Eagle Mountain - Woodfibre Gas Pipeline Project

BCER Waste Discharge Permit Weekly Report

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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.

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

- No batches discharged this reporting period.
- 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.

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
No batches this reporting period							

*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	2024-12-02	Yes *	Full set of lab sample results, photo and documentation are provided in Appendix B.

Table 5: Downstream Monitoring Information

	Date of Lab Sample	Real Time Monitored	Results
Squamish River Downstream	2023-12-02	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.

Summary-Woodfibre

Site Activities

- 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	2024-12-02	Yes-Appendix C	407m^3
Woodfibre	2024-12-03	Yes-Appendix C*lab sample day	383m^3
Woodfibre	2024-12-04	Yes-Appendix C	402m^3
Woodfibre	2024-12-05	Yes-Appendix C	393m^3
Woodfibre	2024-12-06	Yes-Appendix C	412m^3
Woodfibre	2024-12-07	Yes-Appendix C	384m^3
Woodfibre	2024-12-08	Yes-Appendix C	472m^3

*Max discharge is 1500m^3/day

Exceedances

See above.

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	2024-12-03	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
Woodfibre Downstream	2024-12-03	Yes *	Full set of lab sample results, photo and documentation are provided in Appendix D.

***** 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.

Appendix A: BCR Site Point of Discharge from Water Treatment Plant Documentation

BCR Site Batch Sample Analysis

No Discharges

BCR Site Batch Sample Lab Documentation

No Discharges

BCR Site WTP Discharge Field Notes and Logs
No Discharges

Appendix B: BCR Site Receiving Environment Documentation

BCR Site Receiving Environment Sample Analysis

TRITON	Sample ID	Reviewed and signed off by:			Fanshaw Shafie Ph.D., R.P.Bio.	SQU US1 (Upstream)	SQU DS1 (Downstream)	Sample or value notes	BCWQ FAL - Short Term	BCWQ FAL - Long Term	BCWQ MAL - Short Term	BCWQ MAL - Long Term
	LAB ID					VA24D2525-001	VA24D2525-002					
	Date Sampled					02-Dec-2024	02-Dec-2024					
	Time Sampled					13:30	12:48					
Analyte	Units	FAL-ST [1,2]	FAL-LT [1,2]	MAL-ST [1]	MAL-LT [1,2]	Water	Water					
						N/A	N/A		Guideline notes			
In Situ Parameters												
pH (field)	pH units	6.5-9.0	6.5-9.0	7.0-8.7	7.0-8.7	7.34	7.14		If natural pH < 6.5, no statistically significant decrease from background. No restriction in increase except in areas with unique flora or fauna. Unrestricted change permitted within range of 6.5 to 9.0. If natural pH > 9.0, no statistically significant increase from background. Refer to BC Water Quality Guidelines for more information.		Unrestricted change within this range (for protection of mollusc embryo development).	
Temperature (field)	°C	Max +/- from BKG 1°C [3]	-	Max +/- from BKG 1°C [3]	-	4.2	4.0		Guideline is species-dependent. Short-term daily temperature guideline is 19°C for streams with unknown fish distribution. Refer to footnote 4 for background temperature range for the Squamish River. Refer to BC Water Quality Guidelines for more information Hourly rate of change not to exceed 1°C. Calculation: US value +/- 1 = guideline range		Guideline for marine waters are based on natural ambient conditions. Max and min. 1°C change from natural condition. Natural temperature cycle characteristic of the site should not be altered in amplitude or frequency by human activities. Max rate of any human-induced temperature change not to exceed 0.5°C hourly. Inserts with unknown fish distribution. Refer to footnote 4 for background temperature range for the Squamish River. Calculation: US value +/- 1 = guideline range	
Conductivity (field)	µS/cm	-	-	-	-	65	66					
Turbidity (field)	NTU	Varies with background, see note Guideline = 10.2	Varies with background, see note Guideline = 6.76 5-week discrete sampling average = 5.4 (DS)	Varies with background, see note Guideline = 10.2	Varies with background, see note Guideline = 6.76 5-week discrete sampling average = 5.4 (DS)	2.18	2.12		Change from background of 8 NTU at any one time for a duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value + 8 = DS guideline Change from background of 5 NTU at any time when background is 8-50 NTU during high flows or in turbid waters. Calculation: US value + 5 = DS guideline Change from background of 10% when background is > 50 NTU at any time during high flows or in turbid waters. Calculation: US value + (US value*0.1) = DS guideline	Change from background of 2 NTU at any one time for 30 days in clear flows. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in this spreadsheet using US concentration at the time of sampling.	Change from background of 8 NTU at any one time for a duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value + 8 = DS guideline Change from background of 5 NTU at any time when background is 8 - 50 NTU during high flows or in turbid waters. Calculation: US value + 5 = DS guideline Change from background of 10% when background is > 50 NTU at any time during high flows or in turbid waters. Calculation: US value + (US value*0.1) = DS guideline	Change from background of 2 NTU at any one time for 30 days in clear flows. Note that a rolling average of US values over a 30 day period is required to properly calculate this guideline. Guideline calculated in this spreadsheet using US concentration at the time of sampling.
Dissolved Oxygen (field)	mg/L	Varies with life stage, see note	Varies with life stage, see note	Varies with life stage, see note	Varies with life stage, see note	12.63	11.96		Buried embryo/alevin minimum 9 mg/L, all other life stages 5 mg/L. Refer to BC Water Quality Guidelines for more information.	Buried embryo/alevin minimum 11 mg/L, all other life stages 8 mg/L. Refer to BC Water Quality Guidelines for more information.	Buried embryo/alevin minimum 9 mg/L, all other life stages 5 mg/L. Refer to BC Water Quality Guidelines for more information.	Buried embryo/alevin minimum 11 mg/L, all other life stages 8 mg/L. Refer to BC Water Quality Guidelines for more information.
General Parameters												
Hardness (as CaCO3) (total)	mg/L	-	-	-	-	21.0	21.4					
Total Dissolved Solids	mg/L	-	-	-	-	52	53					
Total Suspended Solids	mg/L	Varies with background, see note Guideline = 28	Varies with background, see note Guideline = 13.3 5-week discrete sampling average = 8.7 (DS)	Varies with background, see note Guideline = 28	Varies with background, see note Guideline = 13.3 5-week discrete sampling average = 8.7 (DS)	< 3.0	< 3.0		Change from background of 25 mg/L at any one time for duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value + 25 = DS guideline Change from background of 10 mg/L at any one time when background 25-100 mg/L during high flows or turbid waters. Calculation: US value + 10 = DS guideline Change from background of 10% when background is > 100 mg/L at any time during high flows or turbid waters. Calculation: US value + (US value*0.1) = DS guideline	Change from background of 5 mg/L @ one time for a druation of 30 days in clear flow. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in this spreadsheet using US concentration at the time of sampling.	Change from background of 25 mg/L at any one time for duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value + 25 = DS guideline Change from background of 10 mg/L at any one time when background 25-100 mg/L during high flows or turbid waters. Calculation: US value + 10 = DS guideline Change from background of 10% when background is > 100 mg/L at any time during high flows or turbid waters. Calculation: US value + (US value*0.1) = DS guideline	Change from background of 5 mg/L @ one time for a druation of 30 days in clear flow. Note that a rolling average of US values over a 30 day period is required to properly calculate this guideline. Guideline calculated in this spreadsheet using US concentration at the time of sampling.
Dissolved Organic Carbon (DOC)	mg/L	-	-	-	-	1.36	1.22			Long-term (30-day) median within 20% of background median [3]		
Total Alkalinity ($CaCO_3$)	mg/L	-	Categorical	-	-	18.5	18.5			Guideline is for alkalinity (as CaCO3) and categorizes the sensitivity of a water body to acid inputs. Alkalinity < 10 mg/L is considered highly sensitive to acid inputs; 10 - 20 mg/L is considered moderately sensitive to acid inputs; > 20 mg/L is considered low sensitivity.		
Total Sulfide (as S)	mg/L	-	-	-	-	< 0.0015	< 0.0015					
Total Sulfide (un-ionized as H_2S)	mg/L	-	0.002	-	-	< 0.0015	< 0.0015			Working guideline		
Total Sulfide (as H_2S)	mg/L	-	-	-	-	< 0.0016	< 0.0016					
Anions and Nutrients												
Ammonia	mg/L ammonia-N	Varies with pH and temperature. See note. Guideline = 17.1	Varies with pH and temperature. See note. Guideline = 1.92	Varies with pH and temperature. See note. Guideline = 121	Varies with pH, temperature and salinity. See note. Guideline = 29	0.113	0.137		Guideline for ammonia as N and is pH and temperature dependent. Refer to Table 27D in BC WQG for guideline values.	Guideline for ammonia as N and is pH and temperature dependent. Refer to Table 27C in BC WQG for guideline values.	Guideline for ammonia as N. Guideline is pH, temperature and salinity dependent. Refer to Table 27F in BC WQG for guideline values.	Guideline for ammonia as N. Guideline is pH, temperature and salinity dependent. Refer to Table 27E in BC WQG for guideline values.
Bromide	mg/L	-	-	-	-	< 0.050	< 0.050					
Chloride	mg/L	600	150	+/- 10% from BKG	+/- 10% from BKG	4.54	4.62				Human activities should not cause the chloride of marine and estuarine waters to fluctuate by more than 10% of the natural chloride expected at that time and depth.	Human activities should not cause the chloride of marine and estuarine waters to fluctuate by more than 10% of the natural chloride expected at that time and depth.
Fluoride	mg/L	Varies with hardness Guideline = 0.707	-	1.5	-	0.034	0.024		Guideline has interim status. Guideline is calculated with the following equation: Guideline = [-1.51.73 + 52.57 log10 (hardness)] ^ 0.01			
Nitrate (as N)	mg/L	32.8	3	-	3.7	0.0847	0.0939					
Nitrite (as N)	mg/L	Varies with chloride. See note. Guideline = 0.06	Varies with chloride. See note. Guideline = 0.02	-	-	0.0054	< 0.0084		Varies with chloride. Refer to Table 27B in BC WQG for guideline values.	Varies with chloride. Refer to Table 27B in BC WQG for guideline values.		
Total Nitrogen	mg/L	-	-	-	-	0.261	0.264					
Total Phosphorous	mg/L	-	0.005 to 0.015	-	-	0.0234	0.0243			Guideline is for lakes, refer to BCWQ guideline for nutrients and algae for more information. Guideline does not apply to site.		
Sulfate (as SO_4)	mg/L	-	Varies with hardness. See note. Guideline = 128	-	-	6.34	6.28			Guidelines for hardness ranges below: Hardness 0 - 30: 128 Hardness 31 - 75: 218 Hardness 76 - 180: 309 Hardness 181 - 250: 429		
Total Metals												
Aluminum (Al)-Total	mg/L	-	Varies with pH, DOC, hardness Guideline = 0.086 5-week field average = 0.25 (US), 0.23 (DS)	-	-	0.0782	0.0787			Guideline varies with pH, hardness and Dissolved Organic Carbon (DOC). Guideline is calculated with the following equation: Guideline = (EXP((0.8457 * LN(DOC)) + (2.255 * LN(Hardness)) + (1.395 * pH) + (-0.264 * (LN(Hardness)) ^ pH)) - 9.598) / 31000 If hardness or DOC is below the hardness or DOC range, the minimum hardness or DOC will be applied in the calculation.		
Antimony (Sb)-Total	mg/L	0.25	0.074	-	-	< 0.00010	< 0.00010					
Arsenic (As)-Total	mg/L	-	0.005	-	0.0125	0.00022	0.00018					Interim guideline status
Barium (Ba)-Total	mg/L	-	1	-	-	0.01120	0.01130			Working guideline status		
Beryllium (Be)-Total	mg/L	-	0.00013	-	0.100	< 0.000100	< 0.000100			Working guideline status		Working guideline status
Bismuth (Bi)-Total	mg/L	-	-	-	-	< 0.00005	< 0.00005					
Boron (B)-Total	mg/L	-	1.2	-	1.2	0.014	0.014					
Cadmium (Cd)-Total	mg/L	-	-	-	0.00012	0.000064	0.000056					Working guideline status
Calcium (Ca)-Total	mg/L	-	-	-	-	6.78	6.91					
Cesium (Cs)-Total	mg/L	-	-	-	-	0.000025	0.000026					
Chromium (Cr) - Total	mg/L	-	-	-	-	< 0.00050	< 0.00050					
Chromium (Cr(III))-Total	mg/L	-	0.0089	-	0.056	< 0.00050	< 0.00050			Working guideline status		Working guideline status
Chromium (Cr(VI))-Total	mg/L	-	0.0025	-	0.0015	< 0.00050	< 0.00050			Working guideline status		Working guideline status
Cobalt (Co)-Total	mg/L	0.11	0.004	-	-	0.00016	0.00016					
Copper (Cu)-Total	mg/L	-	-	0.003	0.002 5-week field average = 0.00122 (US), 0.00111 (DS)	0.00066	0.00068					
Iron (Fe)-Total	mg/L	1	-	-	-	0.342	0.34					
Lead (Pb)-Total	mg/L	-	-	0.14	0.002 5-week field average = 0.00059 (US), 0.00008 (DS)	< 0.000050	< 0.000050					
Lithium (Li)-Total	mg/L	-	-	-	-	0.002	0.0021					
Magnesium (Mg)-Total	mg/L	-	-	-	-	0.986	0.995					
Manganese (Mn)-Total	mg/L	Varies with hardness Guideline = 0.715	Varies with hardness Guideline = 0.768	-	-	0.0221	0.0217		Guideline varies with hardness. The guideline is calculated using the following equation: Guideline = (0.0047 * hardness + 0.605) Guideline applies to samples with hardness 25-250 mg/L. Lowest value for guideline is 0.77 mg/L. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.	Guideline varies with hardness, refer to BC Water Quality Guidelines for more information. The guideline is calculated using the following formula: Guideline = (0.0110)^2 * hardness + 0.54) Guideline applies to samples with hardness 37-450 mg/L. Lowest value for guideline is 0.81 mg/L. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.		
Mercury (Hg)-Total	mg/L	-	Varies with methyl mercury Guideline = N/A	-	-	< 0.0000050	< 0.0000050			When MeHg ≤ 0.5% of total Hg, guideline is equal to 0.02 mg/L Guideline = ≤ 1 ((MeHg/tHg)*4)). When MeHg ≥ 0.5% of total Hg, guideline is equal to 0.02 mg/L		
Molybdenum (Mo)-Total	mg/L	46	7.6	-	-	0.000529	0.000536					
Nickel (Ni)-Total	mg/L	-	-	-	0.0083	< 0.00050	< 0.00050					Working guideline status
Phosphorus (P)-Total	mg/L	-	0.005 to 0.015	-	-	< 0.050	< 0.050			Guideline only applies to lakes with salmonid species being the dominant fish species. Guideline is for reference only and does not apply to site.		
Potassium (K)-Total	mg/L	-	-	-	-	1.01	1.02					
Rubidium (Rb)-Total	mg/L	-	-	-	-	0.00146	0.0016					
Selenium (Se)-Total	mg/L	-	0.002	-	0.002	< 0.000050	< 0.000050			Guideline for freshwater aquatic life (water column). Alert concentration is 0.001 mg/L, with separate guidelines for sediment, invertebrate and fish tissue. Refer to BC Water Quality Guidelines for more information on guideline and sampling guidance.		Guideline for marine aquatic life (water column). Alert concentration is 0.001 mg/L, with separate guidelines for sediment, invertebrate and fish tissue. Refer to BC Water Quality Guidelines for
Silicon (Si)-Total	mg/L	-	-	-	-	5.83	5.89					
Silver (Ag)-Total	mg/L	Varies with hardness, see note Guideline = 0.0001	Varies with hardness, see note Guideline = 0.00005 5-week field average = 0.00001 (US), 0.0000108 (DS)	0.003	0.0015	< 0.0000010	< 0.0000010		Varies with hardness Guideline ranges: Hardness ≤ 100: 0.0001 Hardness > 100: 0.003	Varies with hardness Guideline ranges: Hardness ≤ 100: 0.00005 Hardness > 100: 0.0015		Guideline applies to open coast and estuaries. Guideline is applicable to the EGP site.
Sodium (Na)-Total	mg/L	-	-	-	-	4.38	4.46					
Strontium (Sr)-Total	mg/L	-	-	-	-	0.0464	0.0462					
Sulfur (S)-Total	mg/L	-	-	-	-	1.83	1.93					
Tellurium (Te)-Total	mg/L	-	-	-	-	< 0.00020	< 0.00020					
Thallium (Tl)-Total	mg/L	-	0.00003	-	-	< 0.000010	< 0.000010			30-day average, site-specific objective for the lower Columbia River, BC. Guideline is for reference only and does not apply to tribe EGP site.		
Thorium (Th)-Total	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Tin (Sn)-Total	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Titanium (Ti)-Total	mg/L	-	-	-	-	< 0.00270	0.00271					
Tungsten (W)-Total	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Uranium (U)-Total	mg/L	0.0165	0.0073	-	-	0.000038	0.000036			Working guideline status		
Vanadium (V)-Total	mg/L	-	0.06	-	0.005 5-week field average = 0.001136 (US), 0.00128 (DS)	0.00114	0.00112					Working guideline status
Zinc (Zn)-Total	mg/L	-	-	0.055	Guideline = 0.010 5-week field average = 0.00752 (US), 0.03308 (DS)	< 0.0030	< 0.0030					
Zirconium (Zr)-Total	mg/L	-	-	-	-	< 0.00020	< 0.00020					
Dissolved Metals												
Aluminum (Al)-Dissolved	mg/L	-	-	-	-	0.0218	0.0229					
Antimony (Sb)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Arsenic (As)-Dissolved	mg/L	-	-	-	-	0.00014	0.00013					
Barium (Ba)-Dissolved	mg/L	-	-	-	-	0.0107	0.0106					
Beryllium (Be)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Bismuth (Bi)-Dissolved	mg/L	-	-	-	-	< 0.000050	< 0.000050					
Boron (B)-Dissolved	mg/L	-	-	-	-	0.013	0.014					
Cadmium (Cd)-Dissolved	mg/L	Varies with hardness, see note Guideline = 0.000018	Varies with hardness, see note Guideline = 0.000061	-	-	0.0000068	0.0000056		Guideline is hardness dependent. Guideline is applicable to water hardness between 7.0 and 455 mg/L. Guideline is calculated with the following formula: Guideline = (0.9P1 03 * (LN(hardness)) - 5.276)^1000) Lowest value for guideline is 0.000018 mg/L. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.	Guideline is hardness dependent. Guideline is applicable to hardness between 3.4 and 285 mg/L. Guideline is calculated with the following formula: Guideline = (EXP(0.736 * (LN(hardness)) - 4.943)^1000) Lowest value for guideline is 0.00004 If hardness is below the hardness range, the minimum hardness will be applied in the calculation.		
Calcium (Ca)-Dissolved	mg/L	-	Categorical, see note	-	-	6.94	6.79			Guideline categorizes the sensitivity of a water body to acid inputs (i.e. buffering capacity). Standard is 4 mg/L dissolved Ca for the most sensitive waterbodies; 5 - 8 mg/L for waterbodies with moderate sensitivity to acid inputs. Waterbodies with dissolved calcium > 8mg/L are considered to have low sensitivity to acid inputs.		
Cesium (Cs)-Dissolved	mg/L	-	-	-	-	0.000023	0.000025					
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	< 0.00050	< 0.00050					
Chromium (Cr(III))-Dissolved	mg/L	-	-	-	-	-	-					
Chromium (Cr(VI))-Dissolved	mg/L	-	-	-	-	-	-					
Cobalt (Co)-Dissolved	mg/L	-	-	-	-	0.00014	0.00014					
Copper (Cu)-Dissolved	mg/L	Guideline varies with other parameters, see note Guideline = 0.0019	Guideline varies with other parameters, see note Guideline = 0.0004 5-week field average = 0.000618 (US), 0.00061 (DS)	-	-	0.000552	0.00052		Guideline varies with other parameters and is calculated using BC BLM software. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date	Guideline varies with other parameters and is calculated using BC BLM software. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date		
Iron (Fe)-Dissolved	mg/L	0.35	-	-	-	0.222	0.205					
Lead (Pb)-Dissolved	mg/L	-	Guideline varies with DOC and hardness Guideline = 0.00222 5-week field average = <0.00005 (US), <0.00005 (DS)	-	-	< 0.000050	< 0.000050			Guideline varies with DOC and hardness, refer to BC Water Quality Guidelines for more information. Guideline uses equation (EXP((0.5141*LN(DOC))+(0.3147)*LN(hardness))+0.4334)/2/1000) where DOC range is 0.5-31.5 mg/L and hardness range is 4.7-511 mg/L.		
Lithium (Li)-Dissolved	mg/L	-	-	-	-	0.002	0.002					
Magnesium (Mg)-Dissolved	mg/L	-	-	-	-	0.969	0.994					
Manganese (Mn)-Dissolved	mg/L	-	-	-	-	0.0206	0.0204					
Mercury (Hg)-Dissolved	mg/L	-	-	-	-	< 0.0000050	< 0.0000050					
Molybdenum (Mo)-Dissolved	mg/L	-	-	-	-	0.000515	0.000545					
Nickel (Ni)-Dissolved	mg/L	Guideline varies with other parameters, see note Guideline = 0.0159	Guideline varies with other parameters, see note Guideline = 0.00112 5-week field average = < 0.0005 (US), < 0.0005 (DS)	-	-	< 0.00050	< 0.00050		Guideline varies with other parameters and is calculated using BC BLM software. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date	Guideline varies with other parameters and is calculated using BC BLM software. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date		
Phosphorus (P)-Dissolved	mg/L	-	-	-	-	< 0.050	< 0.050					
Potassium (K)-Dissolved	mg/L	-	-	-	-	0.969	1.019					
Rubidium (Rb)-Dissolved	mg/L	-	-	-	-	0.00147	0.00144					
Selenium (Se)-Dissolved	mg/L	-	-	-	-	< 0.000050	< 0.000050					
Silicon (Si)-Dissolved	mg/L	-	-	-	-	5.56	5.49					
Silver (Ag)-Dissolved	mg/L	-	-	-	-	< 0.000010	< 0.000010					
Sodium (Na)-Dissolved	mg/L	-	-	-	-	4.18	4.25					
Strontium (Sr)-Dissolved	mg/L	-	-	-	-	0.0418	0.0464					
Sulfur (S)-Dissolved	mg/L	-	-	-	-	1.86	1.88					
Tellurium (Te)-Dissolved	mg/L	-	-	-	-	< 0.00020	< 0.00020					
Thallium (Tl)-Dissolved	mg/L	-	-	-	-	< 0.000010	< 0.000010					
Thorium (Th)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Tin (Sn)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Titanium (Ti)-Dissolved	mg/L	-	-	-	-	< 0.00270	0.00271					
Tungsten (W)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Uranium (U)-Dissolved	mg/L	-	-	-	-	0.000035	0.000032					
Vanadium (V)-Dissolved	mg/L	-	-	-	-	0.00089	0.00091					
Zinc (Zn)-Dissolved	mg/L	Varies with DOC and hardness Guideline = 0.012	Varies with pH, DOC, hardness Guideline = 0.0042 5-week field average = 0.0054 (US), 0.0032 (DS)	-	-	0.0013	0.0016		Guideline varies with DOC and hardness. Guideline is calculated using the following formula: Guideline = (EXP((0.833 * (LN(hardness))) + (0.24 * (LN(DOC))) + 0.526)/2/1000) If hardness or DOC is below the hardness or DOC range, the minimum hardness or DOC will be applied in the calculation.	Guideline varies with pH, hardness and Dissolved Organic Carbon (DOC). Guideline is calculated using the following formula: Guideline = (EXP((0.974 * (LN(hardness)) - (0.815 * pH) + (0.398 * (LN(DOC))) + 4.625)/2/1000) Guideline only applies to water with pH between 6.5 and 8.13, DOC between 0.3 and 22.9 mg/L, ammd hardness between 23.4 and 399 mg/L. If hardness or DOC is below the hardness or DOC range, the minimum hardness or DOC will be applied in the calculation.		
Zirconium (Zr)-Dissolved	mg/L	-	-	-	-	< 0.00020	< 0.00020					
Applied Guideline:		British Columbia Approved and Working Water Quality Guidelines (NOV 2023) for Freshwater Aquatic Life (FAL) & Marine Aquatic Life (MAL)										
Color Key:		Exceeds FAL Short term Guideline	Exceeds both FAL and MAL Guidelines	Exceeds MAL Short term Guideline								

