17.5	0.0	7.1	10.9	1.3
12/21/2024 19:00	7.5	20.9	0.0	6.8	14.8	2.7	12/21/2024 19:00	7.4	17.2	0.0	7.1	10.9	1.4
12/21/2024 19:15	7.5	20.8	0.0	6.8	14.8	9.7	12/21/2024 19:15	7.4	17.0	0.0	7.1	10.9	0.3
12/21/2024 19:30	7.5	20.5	0.0	6.8	14.8	3.3	12/21/2024 19:30	7.4	16.8	0.0	7.1	10.9	0.3
12/21/2024 19:45	7.5	20.4	0.0	6.8	14.8	3.0	12/21/2024 19:45	7.4	16.6	0.0	7.1	10.9	1.3
12/21/2024 20:00	7.5	20.3	0.0	6.8	14.8	3.1	12/21/2024 20:00	7.4	16.7	0.0	7.1	10.9	0.8
12/21/2024 20:15	7.5	20.3	0.0	6.8	14.8	3.3	12/21/2024 20:15	7.4	16.4	0.0	7.1	10.9	0.4
12/21/2024 20:30	7.6	30.1	0.0	7.0	14.8	2.3	12/21/2024 20:30	7.4	16.3	0.0	7.1	10.9	0.4
12/21/2024 20:45	7.7	30.3	0.0	7.2	14.8	2.5	12/21/2024 20:45	7.4	16.1	0.0	7.1	10.9	1.5
12/21/2024 21:00	7.4	20.0	0.0	6.8	14.9	2.9	12/21/2024 21:00	7.4	16.0	0.0	7.0	10.9	0.5
12/21/2024 21:15	7.4	19.8	0.0	6.8	14.8	1.9	12/21/2024 21:15	7.4	15.8	0.0	7.1	10.9	2.2
12/21/2024 21:30	7.4	19.7	0.0	6.8	14.9	2.6	12/21/2024 21:30	7.4	15.7	0.0	7.1	10.9	0.1
12/21/2024 21:45	7.4	19.8	0.0	6.8	14.8	1.8	12/21/2024 21:45	7.4	16.0	0.0	7.0	10.9	2.4
12/21/2024 22:00	7.7	30.9	0.0	7.2	14.8	2.5	12/21/2024 22:00	7.3	16.0	0.0	7.1	10.9	0.2
12/21/2024 22:15	7.6	31.1	0.0	7.2	14.8	2.1	12/21/2024 22:15	7.3	15.8	0.0	7.0	10.9	2.3
12/21/2024 22:30	7.5	23.2	0.0	7.1	14.8	3.4	12/21/2024 22:30	7.3	15.6	0.0	7.1	10.9	0.2
12/21/2024 22:45	7.4	19.6	0.0	6.8	14.9	1.5	12/21/2024 22:45	7.3	15.4	0.0	7.0	11.0	0.3
12/21/2024 23:00	7.3	19.4	0.0	6.8	14.9	1.8	12/21/2024 23:00	7.3	15.4	0.0	7.1	11.0	0.1
12/21/2024 23:15	7.3	19.4	0.0	6.8	14.9	3.6	12/21/2024 23:15	7.3	15.2	0.0	7.1	11.0	0.3
12/21/2024 23:30	7.3	19.3	0.0	6.8	14.9	2.5	12/21/2024 23:30	7.2	15.2	0.0	7.0	11.0	0.7
12/21/2024 23:45	7.6	30.3	0.0	7.1	14.8	3.3	12/21/2024 23:45	7.2	15.1	0.0	7.0	11.0	0.1
12/22/2024 0:00	7.6	31.1	0.0	7.2	14.8	1.9	12/22/2024 0:00	7.3	15.0	0.0	7.1	11.0	0.2
12/22/2024 0:15	7.5	29.8	0.0	7.0	14.8	1.7	12/22/2024 0:15	7.3	15.0	0.0	7.1	11.0	0.6
12/22/2024 0:30	7.3	19.2	0.0	6.8	14.9	2.6	12/22/2024 0:30	7.3	15.2	0.0	7.1	11.0	0.1
12/22/2024 0:45	7.3	19.3	0.0	6.8	14.9	3.7	12/22/2024 0:45	7.2	15.1	0.0	7.1	11.0	0.1
12/22/2024 1:00	7.5	30.9	0.0	7.1	14.8	2.1	12/22/2024 1:00	7.2	15.0	0.0	7.0	11.0	0.1