[1]BC MOECCS. 2023. BC Water Quality Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from:
wqg_summary_approvlife_wildlife_agri.pdf (gov.bc.ca)

[2]BC MOECCS. 2021. BC Working Water Quality Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from:
bc_env_working_water_quality_guidelines.pdf (gov.bc.ca)

[3]Note that long-term guidelines apply to averaged data to account for chronic impacts to aquatic life. Ideally, five samples collected at evenly spaced intervals over 30 days is considered to be the minimum number needed to calculate the long-term average of any parameter, though this may vary by parameter and site conditions. Long-term guidelines applied here are for reference only and may not indicate chronic impacts to aquatic life if exceedances occur in the short term.

[4]Background temperature ranges: Dec-Feb: 2.0-4.0C; Mar-Apr: 4.0-6.0C; May-June: 6.0-12.0C; Jul-Sept: 9.0-12.0C; Oct-Nov: 3.0-5.0

Reference: Triton Environmental Consulants Ltd. 2023. Memo - Background water quality values for the BC Rail Discharge to Squamish River

For guidelines dependent on other parameters, when hardness, pH or DOC are below the range stated in the guideline, the lowest value in the range is used to calculate the guideline.

Parameters Used to Calculate Guidelines

Analyte	Units	Method of Measurements	Values	
			SQU US1 (Upstream)	SQU DS1 (Downstream)
pH (field)	pH units	Field pH taken using handheld meters during sampling used in calculations	7.34	7.14
Temperature (field)	°C	Field temperature taken using handheld meters during sampling used in calculations	4.2	4.0
Turbidity (field)	NTU	Field turbidity taken using handheld meters during sampling used in calculations	2.18	2.12
Hardness (as CaCO3) (total)	mg/L	Laboratory tested total hardness taken at each respective sample site on the day of sampling used in guideline calculations	21	21.4
Dissolved Organic Carbon (DOC)	mg/L	Laboratory tested dissolved organic carbon tested at the lab used in guideline calculations	1.36	1.22
Total Alkalinity ($CaCO_3$)	mg/L	Laboratory tested total alkalinity used in calculations	18.5	18.5
Chloride	mg/L	Laboratory tested chloride taken at each respective sample site on the day of sampling used in guideline calculations	4.54	4.62

BCR Site Receiving Environment Lab Documentation

CERTIFICATE OF ANALYSIS

Work Order	: **VA24D2525**			
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	:	ALS Environmental - Vancouver
Contact		Account Manager		
Address		Address		
Telephone		Telephone		
Project	: 11964	Date Samples Received	:	02-Dec-2024 16:30
PO	: 1196-Task 20-Phase 3C-4C	Date Analysis Commenced	:	03-Dec-2024
C-O-C number	: ----	Issue Date	:	09-Dec-2024 08:56
Sampler	: ----			
Site	: Water Analysis			
Quote number	: VA23-TRIT100-012			
No. of samples received	: 3			
No. of samples analysed	: 3			

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
	Lab Assistant	Metals, Burnaby, British Columbia
	Team Leader - Inorganics	Inorganics, Burnaby, British Columbia
	Department Manager - Metals	Metals, Burnaby, British Columbia
	Account Manager Assistant	Administration, Burnaby, British Columbia
	Analyst	Metals, Burnaby, British Columbia
	Analyst- General	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).

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

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
HTDC	Hold time exceeded for dilution or re-analysis. Reported results are consistent with initial results (tested within hold time), and are valid and defensible.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SQU US 1	SQU DS 1	BCR Duplicate	----	----
					Client sampling date / time	02-Dec-2024 13:30	02-Dec-2024 12:48	02-Dec-2024 13:30	----	----
						VA24D2525-001	VA24D2525-002	VA24D2525-003	----	----
						Result	Result	Result	----	----
Field Tests										
Conductivity, field	----	EF001/VA	0.10	µS/cm		65.000	66.000	65.000	----	----
pH, field	----	EF001/VA	0.10	pH units		7.34	7.14	7.34	----	----
Temperature, field	----	EF001/VA	0.10	°C		4.20	4.00	4.20	----	----
Physical Tests										
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L		21.4	21.0	21.1	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		21.0	21.4	21.3	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L		52	53	58	----	----
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L		<3.0	<3.0	<3.0	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L		18.5	18.5	18.4	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		0.113	0.137	0.112	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L		<0.050	<0.050	<0.050	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		4.54	4.62	4.48	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L		0.024	0.024	0.027	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L		0.0847	0.0939	0.0820	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L		0.0054 HTDC	0.0084	0.0049	----	----
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L		0.261	0.284	0.258	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L		0.0234	0.0243	0.0227	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L		6.34	6.28	6.25	----	----
Organic / Inorganic Carbon										
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L		1.36	1.22	1.31	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SQU US 1	SQU DS 1	BCR Duplicate	----	----
					Client sampling date / time	02-Dec-2024 13:30	02-Dec-2024 12:48	02-Dec-2024 13:30	----	----
						VA24D2525-001	VA24D2525-002	VA24D2525-003	----	----
						Result	Result	Result	----	----
Total Sulfides										
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L		<0.0015	<0.0015	<0.0015	----	----
Sulfide, un-ionized (as H2S), from total	7783-06-4	EC395/VA	0.0015	mg/L		<0.0015	<0.0015	<0.0015	----	----
Sulfide, total (as H2S)	7783-06-4	E395/VA	0.0016	mg/L		<0.0016	<0.0016	<0.0016	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L		0.0782	0.0787	0.0818	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00022	0.00018	0.00019	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.0112	0.0113	0.0113	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.014	0.014	0.014	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.0000064	0.0000060	0.0000062	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		6.78	6.91	6.88	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000025	0.000028	0.000026	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.00016	0.00016	0.00017	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00066	0.00068	0.00071	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.342	0.340	0.342	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0020	0.0021	0.0021	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		0.986	0.995	0.996	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SQU US 1	SQU DS 1	BCR Duplicate	----	----
					Client sampling date / time	02-Dec-2024 13:30	02-Dec-2024 12:48	02-Dec-2024 13:30	----	----
						VA24D2525-001	VA24D2525-002	VA24D2525-003	----	----
						Result	Result	Result	----	----
Total Metals										
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.0221	0.0217	0.0224	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.000529	0.000536	0.000564	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.050	<0.050	<0.050	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		1.01	1.02	1.01	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00146	0.00160	0.00151	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		5.63	5.69	5.72	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		4.38	4.46	4.26	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0464	0.0462	0.0466	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		1.83	1.93	1.94	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00270 DLM	0.00271	0.00269	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000038	0.000036	0.000037	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		0.00114	0.00112	0.00112	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SQU US 1	SQU DS 1	BCR Duplicate	----	----
					Client sampling date / time	02-Dec-2024 13:30	02-Dec-2024 12:48	02-Dec-2024 13:30	----	----
						VA24D2525-001	VA24D2525-002	VA24D2525-003	----	----
						Result	Result	Result	----	----
Total Metals										
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	<0.0030	<0.0030	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	----	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L		0.0218	0.0229	0.0221	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L		0.00014	0.00013	0.00016	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L		0.0107	0.0106	0.0103	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L		<0.000100	<0.000100	<0.000100	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L		0.013	0.014	0.013	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L		0.0000068	0.0000060	0.0000067	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		6.94	6.79	6.78	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L		0.000023	0.000025	0.000025	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L		0.00014	0.00014	0.00014	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L		0.00052	0.00052	0.00052	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L		0.222	0.206	0.219	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L		0.0020	0.0020	0.0020	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		0.989	0.994	1.02	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		0.0206	0.0204	0.0209	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SQU US 1	SQU DS 1	BCR Duplicate	----	----
					Client sampling date / time	02-Dec-2024 13:30	02-Dec-2024 12:48	02-Dec-2024 13:30	----	----
						VA24D2525-001	VA24D2525-002	VA24D2525-003	----	----
						Result	Result	Result	----	----
Dissolved Metals										
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L		<0.0000050	<0.0000050	<0.0000050	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L		0.000515	0.000545	0.000541	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L		<0.050	<0.050	<0.050	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		0.995	1.01	1.03	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00147	0.00144	0.00153	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L		<0.000050	<0.000050	<0.000050	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L		5.58	5.49	5.64	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		4.18	4.25	4.39	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		0.0476	0.0484	0.0471	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		1.86	1.88	1.92	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L		<0.000010	<0.000010	<0.000010	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L		0.00035	0.00037	<0.00030	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L		<0.00010	<0.00010	<0.00010	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L		0.000035	0.000032	0.000030	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L		0.00089	0.00091	0.00090	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L		0.0013	0.0016	0.0012	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	SQU US 1	SQU DS 1	BCR Duplicate	----	----
					Client sampling date / time	02-Dec-2024 13:30	02-Dec-2024 12:48	02-Dec-2024 13:30	----	----
						VA24D2525-001	VA24D2525-002	VA24D2525-003	----	----
						Result	Result	Result	----	----
Dissolved Metals										
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L		<0.00020	<0.00020	<0.00020	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	Field	Field	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	Field	Field	----	----
Speciated Metals										
Chromium, hexavalent [Cr VI], total	18540-29-9	E532/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	----	----
Chromium, trivalent [Cr III], total	16065-83-1	EC535/VA	0.00050	mg/L		<0.00050	<0.00050	<0.00050	----	----

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

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24D2525**	Page	: 1 of 16
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 02-Dec-2024 16:30
PO	: 1196-Task 20-Phase 3C-4C	Issue Date	: 09-Dec-2024 08:56
C-O-C number	: ----		
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 3		
No. of samples analysed	: 3		

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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) BCR Duplicate	E298	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	06-Dec-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SQU DS 1	E298	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	06-Dec-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SQU US 1	E298	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	06-Dec-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE BCR Duplicate	E235.Br-L	02-Dec-2024	03-Dec-2024	28 days	0 days	✓	03-Dec-2024	28 days	0 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SQU US 1	E235.Br-L	02-Dec-2024	03-Dec-2024	28 days	0 days	✓	03-Dec-2024	28 days	0 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE SQU DS 1	E235.Br-L	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE BCR Duplicate	E235.Cl	02-Dec-2024	03-Dec-2024	28 days	0 days	✓	03-Dec-2024	28 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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE SQU US 1	E235.Cl	02-Dec-2024	03-Dec-2024	28 days	0 days	✓	03-Dec-2024	28 days	0 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SQU DS 1	E235.Cl	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE BCR Duplicate	E235.F	02-Dec-2024	03-Dec-2024	28 days	0 days	✓	03-Dec-2024	28 days	0 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SQU US 1	E235.F	02-Dec-2024	03-Dec-2024	28 days	0 days	✓	03-Dec-2024	28 days	0 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SQU DS 1	E235.F	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE BCR Duplicate	E235.NO3-L	02-Dec-2024	03-Dec-2024	3 days	0 days	✓	03-Dec-2024	3 days	0 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SQU US 1	E235.NO3-L	02-Dec-2024	03-Dec-2024	3 days	0 days	✓	03-Dec-2024	3 days	0 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE SQU DS 1	E235.NO3-L	02-Dec-2024	03-Dec-2024	3 days	1 days	✓	03-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE BCR Duplicate	E235.NO2-L	02-Dec-2024	03-Dec-2024	3 days	0 days	✓	03-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SQU US 1	E235.NO2-L	02-Dec-2024	03-Dec-2024	3 days	0 days	✓	03-Dec-2024	3 days	0 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE SQU DS 1	E235.NO2-L	02-Dec-2024	03-Dec-2024	3 days	1 days	✓	03-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE BCR Duplicate	E235.SO4	02-Dec-2024	03-Dec-2024	28 days	0 days	✓	03-Dec-2024	28 days	0 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SQU US 1	E235.SO4	02-Dec-2024	03-Dec-2024	28 days	0 days	✓	03-Dec-2024	28 days	0 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SQU DS 1	E235.SO4	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) BCR Duplicate	E366	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) SQU DS 1	E366	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) SQU US 1	E366	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) BCR Duplicate	E372-U	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	04-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
SQU DS 1	E372-U	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
SQU US 1	E372-U	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	2 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
BCR Duplicate	E509	02-Dec-2024	08-Dec-2024	28 days	6 days	✓	08-Dec-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SQU DS 1	E509	02-Dec-2024	08-Dec-2024	28 days	6 days	✓	08-Dec-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
SQU US 1	E509	02-Dec-2024	08-Dec-2024	28 days	6 days	✓	08-Dec-2024	28 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
BCR Duplicate	E421	02-Dec-2024	03-Dec-2024	180 days	1 days	✓	04-Dec-2024	180 days	2 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
SQU DS 1	E421	02-Dec-2024	03-Dec-2024	180 days	1 days	✓	04-Dec-2024	180 days	2 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
SQU US 1	E421	02-Dec-2024	03-Dec-2024	180 days	1 days	✓	04-Dec-2024	180 days	2 days	✓
Field Tests : Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial total (hydrochloric acid)										
BCR Duplicate	EF001	02-Dec-2024	----	----	----		04-Dec-2024	----	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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Field Tests : Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial total (hydrochloric acid)										
SQU DS 1	EF001	02-Dec-2024	----	----	----		04-Dec-2024	----	2 days	
Field Tests : Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial total (hydrochloric acid)										
SQU US 1	EF001	02-Dec-2024	----	----	----		04-Dec-2024	----	2 days	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
BCR Duplicate	E358-L	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SQU DS 1	E358-L	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
SQU US 1	E358-L	02-Dec-2024	03-Dec-2024	28 days	1 days	✓	03-Dec-2024	28 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
BCR Duplicate	E290	02-Dec-2024	03-Dec-2024	14 days	0 days	✓	03-Dec-2024	14 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
SQU US 1	E290	02-Dec-2024	03-Dec-2024	14 days	0 days	✓	03-Dec-2024	14 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
SQU DS 1	E290	02-Dec-2024	03-Dec-2024	14 days	1 days	✓	03-Dec-2024	14 days	1 days	✓
Physical Tests : TDS by Gravimetry										
HDPE										
BCR Duplicate	E162	02-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : TDS by Gravimetry										
HDPE										
SQU DS 1	E162	02-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓
Physical Tests : TDS by Gravimetry										
HDPE										
SQU US 1	E162	02-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE										
BCR Duplicate	E160	02-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE										
SQU DS 1	E160	02-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE										
SQU US 1	E160	02-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
BCR Duplicate	E532	02-Dec-2024	----	----	----		02-Dec-2024	28 days	0 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
SQU DS 1	E532	02-Dec-2024	----	----	----		02-Dec-2024	28 days	0 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
SQU US 1	E532	02-Dec-2024	----	----	----		02-Dec-2024	28 days	0 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
BCR Duplicate	E508	02-Dec-2024	06-Dec-2024	28 days	4 days	✓	06-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
SQU DS 1	E508	02-Dec-2024	06-Dec-2024	28 days	4 days	✓	06-Dec-2024	28 days	4 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
SQU US 1	E508	02-Dec-2024	06-Dec-2024	28 days	4 days	✓	06-Dec-2024	28 days	4 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
BCR Duplicate	E420	02-Dec-2024	03-Dec-2024	180 days	1 days	✓	04-Dec-2024	180 days	2 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
SQU DS 1	E420	02-Dec-2024	03-Dec-2024	180 days	1 days	✓	04-Dec-2024	180 days	2 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
SQU US 1	E420	02-Dec-2024	03-Dec-2024	180 days	1 days	✓	04-Dec-2024	180 days	2 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
BCR Duplicate	E395	02-Dec-2024	----	----	----		03-Dec-2024	7 days	1 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
SQU DS 1	E395	02-Dec-2024	----	----	----		03-Dec-2024	7 days	1 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
SQU US 1	E395	02-Dec-2024	----	----	----		03-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			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1792799	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1792765	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1792803	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1792802	1	19	5.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1800813	1	9	11.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1793198	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1792766	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1792801	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1792804	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1792805	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1792806	1	19	5.2	5.0	✓
TDS by Gravimetry	E162	1797330	2	27	7.4	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1792744	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1799699	2	26	7.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1793181	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1792762	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1792763	1	15	6.6	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1793604	1	4	25.0	5.0	✓
TSS by Gravimetry	E160	1797315	2	28	7.1	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1792799	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1792765	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1792803	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1792802	1	19	5.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1800813	1	9	11.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1793198	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1792766	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1792801	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1792804	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1792805	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1792806	1	19	5.2	5.0	✓
TDS by Gravimetry	E162	1797330	2	27	7.4	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1792744	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1799699	2	26	7.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1793181	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1792762	1	15	6.6	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1792763	1	15	6.6	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1793604	1	4	25.0	5.0	✓
TSS by Gravimetry	E160	1797315	2	28	7.1	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1792799	1	19	5.2	5.0	✓
Ammonia by Fluorescence	E298	1792765	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1792803	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1792802	1	19	5.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1800813	1	9	11.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1793198	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1792766	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1792801	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1792804	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1792805	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1792806	1	19	5.2	5.0	✓
TDS by Gravimetry	E162	1797330	2	27	7.4	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1792744	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1799699	2	26	7.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1793181	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1792762	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1792763	1	15	6.6	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1793604	1	4	25.0	5.0	✓
TSS by Gravimetry	E160	1797315	2	28	7.1	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1792765	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1792803	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	1792802	1	19	5.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1800813	1	9	11.1	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1793198	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1792766	1	16	6.2	5.0	✓
Fluoride in Water by IC	E235.F	1792801	1	19	5.2	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1792804	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1792805	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1792806	1	19	5.2	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1792744	1	10	10.0	5.0	✓
Total Mercury in Water by CVAAS	E508	1799699	2	26	7.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1793181	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1792762	1	15	6.6	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1792763	1	15	6.6	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Total Sulfide by Colourimetry (Automated Flow)	E395	1793604	1	4	25.0	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 ± 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.
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 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.
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 methlyene blue colourimetric method. Results expressed "as H2S" if reported represent the maximum possible H2S concentration based on the total sulfide concentration in the sample. The H2S calculation converts Total Sulphide as (S2-) and reports it as Total Sulphide as (H2S)
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 CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 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 CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 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, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine	EF001 ALS Environmental - Vancouver	Water	Field Measurement (Client Supplied)	Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3 or Chloramine measurements provided by client and recorded on ALS report may affect the validity of results.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.

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QUALITY CONTROL REPORT

Work Order	: **VA24D2525**	Page	: 1 of 17
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 02-Dec-2024 16:30
PO	: 1196-Task 20-Phase 3C-4C	Date Analysis Commenced	: 02-Dec-2024
C-O-C number	: ----	Issue Date	: 09-Dec-2024 08:56
Sampler	: ----		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 3		
No. of samples analysed	: 3		

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
	Team Leader - Inorganics	Vancouver Inorganics, Burnaby, British Columbia
	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
	Account Manager Assistant	Vancouver Administration, Burnaby, British Columbia
	Analyst	Vancouver Metals, Burnaby, British Columbia
	Analyst- General	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: 1792799)											
FJ2403648-003	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	147	146	0.550%	20%	----
Physical Tests (QC Lot: 1797315)											
FJ2403639-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	203	210	3.38%	20%	----
Physical Tests (QC Lot: 1797316)											
VA24D2634-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	10.0	9.8	0.2	Diff <2x LOR	----
Physical Tests (QC Lot: 1797330)											
FJ2403639-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	374	367	1.76%	20%	----
Physical Tests (QC Lot: 1797331)											
VA24D2634-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	2940	2940	0.0340%	20%	----
Anions and Nutrients (QC Lot: 1792762)											
VA24D2486-001	Anonymous	Nitrogen, total	7727-37-9	E366	0.030	mg/L	0.511	0.507	0.738%	20%	----
Anions and Nutrients (QC Lot: 1792763)											
VA24D2486-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0047	0.0045	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1792765)											
FJ2403648-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0430	0.0433	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1792801)											
FJ2403648-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.177	0.172	0.004	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1792802)											
FJ2403648-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	41.0	40.9	0.154%	20%	----
Anions and Nutrients (QC Lot: 1792803)											
FJ2403648-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.050	mg/L	0.662	0.664	0.259%	20%	----
Anions and Nutrients (QC Lot: 1792804)											
FJ2403648-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	0.267	0.266	0.544%	20%	----
Anions and Nutrients (QC Lot: 1792805)											
FJ2403648-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0010	mg/L	0.0126	0.0124	1.50%	20%	----
Anions and Nutrients (QC Lot: 1792806)											
FJ2403648-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	58.4	58.3	0.0928%	20%	----
Organic / Inorganic Carbon (QC Lot: 1792766)											
FJ2403648-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	2.74	2.83	0.09	Diff <2x LOR	----
Total Sulfides (QC Lot: 1793604)											

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 Sulfides (QC Lot: 1793604) - continued											
VA24D2524-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.0024	0.0024	0.00005	Diff <2x LOR	----
Total Metals (QC Lot: 1793181)											
VA24D2486-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0480	0.0469	2.33%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00061	0.00058	0.00003	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00418	0.00402	3.81%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0434	0.0453	4.19%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000198	0.0000211	0.0000013	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	48.3	49.3	1.98%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000019	0.000017	0.000002	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00946	0.00951	0.514%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00054	0.00054	0.0000004	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.144	0.140	2.85%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000235	0.000221	0.000014	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0072	0.0072	0.00007	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.100	mg/L	21.4	21.3	0.774%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.104	0.105	1.08%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000251	0.000240	0.000010	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00515	0.00523	1.53%	20%	----
		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	1.25	1.24	0.913%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00124	0.00117	0.00008	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000282	0.000264	0.000019	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	4.72	4.73	0.0690%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000029	0.000028	0.0000004	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	2.48	2.48	0.303%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.261	0.260	0.641%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	33.3	33.7	1.08%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