12/22/2024 1:15	7.5	31.0	0.0	7.2	14.8	3.4	12/22/2024 1:15	7.2	14.8	0.0	7.0	11.0	0.9
12/22/2024 1:30	7.5	31.1	0.0	7.2	14.8	2.2	12/22/2024 1:30	7.2	14.8	0.0	7.0	11.0	0.1
12/22/2024 1:45	7.5	31.0	0.0	7.2									

12/22/2024 6:00	7.1	18.8	0.0	6.8	15.0	1.9	12/22/2024 6:00	7.1	14.5	0.0	7.0	11.0	0.1
12/22/2024 6:15	7.1	18.8	0.0	6.7	14.9	1.4	12/22/2024 6:15	7.1	14.6	0.0	7.0	11.0	1.7
12/22/2024 6:30	7.1	18.9	0.0	6.8	14.9	4.7	12/22/2024 6:30	7.1	14.6	0.0	7.0	11.0	0.1
12/22/2024 6:45	7.1	18.9	0.0	6.8	14.9	1.2	12/22/2024 6:45	7.1	14.5	0.0	7.0	11.0	0.1
12/22/2024 7:00	7.1	18.8	0.0	6.8	15.0	1.6	12/22/2024 7:00	7.1	14.5	0.0	7.0	11.0	0.1
12/22/2024 7:15	7.1	18.8	0.0	6.8	15.0	2.3	12/22/2024 7:15	7.0	14.4	0.0	7.0	11.0	0.0
12/22/2024 7:30	7.1	18.7	0.0	6.8	14.9	2.1	12/22/2024 7:30	7.0	14.5	0.0	7.0	11.0	0.1
12/22/2024 7:45	7.4	32.4	0.0	7.2	14.8	2.1	12/22/2024 7:45	7.0	14.4	0.0	7.0	11.0	0.1
12/22/2024 8:00	7.4	32.9	0.0	7.2	14.8	2.2	12/22/2024 8:00	7.0	14.3	0.0	7.0	11.0	0.6
12/22/2024 8:15	7.4	33.1	0.0	7.2	14.9	2.4	12/22/2024 8:15	7.0	14.4	0.0	7.0	11.0	0.0
12/22/2024 8:30	7.1	19.0	0.0	6.8	15.0	3.1	12/22/2024 8:30	7.0	14.4	0.0	7.0	11.0	0.2
12/22/2024 8:45	7.1	18.8	0.0	6.8	14.9	1.5	12/22/2024 8:45	7.0	14.4	0.0	6.9	11.0	0.1
12/22/2024 9:00	7.1	18.8	0.0	6.8	15.0	2.1	12/22/2024 9:00	7.0	14.5	0.0	7.0	11.0	0.1
12/22/2024 9:15	7.0	18.9	0.0	6.8	15.0	3.5	12/22/2024 9:15	7.0	14.5	0.0	7.0	11.0	0.1
12/22/2024 9:30	7.0	18.9	0.0	6.8	15.0	1.4	12/22/2024 9:30	7.0	14.6	0.0	7.0	11.0	0.2
12/22/2024 9:45	7.0	18.9	0.0	6.8	15.0	1.3	12/22/2024 9:45	7.0	14.6	0.0	7.1	11.0	0.0
12/22/2024 10:00	7.0	19.0	0.0	6.8	15.0	2.2	12/22/2024 10:00	7.0	14.6	0.0	7.0	11.0	0.1
12/22/2024 10:15	7.3	33.3	0.0	7.2	14.8	1.7	12/22/2024 10:15	7.0	14.5	0.0	7.0	11.0	0.0
12/22/2024 10:30	7.4	33.7	0.0	7.3	14.8	2.0	12/22/2024 10:30	7.0	14.7	0.0	7.0	11.0	0.1
12/22/2024 10:45	7.4	33.8	0.0	7.3	14.8	2.0	12/22/2024 10:45	7.0	15.0	0.0	7.0	11.0	0.1
12/22/2024 11:00	7.4	34.2	0.0	7.3	14.8	1.5	12/22/2024 11:00	7.0	15.0	0.0	7.1	11.0	0.0
12/22/2024 11:15	7.1	19.5	0.0	6.9	14.9	2.4	12/22/2024 11:15	7.0	15.1	0.0	7.0	11.0	0.2