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: 1793181) - continued											
VA24D2486-001	Anonymous	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	0.00144	0.00132	0.00011	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	0.00203	0.00205	0.785%	20%	----
		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: 1799699)											
VA24D2474-002	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 1799700)											
VA24D2525-003	BCR Duplicate	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1793198)											
FJ2403631-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.540	0.509	5.84%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00080	0.00081	0.000008	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00163	0.00148	9.58%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0406	0.0396	2.49%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.079	0.075	0.003	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000100	mg/L	<0.0000100	<0.0000100	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	15.7	14.7	6.41%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000021	0.000021	0.00000008	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	0.00145	0.00131	0.00014	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00011	<0.00010	0.00001	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00146	0.00137	0.00009	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.018	0.018	0.0009	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	0.0234	0.0221	5.67%	20%	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	5.61	5.45	3.03%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00897	0.00851	5.24%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.0101	0.0100	0.666%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00130	0.00116	0.00015	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	7.70	7.57	1.72%	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: 1793198) - continued											
FJ2403631-001	Anonymous	Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00979	0.00935	4.59%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000479	0.000539	11.9%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.99	2.98	0.360%	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	97.7	92.0	5.96%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.102	0.101	0.0232%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	20.9	20.8	0.297%	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	0.00018	0.00018	0.000002	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	0.00053	0.00042	0.00011	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	0.00066	0.00068	0.00002	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000593	0.000596	0.514%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00346	0.00321	0.00025	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	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1800813)											
VA24D2519-007	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	0.0000942	0.0000955	1.34%	20%	----
Speciated Metals (QC Lot: 1792744)											
KS2405038-001	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: 1792799)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1797315)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1797316)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1797330)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests (QCLot: 1797331)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1792762)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Anions and Nutrients (QCLot: 1792763)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1792765)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1792801)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1792802)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1792803)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1792804)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1792805)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1792806)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Organic / Inorganic Carbon (QCLot: 1792766)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1793604)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1793181)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1793181) - continued						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1793181) - continued						
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: 1799699)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1799700)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1793198)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1793198) - continued						
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: 1800813)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1792744)						
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: 1792799)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	104	85.0	115	----
Physical Tests (QCLot: 1797315)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	98.0	85.0	115	----
Physical Tests (QCLot: 1797316)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	90.3	85.0	115	----
Physical Tests (QCLot: 1797330)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	109	85.0	115	----
Physical Tests (QCLot: 1797331)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	106	85.0	115	----
Anions and Nutrients (QCLot: 1792762)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1792763)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	90.3	80.0	120	----
Anions and Nutrients (QCLot: 1792765)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1792801)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	97.8	90.0	110	----
Anions and Nutrients (QCLot: 1792802)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.1	90.0	110	----
Anions and Nutrients (QCLot: 1792803)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	----
Anions and Nutrients (QCLot: 1792804)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.9	90.0	110	----
Anions and Nutrients (QCLot: 1792805)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.1	90.0	110	----
Anions and Nutrients (QCLot: 1792806)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	100	90.0	110	----
Organic / Inorganic Carbon (QCLot: 1792766)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Sulfides (QCLot: 1793604)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	94.7	80.0	120	----
Total Metals (QCLot: 1793181)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	104	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	105	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	98.4	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	100	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	103	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	96.8	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	97.1	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	101	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	98.6	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	99.7	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.8	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	97.8	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	99.8	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	98.8	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	105	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	99.8	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	98.4	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	102	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	94.7	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	106	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	104	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	101	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	97.6	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1793181) - continued									
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	99.0	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	103	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	102	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	106	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	98.9	80.0	120	----
Total Metals (QCLot: 1799699)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	100	80.0	120	----
Total Metals (QCLot: 1799700)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	100.0	80.0	120	----
Dissolved Metals (QCLot: 1793198)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	106	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	107	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	98.7	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	98.2	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	98.7	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	94.4	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	101	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	96.0	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	100	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	101	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	100.0	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	97.4	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	96.3	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	104	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	98.7	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	102	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	114	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	101	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	96.4	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1793198) - continued									
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	103	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	92.5	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	107	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	100	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	98.8	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	97.4	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	98.2	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	94.8	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	99.2	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	95.8	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	99.8	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	104	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	97.7	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	93.5	80.0	120	----
Speciated Metals (QCLot: 1792744)									
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: 1792762)										
VA24D2486-002	Anonymous	Nitrogen, total	7727-37-9	E366	0.386 mg/L	0.4 mg/L	96.4	70.0	130	----
Anions and Nutrients (QCLot: 1792763)										
VA24D2486-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0481 mg/L	0.05 mg/L	96.2	70.0	130	----
Anions and Nutrients (QCLot: 1792765)										
FJ2403648-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0844 mg/L	0.1 mg/L	84.4	75.0	125	----
Anions and Nutrients (QCLot: 1792801)										
FJ2403648-002	Anonymous	Fluoride	16984-48-8	E235.F	1.01 mg/L	1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1792802)										
FJ2403648-002	Anonymous	Chloride	16887-00-6	E235.Cl	101 mg/L	100 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1792803)										
FJ2403648-002	Anonymous	Bromide	24959-67-9	E235.Br-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1792804)										
FJ2403648-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.54 mg/L	2.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1792805)										
FJ2403648-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.509 mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1792806)										
FJ2403648-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	99.6 mg/L	100 mg/L	99.6	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1792766)										
FJ2403648-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.42 mg/L	5 mg/L	108	70.0	130	----
Total Sulfides (QCLot: 1793604)										
VA24D2525-001	SQU US 1	Sulfide, total (as S)	18496-25-8	E395	0.229 mg/L	0.2 mg/L	114	75.0	125	----
Total Metals (QCLot: 1793181)										
VA24D2486-002	Anonymous	Aluminum, total	7429-90-5	E420	0.200 mg/L	0.2 mg/L	100	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0192 mg/L	0.02 mg/L	96.3	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0201 mg/L	0.02 mg/L	101	70.0	130	----
		Barium, total	7440-39-3	E420	0.0190 mg/L	0.02 mg/L	94.8	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0373 mg/L	0.04 mg/L	93.2	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00996 mg/L	0.01 mg/L	99.6	70.0	130	----
		Boron, total	7440-42-8	E420	0.089 mg/L	0.1 mg/L	89.0	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00395 mg/L	0.004 mg/L	98.9	70.0	130	----
		Calcium, total	7440-70-2	E420	3.68 mg/L	4 mg/L	92.0	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00985 mg/L	0.01 mg/L	98.5	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0394 mg/L	0.04 mg/L	98.5	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 1793181) - continued										
VA24D2486-002	Anonymous	Cobalt, total	7440-48-4	E420	0.0199 mg/L	0.02 mg/L	99.6	70.0	130	----
		Copper, total	7440-50-8	E420	0.0196 mg/L	0.02 mg/L	97.9	70.0	130	----
		Iron, total	7439-89-6	E420	1.89 mg/L	2 mg/L	94.6	70.0	130	----
		Lead, total	7439-92-1	E420	0.0194 mg/L	0.02 mg/L	97.1	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0894 mg/L	0.1 mg/L	89.4	70.0	130	----
		Magnesium, total	7439-95-4	E420	0.969 mg/L	1 mg/L	96.9	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0194 mg/L	0.02 mg/L	97.0	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0190 mg/L	0.02 mg/L	95.2	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0393 mg/L	0.04 mg/L	98.3	70.0	130	----
		Phosphorus, total	7723-14-0	E420	9.20 mg/L	10 mg/L	92.0	70.0	130	----
		Potassium, total	7440-09-7	E420	3.75 mg/L	4 mg/L	93.8	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0190 mg/L	0.02 mg/L	94.8	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0378 mg/L	0.04 mg/L	94.5	70.0	130	----
		Silicon, total	7440-21-3	E420	9.52 mg/L	10 mg/L	95.2	70.0	130	----
		Silver, total	7440-22-4	E420	0.00394 mg/L	0.004 mg/L	98.4	70.0	130	----
		Sodium, total	7440-23-5	E420	2.04 mg/L	2 mg/L	102	70.0	130	----
		Strontium, total	7440-24-6	E420	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	----
		Sulfur, total	7704-34-9	E420	19.4 mg/L	20 mg/L	97.0	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0397 mg/L	0.04 mg/L	99.2	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00391 mg/L	0.004 mg/L	97.8	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0171 mg/L	0.02 mg/L	85.7	70.0	130	----
		Tin, total	7440-31-5	E420	0.0191 mg/L	0.02 mg/L	95.4	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0374 mg/L	0.04 mg/L	93.5	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0197 mg/L	0.02 mg/L	98.7	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00403 mg/L	0.004 mg/L	101	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0973 mg/L	0.1 mg/L	97.3	70.0	130	----
		Zinc, total	7440-66-6	E420	0.401 mg/L	0.4 mg/L	100	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	----
Total Metals (QCLot: 1799699)										
VA24D2486-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000984 mg/L	0 mg/L	98.4	70.0	130	----
Total Metals (QCLot: 1799700)										
VA24D2527-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000994 mg/L	0 mg/L	99.4	70.0	130	----
Dissolved Metals (QCLot: 1793198)										
FJ2403631-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.197 mg/L	0.2 mg/L	98.4	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0205 mg/L	0.02 mg/L	102	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0390 mg/L	0.04 mg/L	97.5	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00919 mg/L	0.01 mg/L	91.9	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.086 mg/L	0.1 mg/L	85.7	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00385 mg/L	0.004 mg/L	96.2	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00963 mg/L	0.01 mg/L	96.3	70.0	130	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals (QCLot: 1793198) - continued										
FJ2403631-002	Anonymous	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	0.0190 mg/L	0.02 mg/L	94.9	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0185 mg/L	0.02 mg/L	92.5	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.89 mg/L	2 mg/L	94.6	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0184 mg/L	0.02 mg/L	92.2	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0932 mg/L	0.1 mg/L	93.2	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0189 mg/L	0.02 mg/L	94.3	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0187 mg/L	0.02 mg/L	93.4	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0373 mg/L	0.04 mg/L	93.2	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	10.3 mg/L	10 mg/L	103	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0178 mg/L	0.02 mg/L	88.9	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0378 mg/L	0.04 mg/L	94.4	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.62 mg/L	10 mg/L	96.2	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00318 mg/L	0.004 mg/L	79.4	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0379 mg/L	0.04 mg/L	94.8	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00372 mg/L	0.004 mg/L	92.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0167 mg/L	0.02 mg/L	83.3	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0190 mg/L	0.02 mg/L	94.8	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0195 mg/L	0.02 mg/L	97.4	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00380 mg/L	0.004 mg/L	95.0	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0981 mg/L	0.1 mg/L	98.1	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.396 mg/L	0.4 mg/L	99.0	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0376 mg/L	0.04 mg/L	94.0	70.0	130	----
Dissolved Metals (QCLot: 1800813)										
VA24D2519-008	Anonymous	Mercury, dissolved	7439-97-6	E509	ND mg/L	----	ND	70.0	130	----
Speciated Metals (QCLot: 1792744)										
KS2405039-001	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.256 mg/L	0.25 mg/L	102	70.0	130	----

ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here (lab use only)

COC Number: 17 -

Page 1 of 2

Report To	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:	

Report Format / Distribution

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report ☑ ☐ NO
☑ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days): 4 day [P4-20%] ☐ | 3 day [P3-25%] ☐ | 2 day [P2-50%] ☐

EMERGENCY: 1 Business day [E1 - 100%] ☐ | Same Day, Weekend or Statutory holiday [E2 - 200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information

ALS Account # / Quote #:	VA23-TRIT100-012
Job #:	11964
PO / AFE:	11964 - Task 20 - Phase 3C-4C
LSD:	

ALS Lab Work Order # (lab use only):

Analysis Request

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

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 trivalent 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
						F					P	P			F/P							
	SQU US 1	Dec 2/24	1:30	Water	R	R	R	R	R	R	R	R	R	R	R						N	9
	pH: 7.34 cond: 65 temp: 4.2																					
	SQU DS 1	Dec 2/24	12:48	Water	R	R	R	R	R	R	R	R	R	R	R						N	9
	pH: 7.14 cond: 66 temp: 4.0																					

Environmental Division
Vancouver
Work Order Reference
VA24D2525

Telephone : + 1 604 253 4188

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ ☑ NO

Are samples for human consumption/ use? ☐ ☑ NO

Special Instructions / Specify Criteria to (ele

Triton Project # 11964

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐
Ice Packs ☒ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				3			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Dec 2/24	Time: 4:27	Received by:	Date:	Time:	Received by:	Date: Dec 2	Time: 1630

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

SEPT 2017 FRONT

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.

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 -

Page 2 of 2

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Report To	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:	

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

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 [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine tests.

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

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

Project Information

ALS Account # / Quote #:	VA23-TRIT100-012
Job #:	11964
PO / AFE:	11964 - Task 30 - Phase 3C-4C
LSD:	

ALS Lab Work Order # (ALS use only):

Analysis Request

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

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	NUMBER OF CONTAINERS	Total metals + mercury	Dissolved metals + mercury	Total hexavalent chromium	Total trivalent 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	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
						F						P	P			F/P						
	BCR Duplicate	Dec 2/24	1:30	Water	9	R	R	R	R	R	R	R	R	R	R	R						
	pH: 7.34 cond: 65 temp: 4.2																					
	~~BCR Field Blank~~			Water	~~9~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~						
	~~BCR Trip Blank~~			Water	~~6~~	~~R~~		~~R~~	~~CR~~	~~R~~	~~CR~~	~~R~~	~~R~~	~~R~~		~~R~~						

Drinking Water (DW) Samples[1] (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 ESdat_CA+tritonenv@ESdatLabSync.net, reports also to stephanie.renkers@triton-env.com

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				
					3				

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
	Dec 2/24	4:27

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
	Dec 2	1630

REFER TO BA[illegible]S LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

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**.

BCR Site Receiving Environment Field Notes and Logs

FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-12-2-Renkers-DD5E8

Project Component:	Tunnel	**Site Name:**	Receiving Environment - Downstream of Discharge
Inspection Date:	12/02/2024	**Location:**	BC Rail Site
Triton QP:	Stephanie Renkers	**Latitude/Longitude:**	49.72534 -123.165196
Temperature(c):	Low 1 High 4	**Permit:**	AE 111824
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 12:46:45 **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:**	Yes
Nutrients	Yes	**VOC/VPH**	No		
DOC	Yes	**EPH, PAH, LEPH/HEPH**	No		
		Trout LC50	No		

Logger Maintenance

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

Describe Logger Maintenance

Photos

Photo: 1

Location: SQU DS

Description: Upstream view

Photo: 2

Location: SQU DS

Description: Across view

Photos

Photo: 3

Location: SQU DS

Description: Downstream view

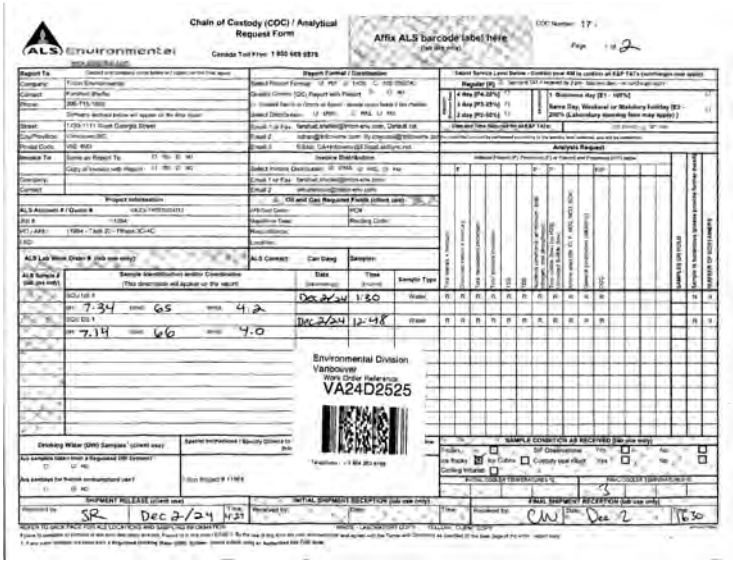


Photo: 4

Location: SQU DS

Description: Lab COC

Sign Off

Report Prepared By: Stephanie Renkers

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

2024-12-2-Renkers-35157

Project Component:	Tunnel	**Site Name:**	Receiving Environment - Upstream of Discharge
Inspection Date:	12/02/2024	**Location:**	BC Rail Site
Triton QP:	Stephanie Renkers	**Latitude/Longitude:**	49.726866 -123.163912
Temperature(c):	Low 1 High 4	**Permit:**	AE 111824
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 13:30:21 **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:**	Yes
Nutrients	Yes	**VOC/VPH**	No		
DOC	Yes	**EPH, PAH, LEPH/HEPH**	No		
		Trout LC50	No		

Logger Maintenance

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

Describe Logger Maintenance

Photos

Photo: 1

Location: SQU US

Description: Upstream view

Photo: 2

Location: SQU US

Description: Across view

Photos

Photo: 3

Location: SQU US

Description: Downstream view

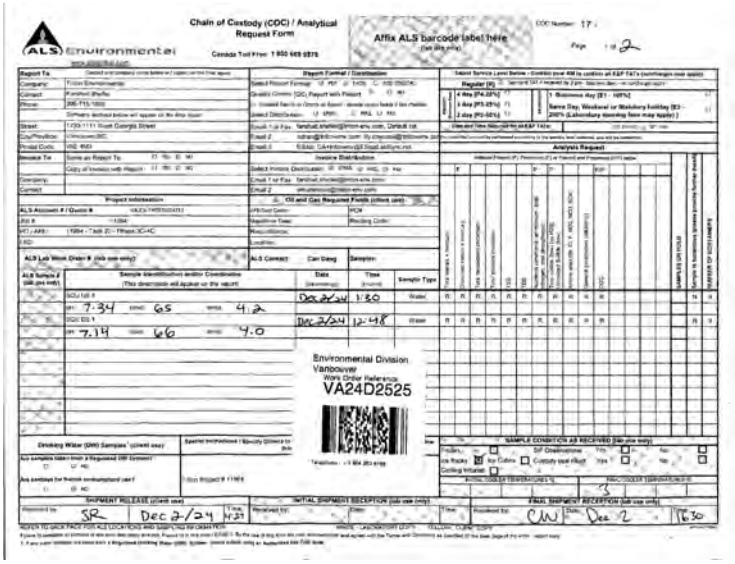


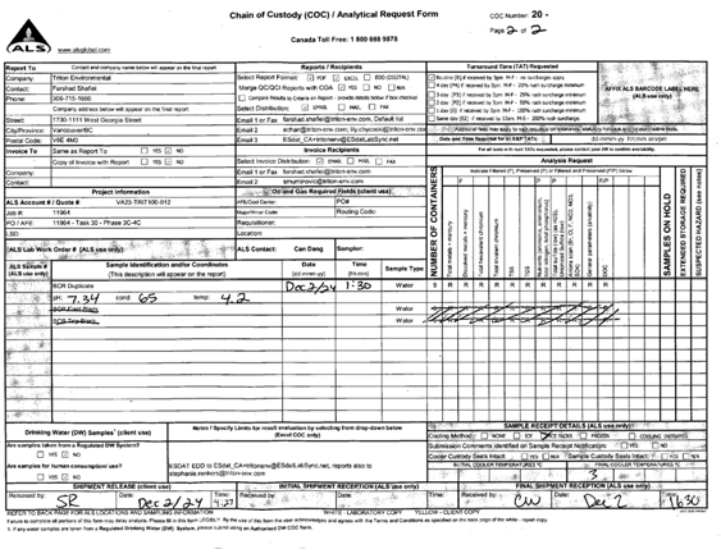
Photo: 4

Location: SQU US

Description: Lab COC

2024-12-2-Renkers-35157

Photos



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Photo: 5

Location: SQU US

Description: Lab COC

Sign Off

Report Prepared By: Stephanie Renkers

Report Reviewed: Yes

Report Reviewer:

Professional(s) of Record:

Name:

Designation:

Designation Number:

BCR Plant Site	SQU DS1							SQU 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)
12/02/2024 0:00	3.7	0.1	0.0	7.1	12.4	0.0	12/02/2024 0:00	3.2	4.7	0.0	6.9	13.4	0.0
12/02/2024 0:15	3.8	0.1	0.0	7.1	12.3	0.0	12/02/2024 0:15	3.1	4.8	0.0	6.9	13.5	0.0
12/02/2024 0:30	3.7	0.1	0.0	7.1	12.4	0.0	12/02/2024 0:30	3.0	4.8	0.0	6.9	13.5	0.0
12/02/2024 0:45	3.7	0.1	0.0	7.1	12.4	0.0	12/02/2024 0:45	2.9	4.3	0.0	7.0	13.5	0.0
12/02/2024 1:00	3.5	0.1	0.0	7.1	12.4	0.0	12/02/2024 1:00	2.9	4.4	0.0	6.9	13.5	0.0
12/02/2024 1:15	3.5	0.1	0.0	7.0	12.4	0.0	12/02/2024 1:15	2.8	4.5	0.0	6.9	13.6	0.0
12/02/2024 1:30	3.3	0.1	0.0	7.0	12.5	0.0	12/02/2024 1:30	2.7	4.6	0.0	6.9	13.6	0.0
12/02/2024 1:45	3.3	0.1	0.0	7.0	12.5	0.0	12/02/2024 1:45	2.6	4.7	0.0	6.9	13.6	0.0
12/02/2024 2:00	3.4	0.1	0.0	7.0	12.5	0.0	12/02/2024 2:00	2.6	4.7	0.0	7.0	13.6	0.0
12/02/2024 2:15	3.4	0.1	0.0	7.0	12.4	0.0	12/02/2024 2:15	2.5	4.8	0.0	6.9	13.6	0.0
12/02/2024 2:30	3.1	0.1	0.0	6.9	12.5	0.0	12/02/2024 2:30	2.4	4.9	0.0	6.9	13.7	0.0
12/02/2024 2:45	3.1	0.1	0.0	6.9	12.5	0.0	12/02/2024 2:45	2.4	4.3	0.0	7.0	13.7	0.0
12/02/2024 3:00	3.2	0.1	0.0	6.9	12.5	0.0	12/02/2024 3:00	2.3	4.4	0.0	7.0	13.7	0.0
12/02/2024 3:15	3.2	0.1	0.0	6.9	12.5	0.0	12/02/2024 3:15	2.3	4.5	0.0	6.9	13.7	0.0
12/02/2024 3:30	3.3	0.1	0.0	6.9	12.5	0.0	12/02/2024 3:30	2.3	4.6	0.0	6.9	13.7	0.0
12/02/2024 3:45	3.2	0.1	0.0	6.9	12.5	0.0	12/02/2024 3:45	2.3	4.8	0.0	6.9	13.8	0.0
12/02/2024 4:00	3.2	0.1	0.0	6.9	12.5	0.0	12/02/2024 4:00	2.3	4.6	0.0	7.0	13.7	0.0
12/02/2024 4:15	3.1	0.1	0.0	6.9	12.5	0.0	12/02/2024 4:15	2.3	4.7	0.0	7.0	13.7	0.0
12/02/2024 4:30	3.2	0.1	0.0	6.9	12.6	0.0	12/02/2024 4:30	2.3	4.9	0.0	7.0	13.8	0.0
12/02/2024 4:45	3.1	0.1	0.0	6.8	12.6	0.0	12/02/2024 4:45	2.3	4.4	0.0	7.0	13.8	0.0
12/02/2024 5:00	3.0	0.1	0.0	6.8	12.5	0.0	12/02/2024 5:00	2.2	4.4	0.0	6.9	13.8	0.0
12/02/2024 5:15	3.0	0.1	0.0	6.8	12.6	0.0	12/02/2024 5:15	2.2	4.4	0.0	6.9	13.8	0.0
12/02/2024 5:30	3.8	55.5	0.0	7.2	11.5	0.0	12/02/2024 5:30	3.9	78.5	0.0	6.8	12.9	0.0
12/02/2024 5:45	3.8	51.2	0.0	7.3	11.5	0.0	12/02/2024 5:45	4.7	75.7	0.0	6.8	12.1	0.0
12/02/2024 6:00	3.8	50.6	0.0	7.3	11.6	0.0	12/02/2024 6:00	4.7	74.4	0.0	6.8	12.1	0.0
12/02/2024 6:15	3.7	50.2	0.0	7.3	11.6	0.0	12/02/2024 6:15	4.8	73.9	0.0	6.8	12.1	0.0
12/02/2024 6:30	3.7	50.0	0.0	7.3	11.6	1.4	12/02/2024 6:30	4.8	73.6	0.0	6.8	12.1	0.0
12/02/2024 6:45	3.7	49.8	0.0	7.3	11.6	0.0	12/02/2024 6:45	4.8	73.9	0.0	6.8	12.1	0.0
12/02/2024 7:00	3.7	49.8	0.0	7.4	11.6	0.0	12/02/2024 7:00	4.8	75.5	0.0	6.8	12.1	0.0
12/02/2024 7:15	3.7	50.2	0.0	7.4	11.6	0.0	12/02/2024 7:15	4.8	79.5	0.0	6.8	12.0	0.0
12/02/2024 7:30	3.7	52.2	0.0	7.4	11.5	0.0	12/02/2024 7:30	4.8	78.2	0.0	6.8	12.0	0.0
12/02/2024 7:45	3.7	52.2	0.0	7.4	11.5	0.0	12/02/2024 7:45	4.8	75.5	0.0	6.8	12.1	0.0
12/02/2024 8:00	3.7	51.1	0.0	7.4	11.6	0.0	12/02/2024 8:00	4.7	74.5	0.0	6.8	12.1	0.0
12/02/2024 8:15	3.6	50.5	0.0	7.4	11.6	0.0	12/02/2024 8:15	4.7	73.6	0.0	6.8	12.2	0.0
12/02/2024 8:30	3.6	49.8	0.0	7.4	11.6	0.0	12/02/2024 8:30	4.6	73.5	0.0	6.8	12.2	0.0
12/02/2024 8:45	3.6	49.5	0.0	7.4	11.7	0.0	12/02/2024 8:45	4.6	73.7	0.0	6.9	12.3	0.0
12/02/2024 9:00	3.5	49.9	0.0	7.4	11.7	0.0	12/02/2024 9:00	4.6	75.7	0.0	6.9	12.3	0.0
12/02/2024 9:15	3.5	50.3	0.0	7.4	11.8	0.0	12/02/2024 9:15	4.6	77.0	0.0	6.9	12.3	0.0
12/02/2024 9:30	3.5	51.0	0.0	7.4	11.8	0.0	12/02/2024 9:30	4.5	77.8	0.0	6.9	12.3	0.0
12/02/2024 9:45	3.5	51.2	0.0	7.4	11.8	0.0	12/02/2024 9:45	4.5	77.2	0.0	6.9	12.3	0.0
12/02/2024 10:00	3.4	51.0	0.0	7.4	11.8	0.0	12/02/2024 10:00	4.5	78.2	0.0	6.9	12.3	0.0
12/02/2024 10:15	3.4	51.5	0.0	7.4	11.8	0.0	12/02/2024 10:15	4.5	79.7	0.0	6.9	12.3	0.0
12/02/2024 10:30	3.5	52.2	0.0	7.4	11.8	0.0	12/02/2024 10:30	4.5	79.7	0.0	6.9	12.3	0.0
12/02/2024 10:45	3.5	52.3	0.0	7.4	11.8	0.0	12/02/2024 10:45	4.6	80.6	0.0	6.9	12.3	0.0
12/02/2024 11:00	3.5	53.0	0.0	7.4	11.8	0.0	12/02/2024 11:00	4.6	82.7	0.0	6.9	12.2	0.0
12/02/2024 11:15	3.5	54.1	0.0	7.4	11.7	0.0	12/02/2024 11:15	4.7	86.7	0.0	6.8	12.2	0.0
12/02/2024 11:30	3.6	56.8	0.0	7.4	11.7	0.0	12/02/2024 11:30	4.8	89.4	0.0	6.8	12.1	0.0
12/02/2024 11:45	3.7	57.5	0.0	7.4	11.6	0.0	12/02/2024 11:45	4.9	87.9	0.0	6.8	12.0	0.0
12/02/2024 12:00	3.7	56.7	0.0	7.4	11.6	0.0	12/02/2024 12:00	4.9	85.2	0.0	6.8	12.1	0.0
12/02/2024 12:15	3.7	55.1	0.0	7.4	11.6	0.0	12/02/2024 12:15	4.9	82.2	0.0	6.8	12.1	0.0
12/02/2024 12:30	3.7	53.8	0.0	7.4	11.6	0.0	12/02/2024 12:30	4.9	80.6	0.0	6.8	12.1	0.0
12/02/2024 12:45	3.8	53.5	0.0	7.4	11.6	0.0	12/02/2024 12:45	4.9	80.8	0.0	6.8	12.1	0.0
12/02/2024 13:00	3.8	53.6	0.0	7.4	11.6	0.0	12/02/2024 13:00	5.0	82.0	0.0	6.8	12.1	0.0
12/02/2024 13:15	3.9	54.7	0.0	7.4	11.6	0.0	12/02/2024 13:15	5.1	82.4	0.0	6.8	12.0	0.0
12/02/2024 13:30	3.9	54.1	0.0	7.4	11.6	0.0	12/02/2024 13:30	5.1	80.6	0.0	6.8	12.0	0.0
12/02/2024 13:45	4.0	54.0	0.0	7.3	11.5	0.0	12/02/2024 13:45	5.1	80.0	0.0	6.8	12.1	0.0
12/02/2024 14:00	4.0	53.2	0.0	7.3	11.6	0.0	12/02/2024 14:00	5.2	79.3	0.0	6.8	12.1	0.0
12/02/2024 14:15	4.0	53.3	0.0	7.3	11.6	0.0	12/02/2024 14:15	5.2	80.3	0.0	6.7	12.1	0.0
12/02/2024 14:30	4.0	53.2	0.0	7.4	11.6	0.0	12/02/2024 14:30	5.2	77.8	0.0	6.8	12.2	0.0
12/02/2024 14:45	4.0	52.3	0.0	7.3	11.6	0.0	12/02/2024 14:45	5.1	77.0	0.0	6.8	12.1	0.0
12/02/2024 15:00	4.0	51.5	0.0	7.3	11.6	0.0	12/02/2024 15:00	5.1	75.6	0.0	6.8	12.2	0.0
12/02/2024 15:15	4.0	51.1	0.0	7.4	11.7	0.0	12/02/2024 15:15	5.1	75.1	0.0	6.8	12.2	0.0
12/02/2024 15:30	4.0	50.8	0.0	7.4	11.7	0.0	12/02/2024 15:30	5.1	74.9	0.0	6.8	12.2	0.0
12/02/2024 15:45	4.0	50.7	0.0	7.4	11.7	0.0	12/02/2024 15:45	5.1	74.8	0.0	6.8	12.2	0.0
12/02/2024 16:00	4.0	50.6	0.0	7.4	11.7	0.0	12/02/2024 16:00	5.0	74.9	0.0	6.8	12.2	0.0
12/02/2024 16:15	3.9	50.7	0.0	7.4	11.7	0.0	12/02/2024 16:15	5.0	74.9	0.0	6.8	12.2	0.0
12/02/2024 16:30	3.9	50.7	0.0	7.4	11.7	0.0	12/02/2024 16:30	5.0	76.2	0.0	6.8	12.2	0.0
12/02/2024 16:45	3.9	51.0	0.0	7.4	11.7	0.0	12/02/2024 16:45	5.0	76.4	0.0	6.8	12.2	0.0
12/02/2024 17:00	3.9	51.3	0.0	7.4	11.7	0.0	12/02/2024 17:00	4.9	76.3	0.0	6.8	12.2	0.0
12/02/2024 17:15	3.8	51.2	0.0	7.4	11.7	0.0	12/02/2024 17:15	4.9	77.1	0.0	6.8	12.2	0.0
12/02/2024 17:30	3.8	51.7	0.0	7.4	11.7	0.0	12/02/2024 17:30	4.9	80.6	0.0	6.8	12.1	0.0
12/02/2024 17:45	3.8	53.2	0.0	7.4	11.6	0.0	12/02/2024 17:45	4.9	82.4	0.0	6.8	12.0	0.0
12/02/2024 18:00	3.8	54.3	0.0	7.4	11.6	0.0	12/02/2024 18:00	4.9	81.6	0.0	6.8	12.1	0.0
12/02/2024 18:15	3.7	53.8	0.0	7.4	11.6	0.0	12/02/2024 18:15	4.8	80.2	0.0	6.8	12.1	0.0
12/02/2024 18:30	3.7	53.4	0.0	7.3	11.6	0.0	12/02/2024 18:30	4.8	82.0	0.0	6.8	12.1	0.0
12/02/2024 18:45	3.7	53.6	0.0	7.3	11.6	0.0	12/02/2024 18:45	4.8	80.3	0.0	6.8	12.1	0.0
12/02/2024 19:00	3.6	53.2	0.0	7.4	11.6	0.0	12/02/2024 19:00	4.8	82.2	0.0	6.8	12.1	0.0
12/02/2024 19:15	3.6	53.6	0.0	7.4	11.6	0.0	12/02/2024 19:15	4.8	80.9	0.0	6.8	12.1	0.0
12/02/2024 19:30	3.6	53.6	0.0	7.3	11.6	0.0	12/02/2024 19:30	4.8	83.3	0.0	6.7	12.0	0.0
12/02/2024 19:45	3.6	54.4	0.0	7.3	11.6	0.0	12/02/2024 19:45	4.8	83.0	0.0	6.7	12.0	0.0
12/02/2024 20:00	3.6	54.4	0.0	7.3	11.5	0.0	12/02/2024 20:00	4.8	82.3	0.0	6.7	12.0	0.0
12/02/2024 20:15	4.2	60.9	0.0	7.0	11.8	119.9	12/02/2024 20:15	4.7	80.9	0.0	6.7	12.0	0.0
12/02/2024 20:30	3.9	0.1	0.0	7.3	12.3	0.0	12/02/2024 20:30	4.7	78.8	0.0	6.7	12.0	0.0
12/02/2024 20:45	3.5	0.1	0.0	7.3	12.4	0.0	12/02/2024 20:45	4.4	4.1	0.0	6.7	13.0	0.0
12/02/2024 21:00	3.4	0.1	0.0	7.3	12.5	0.0	12/02/2024 21:00	4.1	4.1	0.0	6.8	13.1	0.0
12/02/2024 21:15	3.2	0.1	0.0	7.3	12.6	0.0	12/02/2024 21:15	3.9	4.4	0.0	6.9	13.2	0.0
12/02/2024 21:30	3.2	0.1	0.0	7.3	12.6	0.0	12/02/2024 21:30	3.7	4.5	0.0	6.9	13.3	0.0