12/22/2024 11:30	7.0	19.4	0.0	6.8	14.9	1.2	12/22/2024 11:30	7.0	15.1	0.0	7.1	11.0	1.6
12/22/2024 11:45	7.1	19.4	0.0	6.8	14.9	2.8	12/22/2024 11:45	7.0	15.2	0.0	7.0	11.0	1.8
12/22/2024 12:00	7.1	19.4	0.0	6.9	14.9	1.9	12/22/2024 12:00	7.0	15.1	0.0	6.9	11.0	0.0
12/22/2024 12:15	7.1	19.5	0.0	6.8	14.9	1.6	12/22/2024 12:15	7.1	15.1	0.0	7.0	11.0	0.1
12/22/2024 12:30	7.1	19.4	0.0	6.8	14.9	2.3	12/22/2024 12:30	7.1	15.5	0.0	7.0	11.0	0.8
12/22/2024 12:45	7.1	19.8	0.0	6.8	14.9	6.3	12/22/2024 12:45	7.1	16.4	0.0	7.0	11.0	1.2
12/22/2024 13:00	7.1	20.6	0.0	6.8	14.9	2.3	12/22/2024 13:00	7.1	17.6	0.0	7.1	10.9	0.6
12/22/2024 13:15	7.4	35.5	0.0	7.2	14.8	1.3	12/22/2024 13:15	7.1	17.8	0.0	7.1	11.0	1.8
12/22/2024 13:30	7.4	35.9	0.0	7.3	14.8	2.7	12/22/2024 13:30	7.1	17.8	0.0	7.1	11.0	0.8
12/22/2024 13:45	7.4	36.1	0.0	7.3	14.7	1.8	12/22/2024 13:45	7.1	17.6	0.0	7.1	10.9	2.8
12/22/2024 14:00	7.4	36.0	0.0	7.3	14.8	1.8	12/22/2024 14:00	7.1	17.8	0.0	7.1	10.9	0.2
12/22/2024 14:15	7.1	22.0	0.0	6.9	14.9	3.0	12/22/2024 14:15	7.1	18.8	0.0	7.0	10.9	0.2
12/22/2024 14:30	7.1	22.7	0.0	6.9	14.9	2.9	12/22/2024 14:30	7.1	19.7	0.0	7.2	10.9	0.8
12/22/2024 14:45	7.1	23.8	0.0	6.9	14.9	2.7	12/22/2024 14:45	7.1	20.3	0.0	7.1	10.9	1.4
12/22/2024 15:00	7.1	23.9	0.0	6.9	14.9	1.9	12/22/2024 15:00	7.1	20.2	0.0	7.2	10.9	0.3
12/22/2024 15:15	7.1	23.7	0.0	6.9	14.9	2.4	12/22/2024 15:15	7.1	20.1	0.0	7.2	10.9	0.8
12/22/2024 15:30	7.1	23.8	0.0	6.9	14.9	1.7	12/22/2024 15:30	7.1	21.0	0.0	7.2	10.9	0.3
12/22/2024 15:45	7.1	24.7	0.0	6.9	14.9	1.5	12/22/2024 15:45	7.1	22.7	0.0	7.2	10.9	0.5
12/22/2024 16:00	7.1	26.1	0.0	6.9	14.9	2.8	12/22/2024 16:00	7.1	23.6	0.0	7.3	10.9	0.9
12/22/2024 16:15	7.3	34.9	0.0	7.2	14.8	3.8	12/22/2024 16:15	7.1	23.4	0.0	7.2	10.9	0.7
12/22/2024 16:30	7.4	38.7	0.0	7.2	14.8	2.1	12/22/2024 16:30	7.1	24.6	0.0	7.3	10.9	1.1
12/22/2024 16:45	7.4	39.6	0.0	7.3	14.8	2.3	12/22/2024 16:45	7.1	24.4	0.0	7.3	11.0	2.3
12/22/2024 17:00	7.4	39.6	0.0	7.3	14.8	2.6	12/22/2024 17:00	7.1	23.7	0.0	7.3	10.9	0.6
12/22/2024 17:15	7.4	38.9	0.0	7.3	14.8	3.1	12/22/2024 17:15	7.1	22.9	0.0	7.2	10.9	0.9
12/22/2024 17:30	7.1	26.1	0.0	6.9	14.9	3.7	12/22/2024 17:30	7.1	22.1	0.0	7.2	10.9	0.4