12/02/2024 21:45	3.1	0.1	0.0	7.3	12.6	0.0	12/02/2024 21:45	3.6	4.5	0.0	7.0	13.3	0.0
12/02/2024 22:00	3.1	0.1	0.0	7.3	12.6	0.0	12/02/2024 22:00	3.5	4.6	0.0	6.7	13.4	0.0
12/02/2024 22:15	3.0	0.1	0.0	7.3	12.6	0.0	12/02/2024 22:15	3.4	4.7	0.0	6.9	13.4	0.0
12/02/2024 22:30	2.9	0.1	0.0	7.3	12.7	0.0	12/02/2024 22:30	3.4	4.8	0.0	6.8	13.4	0.0
12/02/2024 22:45	2.9	0.1	0.0	7.3	12.7	0.0	12/02/2024 22:45	3.4	4.4	0.0	7.0	13.4	0.0
12/02/2024 23:00	2.7	0.1	0.0	7.3	12.7	0.0	12/02/2024 23:00	3.3	4.5	0.0	7.0	13.4	0.0
12/02/2024 23:15	2.8	0.1	0.0	7.3	12.7	0.0	12/02/2024 23:15	3.4	4.6	0.0	6.9	13.4	0.0
12/02/2024 23:30	2.8	0.1	0.0	7.2	12.7	0.0	12/02/2024 23:30	3.4	4.7	0.0	7.0	13.4	0.0
12/02/2024 23:45	2.7	0.1	0.0	7.2	12.7	0.0	12/02/2024 23:45	3.4	4.6	0.0	7.0	13.4	0.0
12/03/2024 0:00	2.8	0.1	0.0	7.2	12.7	0.0	12/03/2024 0:00	3.4	4.5	0.0	6.7	13.4	0.0
12/03/2024 0:15	2.8	0.1	0.0	7.2	12.7	0.0	12/03/2024 0:15	3.3	4.7	0.0	6.8	13.4	0.0
12/03/2024 0:30	2.7	0.1	0.0	7.2	12.7	0.0	12/03/2024 0:30	3.3	4.8	0.0	6.9	13.4	0.0
12/03/2024 0:45	2.8	0.1	0.0	7.2	12.7	0.0	12/03/2024 0:45	3.3	4.4	0.0	7.0	13.4	0.0
12/03/2024 1:00	2.8	0.1	0.0	7.2	12.7	0.0	12/03/2024 1:00	3.3	4.6	0.0	7.0	13.4	0.0
12/03/2024 1:15	2.8	0.1	0.0	7.1	12.7	0.0	12/03/2024 1:15	3.3	4.7	0.0	7.0	13.4	0.0
12/03/2024 1:30	2.8	0.1	0.0	7.1	12.7	0.0	12/03/2024 1:30	3.3	4.8	0.0	7.0	13.4	0.0
12/03/2024 1:45	2.6	0.1	0.0	7.1	12.7	0.0	12/03/2024 1:45	3.3	4.8	0.0	7.0	13.5	0.0
12/03/2024 2:00	2.7	0.1	0.0	7.1	12.7	0.0	12/03/2024 2:00	3.3	4.6	0.0	6.9	13.4	0.0
12/03/2024 2:15	2.6	0.1	0.0	7.1	12.7	0.0	12/03/2024 2:15	3.3	4.8	0.0	6.9	13.4	0.0
12/03/2024 2:30	2.6	0.1	0.0	7.1	12.7	0.0	12/03/2024 2:30	3.2	4.9	0.0	7.0	13.5	0.0
12/03/2024 2:45	2.7	0.1	0.0	7.0	12.7	0.0	12/03/2024 2:45	3.3	4.4	0.0	7.0	13.4	0.0
12/03/2024 3:00	2.8	0.1	0.0	7.0	12.7	0.0	12/03/2024 3:00	3.3	4.5	0.0	7.0	13.4	0.0
12/03/2024 3:15	2.8	0.1	0.0	7.0	12.7	0.0	12/03/2024 3:15	3.3	4.6	0.0	6.9	13.4	0.0
12/03/2024 3:30	2.7	0.1	0.0	7.0	12.7	0.0	12/03/2024 3:30	3.3	4.8	0.0	6.8	13.4	0.0
12/03/2024 3:45	2.8	0.1	0.0	7.0	12.7	0.0	12/03/2024 3:45	3.4	4.6	0.0	7.0	13.4	0.0
12/03/2024 4:00	2.8	0.1	0.0	7.0	12.7	0.0	12/03/2024 4:00	3.3	4.6	0.0	7.0	13.4	0.0
12/03/2024 4:15	2.9	0.1	0.0	6.9	12.7	0.0	12/03/2024 4:15	3.4	4.8	0.0	6.9	13.4	0.0
12/03/2024 4:30	2.9	0.1	0.0	6.9	12.7	0.0	12/03/2024 4:30	3.3	4.9	0.0	7.0	13.4	0.0
12/03/2024 4:45	2.8	0.1	0.0	6.9	12.7	0.0	12/03/2024 4:45	3.3	4.4	0.0	7.1	13.4	0.0
12/03/2024 5:00	2.9	0.1	0.0	6.9	12.6	0.0	12/03/2024 5:00	3.3	4.6	0.0	7.0	13.4	0.0
12/03/2024 5:15	3.0	0.1	0.0	6.9	12.6	0.0	12/03/2024 5:15	3.4	4.7	0.0	7.0	13.4	0.0
12/03/2024 5:30	3.0	0.1	0.0	6.9	12.6	0.0	12/03/2024 5:30	3.4	4.8	0.0	7.1	13.4	0.0
12/03/2024 5:45	3.0	0.1	0.0	6.8	12.6	0.0	12/03/2024 5:45	3.7	4.2	0.0	6.9	13.3	71.2
12/03/2024 6:00	3.7	46.8	0.0	7.1	12.3	2.3	12/03/2024 6:00	4.4	63.4	0.0	6.8	12.3	0.0
12/03/2024 6:15	3.4	49.8	0.0	7.3	11.8	0.0	12/03/2024 6:15	4.4	62.2	0.0	6.8	12.4	0.0
12/03/2024 6:30	3.4	48.7	0.0	7.3	11.9	0.0	12/03/2024 6:30	4.4	61.2	0.0	6.9	12.4	0.0
12/03/2024 6:45	3.3	48.1	0.0	7.4	11.9	0.0	12/03/2024 6:45	4.4	70.3	0.0	6.9	12.4	0.0
12/03/2024 7:00	3.3	47.8	0.0	7.4	11.9	0.0	12/03/2024 7:00	4.4	70.2	0.0	6.9	12.4	0.0
12/03/2024 7:15	3.3	47.8	0.0	7.4	11.9	0.0	12/03/2024 7:15	4.4	72.1	0.0	6.9	12.4	0.0
12/03/2024 7:30	3.3	48.1	0.0	7.4	11.9	0.0	12/03/2024 7:30	4.5	74.2	0.0	6.8	12.3	0.0
12/03/2024 7:45	3.3	49.1	0.0	7.4	11.9	0.0	12/03/2024 7:45	4.5	74.5	0.0	6.9	12.3	0.0
12/03/2024 8:00	3.3	49.5	0.0	7.4	11.8	0.0	12/03/2024 8:00	4.4	71.6	0.0	6.9	12.4	0.0
12/03/2024 8:15	3.3	48.5	0.0	7.4	11.9	0.0	12/03/2024 8:15	4.4	71.0	0.0	6.9	12.4	0.0
12/03/2024 8:30	3.3	47.8	0.0	7.4	11.9	0.0	12/03/2024 8:30	4.4	71.2	0.0	6.9	12.4	0.0
12/03/2024 8:45	3.3	47.7	0.0	7.4	11.9	0.0	12/03/2024 8:45	4.4	72.3	0.0	6.9	12.4	0.0
12/03/2024 9:00	3.3	48.1	0.0	7.5	11.9	0.0	12/03/2024 9:00	4.4	73.4	0.0	6.9	12.4	0.0
12/03/2024 9:15	3.3	48.5	0.0	7.5	11.9	0.0	12/03/2024 9:15	4.4	74.1	0.0	6.9	12.4	0.0
12/03/2024 9:30	3.3	49.1	0.0	7.5	11.9	0.0	12/03/2024 9:30				6.9	12.5	0.0
12/03/2024 9:45	3.3	48.9	0.0	7.5	12.0	0.0	12/03/2024 9:45						
12/03/2024 10:00	3.3	50.4	0.0	7.5	12.0	0.0	12/03/2024 10:00						
12/03/2024 10:15	3.3	50.6	0.0	7.5	12.0	0.0	12/03/2024 10:15						
12/03/2024 10:30	3.3	50.0	0.0	7.5	12.0	0.0	12/03/2024 10:30	4.6	81.9	0.0	6.9	12.3	0.0
12/03/2024 10:45	3.3	49.6	0.0	7.5	12.0	0.0	12/03/2024 10:45	4.6	81.6	0.0	6.9	12.3	0.0
12/03/2024 11:00	3.3	49.7	0.0	7.5	12.0	0.0	12/03/2024 11:00						
12/03/2024 11:15	3.4	51.1	0.0	7.5	12.0	0.0	12/03/2024 11:15						
12/03/2024 11:30	3.4	53.1	0.0	7.5	12.0	0.0	12/03/2024 11:30						
12/03/2024 11:45	3.5	53.3	0.0	7.5	12.0	0.0	12/03/2024 11:45						
12/03/2024 12:00	3.5	53.4	0.0	7.5	12.0	0.0	12/03/2024 12:00						
12/03/2024 12:15	3.6	54.7	0.0	7.3	11.9	0.0	12/03/2024 12:15						
12/03/2024 12:30	3.6	54.9	0.0	7.5	11.9	0.0	12/03/2024 12:30						
12/03/2024 12:45	3.7	54.0	0.0	7.5	11.9	0.0	12/03/2024 12:45						
12/03/2024 13:00	3.7	53.2	0.0	7.5	11.9	0.0	12/03/2024 13:00						
12/03/2024 13:15	3.7	51.8	0.0	7.5	11.9	0.0	12/03/2024 13:15						
12/03/2024 13:30	3.7	51.5	0.0	7.4	11.9	0.0	12/03/2024 13:30						
12/03/2024 13:45	3.8	51.1	0.0	7.4	11.9	0.0	12/03/2024 13:45						
12/03/2024 14:00	3.8	51.2	0.0	7.4	11.9	0.0	12/03/2024 14:00						
12/03/2024 14:15	3.8	50.4	0.0	7.4	11.9	0.0	12/03/2024 14:15						
12/03/2024 14:30	3.8	50.7	0.0	7.4	11.9	0.0	12/03/2024 14:30						
12/03/2024 14:45	3.8	50.7	0.0	7.4	11.9	0.0	12/03/2024 14:45						
12/03/2024 15:00	3.9	50.6	0.0	7.4	11.9	0.0	12/03/2024 15:00						
12/03/2024 15:15	3.9	50.4	0.0	7.4	11.9	0.0	12/03/2024 15:15						
12/03/2024 15:30	3.9	50.1	0.0	7.5	11.9	0.0	12/03/2024 15:30						
12/03/2024 15:45	3.9	49.9	0.0	7.4	11.9	0.0	12/03/2024 15:45						
12/03/2024 16:00	3.8	49.9	0.0	7.4	11.9	0.0	12/03/2024 16:00						
12/03/2024 16:15	3.8	49.9	0.0	7.5	11.9	0.0	12/03/2024 16:15						
12/03/2024 16:30	3.8	50.2	0.0	7.4	11.9	0.0	12/03/2024 16:30						
12/03/2024 16:45	3.8	50.5	0.0	7.4	11.9	0.0	12/03/2024 16:45						
12/03/2024 17:00	3.8	51.5	0.0	7.4	11.8	0.0	12/03/2024 17:00						
12/03/2024 17:15	3.8	51.7	0.0	7.4	11.8	0.0	12/03/2024 17:15						
12/03/2024 17:30	3.7	50.6	0.0	7.5	11.9	0.0	12/03/2024 17:30						
12/03/2024 17:45	3.7	50.8	0.0	7.4	11.8	0.0	12/03/2024 17:45						
12/03/2024 18:00	3.7	50.9	0.0	7.4	11.8	0.0	12/03/2024 18:00						
12/03/2024 18:15	3.7	51.2	0.0	7.5	11.8	0.0	12/03/2024 18:15						
12/03/2024 18:30	3.7	51.1	0.0	7.4	11.8	0.0	12/03/2024 18:30						
12/03/2024 18:45	3.7	52.1	0.0	7.5	11.8	0.0	12/03/2024 18:45						
12/03/2024 19:00	3.7	52.1	0.0	7.4	11.8	0.0	12/03/2024 19:00						
12/03/2024 19:15	3.7	52.4	0.0	7.4	11.8	0.0	12/03/2024 19:15						
12/03/2024 19:30	3.7	52.1	0.0	7.4	11.8	0.0	12/03/2024 19:30						
12/03/2024 19:45	3.7	52.2	0.0	7.4	11.8	0.0	12/03/2024 19:45						
12/03/2024 20:00	3.7	52.2	0.0	7.4	11.7	0.0	12/03/2024 20:00						
12/03/2024 20:15	3.7	53.2	0.0	7.4	11.7	0.0	12/03/2024 20:15						

12/03/2024 20:30	3.7	54.2	0.0	7.4	11.6	0.0	12/03/2024 20:30						
12/03/2024 20:45	3.8	56.6	0.0	7.3	11.5	0.5	12/03/2024 20:45						
12/03/2024 21:00	4.1	5.0	0.0	7.0	12.2	0.0	12/03/2024 21:00						
12/03/2024 21:15	3.9	0.1	0.0	7.4	12.3	0.0	12/03/2024 21:15						
12/03/2024 21:30	3.8	0.1	0.0	7.4	12.4	0.0	12/03/2024 21:30						
12/03/2024 21:45	3.7	0.1	0.0	7.4	12.4	0.0	12/03/2024 21:45						
12/03/2024 22:00	3.7	0.1	0.0	7.4	12.4	0.0	12/03/2024 22:00						
12/03/2024 22:15	3.6	0.1	0.0	7.4	12.4	0.0	12/03/2024 22:15						
12/03/2024 22:30	3.6	0.1	0.0	7.4	12.4	0.0	12/03/2024 22:30						
12/03/2024 22:45	3.6	0.1	0.0	7.4	12.4	0.0	12/03/2024 22:45						
12/03/2024 23:00	3.5	0.1	0.0	7.4	12.5	0.0	12/03/2024 23:00						
12/03/2024 23:15	3.6	0.1	0.0	7.4	12.4	0.0	12/03/2024 23:15						
12/03/2024 23:30	3.6	0.1	0.0	7.4	12.4	0.0	12/03/2024 23:30						
12/03/2024 23:45	3.7	0.1	0.0	7.4	12.4	0.0	12/03/2024 23:45						
12/04/2024 0:00	3.6	0.1	0.0	7.4	12.4	0.0	12/04/2024 0:00						
12/04/2024 0:15	3.5	0.1	0.0	7.3	12.5	0.0	12/04/2024 0:15						
12/04/2024 0:30	3.5	0.1	0.0	7.3	12.4	0.0	12/04/2024 0:30						
12/04/2024 0:45	3.6	0.1	0.0	7.3	12.4	0.0	12/04/2024 0:45						
12/04/2024 1:00	3.6	0.1	0.0	7.2	12.4	0.0	12/04/2024 1:00						
12/04/2024 1:15	3.6	0.1	0.0	7.2	12.4	0.0	12/04/2024 1:15						
12/04/2024 1:30	3.7	0.1	0.0	7.2	12.4	0.0	12/04/2024 1:30						
12/04/2024 1:45	3.7	0.1	0.0	7.2	12.4	0.0	12/04/2024 1:45						
12/04/2024 2:00	3.7	0.1	0.0	7.1	12.4	0.0	12/04/2024 2:00						
12/04/2024 2:15	3.7	0.1	0.0	7.1	12.4	0.0	12/04/2024 2:15						
12/04/2024 2:30	3.7	0.1	0.0	7.1	12.4	0.0	12/04/2024 2:30						
12/04/2024 2:45	3.7	0.1	0.0	7.1	12.4	0.0	12/04/2024 2:45						
12/04/2024 3:00	3.7	0.1	0.0	7.1	12.4	0.0	12/04/2024 3:00						
12/04/2024 3:15	3.7	0.1	0.0	7.1	12.4	0.0	12/04/2024 3:15						
12/04/2024 3:30	3.6	0.1	0.0	7.0	12.4	0.0	12/04/2024 3:30						
12/04/2024 3:45	3.7	0.1	0.0	7.0	12.4	0.0	12/04/2024 3:45						
12/04/2024 4:00	3.6	0.1	0.0	7.0	12.4	0.0	12/04/2024 4:00						
12/04/2024 4:15	3.6	0.1	0.0	7.0	12.4	0.0	12/04/2024 4:15						
12/04/2024 4:30	3.5	0.1	0.0	7.0	12.4	0.0	12/04/2024 4:30						
12/04/2024 4:45	3.6	0.1	0.0	7.0	12.4	0.0	12/04/2024 4:45						
12/04/2024 5:00	3.6	0.1	0.0	7.0	12.4	0.0	12/04/2024 5:00						
12/04/2024 5:15	3.6	0.1	0.0	7.0	12.4	0.0	12/04/2024 5:15						
12/04/2024 5:30	3.5	0.1	0.0	7.0	12.4	0.0	12/04/2024 5:30						
12/04/2024 5:45	3.5	0.1	0.0	6.9	12.4	0.0	12/04/2024 5:45						
12/04/2024 6:00	3.5	0.1	0.0	6.9	12.4	0.0	12/04/2024 6:00						
12/04/2024 6:15	3.5	0.1	0.0	6.9	12.4	0.0	12/04/2024 6:15						
12/04/2024 6:30	3.5	0.1	0.0	6.9	12.5	0.0	12/04/2024 6:30						
12/04/2024 6:45	3.7	55.8	0.0	7.1	12.1	0.0	12/04/2024 6:45						
12/04/2024 7:00	3.5	51.9	0.0	7.3	11.7	0.0	12/04/2024 7:00						
12/04/2024 7:15	3.5	51.3	0.0	7.3	11.8	0.0	12/04/2024 7:15						
12/04/2024 7:30	3.5	50.8	0.0	7.4	11.8	0.0	12/04/2024 7:30						
12/04/2024 7:45	3.5	50.5	0.0	7.4	11.8	0.0	12/04/2024 7:45						
12/04/2024 8:00	3.5	50.5	0.0	7.4	11.8	0.0	12/04/2024 8:00						
12/04/2024 8:15	3.5	50.9	0.0	7.4	11.8	0.0	12/04/2024 8:15						
12/04/2024 8:30	3.5	51.8	0.0	7.4	11.7	0.0	12/04/2024 8:30						
12/04/2024 8:45	3.5	52.9	0.0	7.4	11.7	0.0	12/04/2024 8:45						
12/04/2024 9:00	3.5	53.0	0.0	7.4	11.7	0.0	12/04/2024 9:00						
12/04/2024 9:15	3.5	52.2	0.0	7.4	11.7	0.0	12/04/2024 9:15						
12/04/2024 9:30	3.5	51.4	0.0	7.4	11.8	0.0	12/04/2024 9:30						
12/04/2024 9:45	3.5	51.8	0.0	7.4	11.8	0.0	12/04/2024 9:45						
12/04/2024 10:00	3.5	51.9	0.0	7.4	11.8	0.0	12/04/2024 10:00						
12/04/2024 10:15	3.5	51.9	0.0	7.5	11.8	0.0	12/04/2024 10:15						
12/04/2024 10:30	3.5	52.7	0.0	7.5	11.8	0.0	12/04/2024 10:30						
12/04/2024 10:45	3.5	53.9	0.0	7.5	11.8	0.0	12/04/2024 10:45						
12/04/2024 11:00	3.5	54.0	0.0	7.5	11.8	0.0	12/04/2024 11:00	4.6	80.6	0.0	6.9	12.4	0.0
12/04/2024 11:15	3.5	53.6	0.0	7.5	11.9	0.0	12/04/2024 11:15	4.6	84.4	0.0	6.9	12.4	0.0
12/04/2024 11:30	3.5	54.6	0.0	7.5	11.9	0.0	12/04/2024 11:30						
12/04/2024 11:45	3.6	56.5	0.0	7.5	11.9	0.0	12/04/2024 11:45						
12/04/2024 12:00	3.7	56.3	0.0	7.4	11.9	0.0	12/04/2024 12:00						
12/04/2024 12:15	3.7	55.5	0.0	7.5	11.9	0.0	12/04/2024 12:15						
12/04/2024 12:30	3.8	56.7	0.0	7.5	11.9	0.0	12/04/2024 12:30						
12/04/2024 12:45	3.9	58.1	0.0	7.4	11.8	0.0	12/04/2024 12:45						
12/04/2024 13:00	4.0	57.8	0.0	7.4	11.8	0.0	12/04/2024 13:00						
12/04/2024 13:15	4.1	57.7	0.0	7.5	11.7	0.0	12/04/2024 13:15						
12/04/2024 13:30	4.2	56.7	0.0	7.4	11.7	0.0	12/04/2024 13:30						
12/04/2024 13:45	4.2	55.9	0.0	7.4	11.7	0.0	12/04/2024 13:45						
12/04/2024 14:00	4.3	55.0	0.0	7.4	11.7	0.0	12/04/2024 14:00						
12/04/2024 14:15	4.3	54.3	0.0	7.4	11.7	0.0	12/04/2024 14:15						
12/04/2024 14:30	4.3	54.6	0.0	7.4	11.7	0.0	12/04/2024 14:30						
12/04/2024 14:45	4.3	54.0	0.0	7.4	11.6	0.0	12/04/2024 14:45						
12/04/2024 15:00	4.3	53.3	0.0	7.4	11.7	0.0	12/04/2024 15:00						
12/04/2024 15:15	4.3	53.1	0.0	7.4	11.7	0.0	12/04/2024 15:15						
12/04/2024 15:30	4.3	53.5	0.0	7.4	11.6	0.0	12/04/2024 15:30						
12/04/2024 15:45	4.3	52.6	0.0	7.3	11.6	0.0	12/04/2024 15:45						
12/04/2024 16:00	4.2	51.9	0.0	7.4	11.7	0.0	12/04/2024 16:00						
12/04/2024 16:15	4.2	51.3	0.0	7.4	11.7	0.0	12/04/2024 16:15						
12/04/2024 16:30	4.1	51.1	0.0	7.4	11.7	0.0	12/04/2024 16:30						
12/04/2024 16:45	4.1	51.1	0.0	7.3	11.7	0.0	12/04/2024 16:45						
12/04/2024 17:00	4.0	51.0	0.0	7.3	11.7	0.0	12/04/2024 17:00						
12/04/2024 17:15	4.0	50.8	0.0	7.4	11.7	0.0	12/04/2024 17:15						
12/04/2024 17:30	4.0	51.0	0.0	7.4	11.7	0.0	12/04/2024 17:30						
12/04/2024 17:45	3.9	51.0	0.0	7.4	11.7	0.0	12/04/2024 17:45						
12/04/2024 18:00	3.9	51.5	0.0	7.4	11.7	0.0	12/04/2024 18:00						
12/04/2024 18:15	3.9	50.7	0.0	7.4	11.7	0.0	12/04/2024 18:15						
12/04/2024 18:30	3.9	50.0	0.0	7.4	11.7	0.0	12/04/2024 18:30						
12/04/2024 18:45	3.8	49.7	0.0	7.4	11.8	0.0	12/04/2024 18:45						
12/04/2024 19:00	3.8	50.5	0.0	7.4	11.7	0.0	12/04/2024 19:00						

12/04/2024 19:15	3.8	49.7	0.0	7.4	11.8	0.0	12/04/2024 19:15						
12/04/2024 19:30	3.8	50.4	0.0	7.4	11.7	0.0	12/04/2024 19:30						
12/04/2024 19:45	3.8	50.0	0.0	7.4	11.8	0.0	12/04/2024 19:45						
12/04/2024 20:00	3.8	50.0	0.0	7.4	11.8	0.0	12/04/2024 20:00						
12/04/2024 20:15	3.9	51.2	0.0	7.4	11.7	0.0	12/04/2024 20:15						
12/04/2024 20:30	3.8	50.7	0.0	7.3	11.7	0.0	12/04/2024 20:30						
12/04/2024 20:45	3.8	50.3	0.0	7.4	11.8	0.0	12/04/2024 20:45						
12/04/2024 21:00	3.8	50.5	0.0	7.4	11.8	0.0	12/04/2024 21:00						
12/04/2024 21:15	3.8	50.5	0.0	7.4	11.8	0.1	12/04/2024 21:15						
12/04/2024 21:30	3.9	50.9	0.0	7.4	11.7	0.0	12/04/2024 21:30						
12/04/2024 21:45	3.9	50.8	0.0	7.4	11.7	1.6	12/04/2024 21:45	5.0	76.7	0.0	6.5	12.1	0.0
12/04/2024 22:00	3.8	50.5	0.0	7.4	11.7	0.0	12/04/2024 22:00	4.9	76.4	0.0	6.5	12.2	0.0
12/04/2024 22:15	3.9	51.4	0.0	7.3	11.6	0.0	12/04/2024 22:15	4.9	76.1	0.0	6.6	12.2	0.0
12/04/2024 22:30	3.8	49.8	0.0	7.3	11.7	0.0	12/04/2024 22:30	4.9	75.6	0.0	6.7	12.2	0.0
12/04/2024 22:45	3.9	50.2	0.0	7.3	11.7	0.0	12/04/2024 22:45	4.9	75.5	0.0	6.7	12.2	0.0
12/04/2024 23:00	3.8	49.4	0.0	7.4	11.7	0.1	12/04/2024 23:00	4.9	75.1	0.0	6.7	12.2	0.0
12/04/2024 23:15	3.9	50.8	0.0	7.3	11.6	0.0	12/04/2024 23:15	4.9	75.9	0.0	6.7	12.2	0.0
12/04/2024 23:30	3.8	49.3	0.0	7.3	11.7	0.0	12/04/2024 23:30	4.9	74.6	0.0	6.7	12.2	0.0
12/04/2024 23:45	3.8	48.9	0.0	7.4	11.8	0.6	12/04/2024 23:45	4.9	74.4	0.0	6.8	12.2	0.0
12/05/2024 0:00	3.8	49.2	0.0	7.4	11.7	2.9	12/05/2024 0:00	4.9	73.4	0.0	6.8	12.2	0.0
12/05/2024 0:15	3.8	48.7	0.0	7.4	11.8	0.3	12/05/2024 0:15	4.9	74.1	0.0	6.8	12.2	0.0
12/05/2024 0:30	3.8	48.8	0.0	7.4	11.7	0.0	12/05/2024 0:30	4.9	73.5	0.0	6.8	12.3	0.0
12/05/2024 0:45	3.9	49.5	0.0	7.4	11.7	0.3	12/05/2024 0:45	4.9	73.8	0.0	6.8	12.2	0.0
12/05/2024 1:00	3.8	48.8	0.0	7.4	11.8	1.3	12/05/2024 1:00	4.9	74.1	0.0	6.8	12.2	0.0
12/05/2024 1:15	3.8	49.4	0.0	7.4	11.8	0.4	12/05/2024 1:15	4.9	73.8	0.0	6.8	12.3	0.0
12/05/2024 1:30	3.8	48.8	0.0	7.4	11.8	1.6	12/05/2024 1:30	4.8	73.3	0.0	6.8	12.3	0.0
12/05/2024 1:45	3.8	49.0	0.0	7.4	11.8	0.4	12/05/2024 1:45	4.8	74.2	0.0	6.8	12.3	0.6
12/05/2024 2:00	3.8	49.0	0.0	7.4	11.8	0.0	12/05/2024 2:00	4.8	73.4	0.0	6.8	12.3	0.0
12/05/2024 2:15	3.7	48.7	0.0	7.4	11.9	0.7	12/05/2024 2:15	4.8	73.4	0.0	6.8	12.3	0.0
12/05/2024 2:30	3.7	49.1	0.0	7.4	11.8	0.4	12/05/2024 2:30	4.8	73.6	0.0	6.8	12.3	0.0
12/05/2024 2:45	3.7	48.8	0.0	7.4	11.9	2.6	12/05/2024 2:45	4.8	73.3	0.0	6.8	12.3	0.0
12/05/2024 3:00	3.7	48.7	0.0	7.4	11.8	0.0	12/05/2024 3:00	4.8	73.3	0.0	6.8	12.3	0.0
12/05/2024 3:15	3.7	48.7	0.0	7.4	11.8	0.0	12/05/2024 3:15	4.8	73.1	0.0	6.8	12.3	0.0
12/05/2024 3:30	3.7	48.7	0.0	7.4	11.9	0.4	12/05/2024 3:30	4.7	73.1	0.0	6.8	12.3	0.0
12/05/2024 3:45	3.7	48.6	0.0	7.4	11.9	0.9	12/05/2024 3:45	4.7	73.2	0.0	6.8	12.3	6.3
12/05/2024 4:00	3.7	48.5	0.0	7.4	11.9	0.0	12/05/2024 4:00	4.7	72.8	0.0	6.8	12.3	0.0
12/05/2024 4:15	3.7	48.3	0.0	7.5	11.9	0.0	12/05/2024 4:15	4.7	73.1	0.0	6.8	12.3	0.0
12/05/2024 4:30	3.7	48.4	0.0	7.5	11.9	0.0	12/05/2024 4:30	4.7	72.7	0.0	6.8	12.3	0.0
12/05/2024 4:45	3.7	48.8	0.0	7.4	11.9	0.0	12/05/2024 4:45	4.7	72.7	0.0	6.8	12.3	12.1
12/05/2024 5:00	3.7	48.4	0.0	7.4	11.9	0.0	12/05/2024 5:00	4.7	72.6	0.0	6.8	12.3	0.0
12/05/2024 5:15	3.6	48.2	0.0	7.4	11.9	0.0	12/05/2024 5:15	4.7	72.4	0.0	6.8	12.3	0.0
12/05/2024 5:30	3.6	48.1	0.0	7.4	11.9	0.1	12/05/2024 5:30	4.7	72.3	0.0	6.8	12.3	0.0
12/05/2024 5:45	3.6	48.0	0.0	7.5	11.9	0.0	12/05/2024 5:45	4.7	72.1	0.0	6.9	12.4	1.3
12/05/2024 6:00	3.6	48.2	0.0	7.4	11.9	0.1	12/05/2024 6:00	4.7	72.2	0.0	6.8	12.3	0.0
12/05/2024 6:15	3.6	48.0	0.0	7.4	11.9	0.0	12/05/2024 6:15	4.7	72.0	0.0	6.8	12.3	0.0
12/05/2024 6:30	3.6	48.1	0.0	7.5	11.9	0.0	12/05/2024 6:30	4.7	72.2	0.0	6.8	12.3	0.0
12/05/2024 6:45	3.6	48.1	0.0	7.4	11.9	0.0	12/05/2024 6:45	4.7	72.0	0.0	6.9	12.4	11.1
12/05/2024 7:00	3.6	48.3	0.0	7.4	11.9	0.1	12/05/2024 7:00	4.6	71.7	0.0	6.9	12.4	0.0
12/05/2024 7:15	3.6	48.0	0.0	7.5	11.9	0.0	12/05/2024 7:15	4.6	72.0	0.0	6.9	12.4	0.0
12/05/2024 7:30	3.6	47.6	0.0	7.4	11.9	0.0	12/05/2024 7:30	4.6	71.5	0.0	6.9	12.4	0.0
12/05/2024 7:45	3.5	47.4	0.0	7.5	12.0	0.0	12/05/2024 7:45	4.6	71.2	0.0	6.9	12.4	0.0
12/05/2024 8:00	3.5	47.2	0.0	7.4	12.0	0.0	12/05/2024 8:00	4.6	71.0	0.0	6.9	12.4	0.0
12/05/2024 8:15	3.5	47.2	0.0	7.5	12.0	0.0	12/05/2024 8:15	4.6	70.2	0.0	6.9	12.4	0.0
12/05/2024 8:30	3.5	46.7	0.0	7.5	12.0	0.0	12/05/2024 8:30	4.5	69.8	0.0	7.0	12.5	0.0
12/05/2024 8:45	3.5	46.5	0.0	7.6	12.0	0.0	12/05/2024 8:45	4.5	69.7	0.0	7.0	12.5	0.0
12/05/2024 9:00	3.5	46.4	0.0	7.6	12.0	0.0	12/05/2024 9:00	4.5	69.4	0.0	7.0	12.5	0.0
12/05/2024 9:15	3.5	46.4	0.0	7.5	12.0	0.0	12/05/2024 9:15						
12/05/2024 9:30	3.5	46.5	0.0	7.5	12.0	0.0	12/05/2024 9:30						
12/05/2024 9:45	3.5	46.3	0.0	7.5	12.0	0.0	12/05/2024 9:45	4.6					
12/05/2024 10:00	3.5	47.0	0.0	7.5	12.0	0.0	12/05/2024 10:00						
12/05/2024 10:15	3.5	47.0	0.0	7.6	12.0	0.0	12/05/2024 10:15						
12/05/2024 10:30	3.5	46.7	0.0	7.6	12.0	0.0	12/05/2024 10:30						
12/05/2024 10:45	3.5	46.7	0.0	7.6	12.1	0.0	12/05/2024 10:45						
12/05/2024 11:00	3.5	47.3	0.0	7.6	12.1	0.0	12/05/2024 11:00						
12/05/2024 11:15	3.5	47.4	0.0	7.6	12.1	0.0	12/05/2024 11:15						
12/05/2024 11:30	3.5	47.4	0.0	7.6	12.1	0.0	12/05/2024 11:30						
12/05/2024 11:45	3.6	48.3	0.0	7.5	12.1	0.0	12/05/2024 11:45						
12/05/2024 12:00	3.7	49.6	0.0	7.6	12.1	0.0	12/05/2024 12:00						
12/05/2024 12:15	3.7	50.0	0.0	7.6	12.1	0.0	12/05/2024 12:15						
12/05/2024 12:30	3.7	49.1	0.0	7.6	12.1	0.0	12/05/2024 12:35	4.9	75.4	0.0	7.0	12.6	7.1
12/05/2024 12:45	3.8	49.2	0.0	7.5	12.1	0.0	12/05/2024 12:45	4.9	76.7	0.0	6.9	12.6	0.0
12/05/2024 13:00	3.8	49.6	0.0	7.6	12.1	0.0	12/05/2024 13:00	5.0	76.4	0.0	6.9	12.6	0.0
12/05/2024 13:15	3.9	49.7	0.0	7.6	12.1	0.1	12/05/2024 13:15	5.1	77.2	0.0	6.9	12.6	0.0
12/05/2024 13:30	3.9	49.8	0.0	7.6	12.1	0.0	12/05/2024 13:30	5.1	75.9	0.0	6.9	12.6	0.0
12/05/2024 13:45	3.9	49.2	0.0	7.5	12.1	0.0	12/05/2024 13:45	5.1	74.9	0.0	7.0	12.5	0.0
12/05/2024 14:00	4.0	49.2	0.0	7.5	12.1	0.0	12/05/2024 14:00	5.1	75.1	0.0	6.9	12.5	0.0
12/05/2024 14:15	4.0	48.7	0.0	7.5	12.1	0.0	12/05/2024 14:15	5.1	73.6	0.0	6.9	12.5	0.0
12/05/2024 14:30	4.0	48.2	0.0	7.6	12.1	0.0	12/05/2024 14:30	5.1	72.8	0.0	6.9	12.5	0.0
12/05/2024 14:45	4.0	48.1	0.0	7.5	12.1	0.0	12/05/2024 14:45	5.1	73.4	0.0	7.0	12.5	0.0
12/05/2024 15:00	4.0	48.4	0.0	7.5	12.0	0.0	12/05/2024 15:00	5.1	73.8	0.0	6.9	12.5	0.0
12/05/2024 15:15	4.0	48.1	0.0	7.5	12.0	0.0	12/05/2024 15:15	5.1	72.7	0.0	6.9	12.5	0.0
12/05/2024 15:30	4.0	47.7	0.0	7.5	12.1	0.0	12/05/2024 15:30	5.1	71.8	0.0	6.9	12.5	0.0
12/05/2024 15:45	4.0	47.1	0.0	7.6	12.1	0.0	12/05/2024 15:45	5.1	71.0	0.0	7.0	12.5	0.0
12/05/2024 16:00	4.0	47.1	0.0	7.5	12.1	0.0	12/05/2024 16:00	5.1	70.8	0.0	6.9	12.5	0.0
12/05/2024 16:15	4.0	47.0	0.0	7.4	12.1	0.0	12/05/2024 16:15	5.1	71.1	0.0	6.9	12.5	0.0
12/05/2024 16:30	4.0	46.9	0.0	7.5	12.1	0.6	12/05/2024 16:30	5.1	70.5	0.0	6.9	12.5	0.0
12/05/2024 16:45	4.0	47.1	0.0	7.5	12.0	0.0	12/05/2024 16:45	5.1	70.9	0.0	6.9	12.5	0.0
12/05/2024 17:00	4.0	46.7	0.0	7.5	12.0	0.0	12/05/2024 17:00	5.1	70.3	0.0	6.9	12.5	0.0
12/05/2024 17:15	4.0	46.8	0.0	7.5	12.0	0.0	12/05/2024 17:15	5.1	70.1	0.0	6.9	12.5	0.0
12/05/2024 17:30	4.0	47.3	0.0	7.6	12.0	0.0	12/05/2024 17:30	5.1	71.1	0.0	6.9	12.5	0.0
12/05/2024 17:45	4.0	47.3	0.0	7.5	12.0	0.0	12/05/2024 17:45	5.1	71.9	0.0	6.9	12.4	0.0