12/22/2024 17:45	7.1	25.4	0.0	6.9	14.9	2.5	12/22/2024 17:45	7.1	21.4	0.0	7.2	10.9	0.3
12/22/2024 18:00	7.1	24.8	0.0	6.9	14.9	19.8	12/22/2024 18:00	7.1	21.1	0.0	7.2	10.9	0.2
12/22/2024 18:15	7.1	24.6	0.0	6.9	14.9	2.6	12/22/2024 18:15	7.1	21.1	0.0	7.2	10.9	0.3
12/22/2024 18:30	7.1	24.6	0.0	6.9	14.9	2.9	12/22/2024 18:30	7.0	21.2	0.0	7.2	10.9	0.6
12/22/2024 18:45	7.1	24.7	0.0	6.9	14.9	5.3	12/22/2024 18:45	7.0	21.6	0.0	7.2	10.9	1.0
12/22/2024 19:00	7.1	24.9	0.0	6.9	14.9	3.9	12/22/2024 19:00	7.0	21.8	0.0	7.2	10.9	0.4
12/22/2024 19:15	7.1	25.1	0.0	6.9	14.9	2.0	12/22/2024 19:15	7.0	21.6	0.0	7.2	10.9	0.7
12/22/2024 19:30	7.3	36.9	0.0	7.2	14.8	4.4	12/22/2024 19:30	7.0	21.5	0.0	7.2	10.9	1.6
12/22/2024 19:45	7.4	36.8	0.0	7.2	14.8	2.9	12/22/2024 19:45	7.0	21.3	0.0	7.2	10.9	0.7
12/22/2024 20:00	7.4	36.6	0.0	7.2	14.8	2.4	12/22/2024 20:00	7.0	21.7	0.0	7.2	10.9	0.4
12/22/2024 20:15	7.1	26.8	0.0	7.0	14.8	2.3	12/22/2024 20:15	7.0	21.5	0.0	7.1	10.9	1.2
12/22/2024 20:30	7.1	24.8	0.0	6.9	14.9	4.0	12/22/2024 20:30	7.0	22.3	0.0	7.2	10.9	1.6
12/22/2024 20:45	7.0	25.5	0.0	6.9	14.9	3.3	12/22/2024 20:45	7.0	24.1	0.0	7.3	11.0	5.2
12/22/2024 21:00	7.0	27.7	0.0	6.9	14.9	6.6	12/22/2024 21:00	7.0	26.5	0.0	7.3	11.0	7.2
12/22/2024 21:15	7.0	29.3	0.0	7.0	14.9	10.2	12/22/2024 21:15	6.9	27.6	0.0	7.3	11.0	7.7
12/22/2024 21:30	7.0	30.3	0.0	7.0	14.9	15.3	12/22/2024 21:30	6.9	29.1	0.0	7.4	11.0	8.7
12/22/2024 21:45	7.0	31.2	0.0	7.0	14.9	14.8	12/22/2024 21:45	6.9	29.2	0.0	7.4	11.0	11.1
12/22/2024 22:00	7.0	30.5	0.0	7.0	15.0	15.5	12/22/2024 22:00	6.9	28.2	0.0	7.3	11.0	5.7
12/22/2024 22:15	7.0	29.8	0.0	7.0	15.0	11.3	12/22/2024 22:15	6.9	27.5	0.0	7.3	11.0	5.6
12/22/2024 22:30	7.1	35.6	0.0	7.2	14.9	11.7	12/22/2024 22:30	6.9	25.6	0.0	7.3	11.0	9.1
12/22/2024 22:45	7.1	33.5	0.0	7.1	14.9	12.5	12/22/2024 22:45	6.9	24.0	0.0	7.3	11.0	4.2
12/22/2024 23:00	7.1	32.4	0.0	7.1	14.9	11.9	12/22/2024 23:00	6.9	23.7	0.0	7.2	11.0	4.8
12/22/2024 23:15	7.1	31.6	0.0	7.1	14.9	8.1	12/22/2024 23:15	6.9	22.4	0.0	7.2	11.1	2.4
12/22/2024 23:30	7.0	24.6	0.0	6.9	15.0	8.9	12/22/2024 23:30	6.9	21.5	0.0	7.2	11.0	2.9
12/22/2024 23:45	7.0	24.1	0.0	6.8	15.0	11.7	12/22/2024 23:45	6.9	21.9	0.0	7.1	11.0	6.0