12/05/2024 18:00	4.0	46.9	0.0	7.5	12.0	0.0
12/05/2024 18:15	4.0	47.0	0.0	7.5	12.0	0.1
12/05/2024 18:30	4.0	46.9	0.0	7.5	12.0	0.0
12/05/2024 18:45	4.0	47.0	0.0	7.5	12.0	0.0
12/05/2024 19:00	4.0	46.7	0.0	7.4	12.0	0.0
12/05/2024 19:15	4.0	48.3	0.0	7.5	11.9	0.0
12/05/2024 19:30	4.0	47.4	0.0	7.5	11.9	0.0
12/05/2024 19:45	4.0	47.1	0.0	7.5	11.9	0.0
12/05/2024 20:00	4.0	47.2	0.0	7.5	11.9	0.0
12/05/2024 20:15	4.1	47.2	0.0	7.5	11.9	0.0
12/05/2024 20:30	4.1	47.5	0.0	7.5	11.9	0.0
12/05/2024 20:45	4.1	47.5	0.0	7.4	11.9	0.0
12/05/2024 21:00	4.1	47.9	0.0	7.5	11.9	0.0
12/05/2024 21:15	4.1	47.7	0.0	7.5	11.9	0.0
12/05/2024 21:30	4.1	47.4	0.0	7.5	11.9	0.0
12/05/2024 21:45	4.1	47.6	0.0	7.5	11.8	0.0
12/05/2024 22:00	4.1	47.4	0.0	7.4	11.8	0.0
12/05/2024 22:15	4.2	47.5	0.0	7.4	11.8	0.0
12/05/2024 22:30	4.2	47.6	0.0	7.4	11.8	0.0
12/05/2024 22:45	4.2	47.4	0.0	7.5	11.8	0.0
12/05/2024 23:00	4.2	47.4	0.0	7.4	11.8	0.0
12/05/2024 23:15	4.2	47.1	0.0	7.3	11.8	0.0
12/05/2024 23:30	4.2	47.0	0.0	7.4	11.8	0.0
12/05/2024 23:45	4.2	47.0	0.0	7.4	11.8	0.0
12/06/2024 0:00	4.2	47.4	0.0	7.4	11.8	0.0
12/06/2024 0:15	4.2	47.1	0.0	7.4	11.8	0.0
12/06/2024 0:30	4.3	48.0	0.0	7.4	11.8	0.0
12/06/2024 0:45	4.2	47.3	0.0	7.4	11.8	0.0
12/06/2024 1:00	4.2	47.2	0.0	7.4	11.8	0.0
12/06/2024 1:15	4.2	47.1	0.0	7.4	11.8	0.0
12/06/2024 1:30	4.2	46.8	0.0	7.4	11.8	0.0
12/06/2024 1:45	4.2	47.0	0.0	7.4	11.8	0.0
12/06/2024 2:00	4.2	46.9	0.0	7.4	11.8	0.0
12/06/2024 2:15	4.2	46.5	0.0	7.3	11.8	0.0
12/06/2024 2:30	4.2	46.9	0.0	7.4	11.8	0.0
12/06/2024 2:45	4.2	46.7	0.0	7.4	11.8	0.0
12/06/2024 3:00	4.2	46.3	0.0	7.4	11.8	0.0
12/06/2024 3:15	4.3	47.0	0.0	7.3	11.8	0.0
12/06/2024 3:30	4.3	46.7	0.0	7.4	11.8	0.0
12/06/2024 3:45	4.3	46.5	0.0	7.4	11.8	0.0
12/06/2024 4:00	4.3	46.5	0.0	7.4	11.8	0.0
12/06/2024 4:15	4.3	46.3	0.0	7.4	11.8	0.0
12/06/2024 4:30	4.3	46.3	0.0	7.4	11.8	0.1
12/06/2024 4:45	4.3	46.3	0.0	7.4	11.8	14.5
12/06/2024 5:00	4.3	46.5	0.0	7.4	11.8	0.0
12/06/2024 5:15	4.3	46.2	0.0	7.4	11.8	0.0
12/06/2024 5:30	4.3	46.1	0.0	7.4	11.8	0.0
12/06/2024 5:45	4.3	46.3	0.0	7.4	11.8	0.0
12/06/2024 6:00	4.3	46.1	0.0	7.3	11.8	0.0
12/06/2024 6:15	4.3	46.3	0.0	7.4	11.7	0.0
12/06/2024 6:30	4.3	46.2	0.0	7.4	11.7	0.0
12/06/2024 6:45	4.4	46.8	0.0	7.4	11.7	0.0
12/06/2024 7:00	4.4	46.5	0.0	7.3	11.6	0.0
12/06/2024 7:15	4.4	47.3	0.0	7.3	11.5	0.1
12/06/2024 7:30	4.4	47.2	0.0	7.3	11.6	0.0
12/06/2024 7:45	4.3	46.6	0.0	7.3	11.7	0.0
12/06/2024 8:00	4.4	46.7	0.0	7.3	11.7	0.0
12/06/2024 8:15	4.4	46.7	0.0	7.4	11.7	0.6
12/06/2024 8:30	4.4	46.3	0.0	7.4	11.7	0.0
12/06/2024 8:45	4.3	45.9	0.0	7.4	11.8	0.0
12/06/2024 9:00	4.3	46.1	0.0	7.5	11.8	0.0
12/06/2024 9:15	4.4	47.2	0.0	7.5	11.7	0.0
12/06/2024 9:30	4.4	46.8	0.0	7.4	11.7	0.0
12/06/2024 9:45	4.4	46.5	0.0	7.5	11.7	0.0
12/06/2024 10:00	4.3	46.1	0.0	7.5	11.7	0.0
12/06/2024 10:15	4.4	46.8	0.0	7.5	11.7	0.0
12/06/2024 10:30	4.4	47.7	0.0	7.5	11.7	0.0
12/06/2024 10:45	4.4	47.7	0.0	7.5	11.7	0.0
12/06/2024 11:00	4.4	47.1	0.0	7.5	11.7	0.0
12/06/2024 11:15	4.4	46.9	0.0	7.5	11.7	0.0
12/06/2024 11:30	4.5	48.7	0.0	7.5	11.7	0.0
12/06/2024 11:45	4.5	49.8	0.0	7.5	11.7	0.0
12/06/2024 12:00	4.5	49.0	0.0	7.5	11.7	0.0
12/06/2024 12:15	4.5	47.8	0.0	7.4	11.7	0.0
12/06/2024 12:30	4.6	48.5	0.0	7.5	11.7	0.0
12/06/2024 12:45	4.6	47.8	0.0	7.5	11.8	0.0
12/06/2024 13:00	4.6	47.1	0.0	7.5	11.8	0.0
12/06/2024 13:15	4.6	47.0	0.0	7.5	11.8	0.0
12/06/2024 13:30	4.6	46.1	0.0	7.5	11.8	0.0
12/06/2024 13:45	4.7	47.3	0.0	7.4	11.8	0.0
12/06/2024 14:00	4.7	47.9	0.0	7.4	11.8	0.0
12/06/2024 14:15	4.7	48.2	0.0	7.4	11.7	0.0
12/06/2024 14:30	4.7	47.4	0.0	7.4	11.7	0.0
12/06/2024 14:45	4.6	45.4	0.0	7.5	11.7	0.0
12/06/2024 15:00	4.6	45.8	0.0	7.4	11.7	0.0
12/06/2024 15:15	4.6	45.8	0.0	7.5	11.7	0.0
12/06/2024 15:30	4.6	46.2	0.0	7.5	11.7	0.0
12/06/2024 15:45	4.6	45.7	0.0	7.5	11.7	0.0
12/06/2024 16:00	4.6	44.8	0.0	7.4	11.7	0.0
12/06/2024 16:15	4.6	44.8	0.0	7.4	11.7	0.0
12/06/2024 16:30	4.6	44.5	0.0	7.4	11.7	0.0

12/05/2024 18:00	5.1	71.0	0.0	6.9	12.4	0.0
12/05/2024 18:15	5.1	70.6	0.0	6.9	12.4	0.0
12/05/2024 18:30	5.1	70.9	0.0	6.9	12.4	0.0
12/05/2024 18:45	5.1	71.3	0.0	6.9	12.4	0.0
12/05/2024 19:00	5.1	70.3	0.0	6.9	12.4	0.0
12/05/2024 19:15	5.1	71.7	0.0	6.9	12.4	0.0
12/05/2024 19:30	5.1	71.6	0.0	6.9	12.4	0.0
12/05/2024 19:45	5.1	71.6	0.0	6.9	12.4	0.0
12/05/2024 20:00	5.1	71.8	0.0	6.9	12.3	0.0
12/05/2024 20:15	5.2	71.3	0.0	6.9	12.4	0.0
12/05/2024 20:30	5.2	71.5	0.0	6.9	12.3	0.0
12/05/2024 20:45	5.2	72.0	0.0	6.9	12.3	0.0
12/05/2024 21:00	5.2	73.3	0.0	6.9	12.3	0.0
12/05/2024 21:15	5.2	72.4	0.0	6.9	12.3	0.0
12/05/2024 21:30	5.2	72.3	0.0	6.9	12.3	0.0
12/05/2024 21:45	5.3	72.5	0.0	6.8	12.2	0.0
12/05/2024 22:00	5.3	72.2	0.0	6.8	12.2	0.0
12/05/2024 22:15	5.2	71.4	0.0	6.8	12.3	0.0
12/05/2024 22:30	5.3	71.6	0.0	6.8	12.3	0.0
12/05/2024 22:45	5.3	71.7	0.0	6.8	12.3	0.0
12/05/2024 23:00	5.3	71.1	0.0	6.8	12.3	0.0
12/05/2024 23:15	5.3	71.6	0.0	6.8	12.3	0.0
12/05/2024 23:30	5.3	71.2	0.0	6.8	12.3	0.0
12/05/2024 23:45	5.3	71.5	0.0	6.8	12.3	4.7
12/06/2024 0:00	5.3	71.3	0.0	6.8	12.3	0.0
12/06/2024 0:15	5.3	71.3	0.0	6.8	12.3	0.0
12/06/2024 0:30	5.3	71.2	0.0	6.8	12.3	0.0
12/06/2024 0:45	5.3	71.9	0.0	6.8	12.2	0.7
12/06/2024 1:00	5.3	70.7	0.0	6.8	12.3	0.0
12/06/2024 1:15	5.3	70.7	0.0	6.8	12.3	0.0
12/06/2024 1:30	5.3	71.4	0.0	6.8	12.2	0.0
12/06/2024 1:45	5.3	70.7	0.0	6.9	12.2	0.0
12/06/2024 2:00	5.3	70.9	0.0	6.8	12.2	0.0
12/06/2024 2:15	5.3	70.8	0.0	6.8	12.2	0.0
12/06/2024 2:30	5.3	70.6	0.0	6.8	12.2	0.0
12/06/2024 2:45	5.3	70.4	0.0	6.9	12.2	0.0
12/06/2024 3:00	5.3	70.0	0.0	6.8	12.3	0.0
12/06/2024 3:15	5.4	70.5	0.0	6.8	12.2	0.0
12/06/2024 3:30	5.4	70.1	0.0	6.8	12.3	0.0
12/06/2024 3:45	5.4	70.4	0.0	6.9	12.2	0.0
12/06/2024 4:00	5.4	70.2	0.0	6.8	12.2	0.0
12/06/2024 4:15	5.4	69.8	0.0	6.9	12.2	0.0
12/06/2024 4:30	5.4	69.4	0.0	6.8	12.2	0.0
12/06/2024 4:45	5.4	70.0	0.0	6.9	12.2	10.9
12/06/2024 5:00	5.4	69.6	0.0	6.8	12.2	0.0
12/06/2024 5:15	5.4	69.6	0.0	6.8	12.2	0.0
12/06/2024 5:30	5.4	69.4	0.0	6.8	12.2	0.0
12/06/2024 5:45	5.4	69.9	0.0	6.8	12.2	11.9
12/06/2024 6:00	5.4	69.5	0.0	6.8	12.2	0.0
12/06/2024 6:15	5.5	70.6	0.0	6.7	12.1	0.0
12/06/2024 6:30	5.5	69.9	0.0	6.7	12.1	0.0
12/06/2024 6:45	5.5	70.4	0.0	6.7	12.0	0.0
12/06/2024 7:00	5.5	70.4	0.0	6.6	12.0	0.0
12/06/2024 7:15	5.5	70.5	0.0	6.6	12.0	0.0
12/06/2024 7:30	5.5	70.7	0.0	6.6	12.0	0.0
12/06/2024 7:45	5.5	70.3	0.0	6.6	12.0	0.0
12/06/2024 8:00	5.4	69.4	0.0	6.7	12.2	0.0
12/06/2024 8:15	5.4	69.2	0.0	6.8	12.2	0.0
12/06/2024 8:30	5.4	68.9	0.0	6.9	12.2	0.0
12/06/2024 8:45	5.4	68.4	0.0	6.9	12.2	0.0
12/06/2024 9:00	5.4	71.2	0.0	6.9	12.2	0.0
12/06/2024 9:15	5.4	70.3	0.0	6.9	12.2	0.0
12/06/2024 9:30	5.4	69.1	0.0	6.9	12.2	0.0
12/06/2024 9:45	5.4	69.0	0.0	6.9	12.2	0.0
12/06/2024 10:00	5.4	69.8	0.0	6.9	12.2	0.0
12/06/2024 10:15	5.5	72.8	0.0	6.9	12.1	0.0
12/06/2024 10:30	5.5	73.1	0.0	6.9	12.2	0.0
12/06/2024 10:45	5.4	69.1	0.0		12.2	
12/06/2024 11:00	5.4	68.8	0.0	6.9	12.2	0.0
12/06/2024 11:15	5.6	75.1	0.0	6.9	12.2	0.0
12/06/2024 11:30	5.7	77.2	0.0	6.8	12.2	0.0
12/06/2024 11:45	5.7	74.8	0.0	6.7	12.2	0.0
12/06/2024 12:00	5.6	73.0	0.0	6.9	12.2	0.0
12/06/2024 12:15	5.7	74.6	0.0	6.9	12.2	0.0
12/06/2024 12:30	5.7	73.8	0.0	6.9	12.3	0.0
12/06/2024 12:45	5.7	71.9	0.0	6.9	12.3	0.0
12/06/2024 13:00						
12/06/2024 13:15						
12/06/2024 13:30						
12/06/2024 13:45						
12/06/2024 14:00						
12/06/2024 14:15						
12/06/2024 14:30						
12/06/2024 14:45						
12/06/2024 15:00						
12/06/2024 15:15						
12/06/2024 15:30						
12/06/2024 15:45						
12/06/2024 16:00						
12/06/2024 16:15						
12/06/2024 16:30						

12/06/2024 16:45	4.6	44.3	0.0	7.4	11.7	0.0	12/06/2024 16:45						
12/06/2024 17:00	4.6	44.4	0.0	7.5	11.7	0.0	12/06/2024 17:00						
12/06/2024 17:15	4.6	44.8	0.0	7.4	11.7	0.0	12/06/2024 17:15						
12/06/2024 17:30	4.6	44.8	0.0	7.4	11.7	0.0	12/06/2024 17:30						
12/06/2024 17:45	4.6	44.8	0.0	7.5	11.7	0.0	12/06/2024 17:45						
12/06/2024 18:00	4.6	45.0	0.0	7.4	11.7	0.0	12/06/2024 18:00						
12/06/2024 18:15	4.6	45.2	0.0	7.4	11.7	0.0	12/06/2024 18:15						
12/06/2024 18:30	4.6	45.2	0.0	7.4	11.7	0.0	12/06/2024 18:30						
12/06/2024 18:45	4.6	45.8	0.0	7.4	11.7	0.0	12/06/2024 18:45						
12/06/2024 19:00	4.6	45.5	0.0	7.5	11.7	0.0	12/06/2024 19:00						
12/06/2024 19:15	4.6	45.6	0.0	7.4	11.7	0.1	12/06/2024 19:15						
12/06/2024 19:30	4.6	45.7	0.0	7.5	11.7	0.0	12/06/2024 19:30						
12/06/2024 19:45	4.6	45.6	0.0	7.5	11.7	0.0	12/06/2024 19:45						
12/06/2024 20:00	4.6	45.7	0.0	7.5	11.7	0.0	12/06/2024 20:00						
12/06/2024 20:15	4.6	45.6	0.0	7.4	11.7	0.0	12/06/2024 20:15						
12/06/2024 20:30	4.6	45.7	0.0	7.5	11.7	0.0	12/06/2024 20:30						
12/06/2024 20:45	4.6	45.6	0.0	7.4	11.6	0.0	12/06/2024 20:45						
12/06/2024 21:00	4.6	45.7	0.0	7.5	11.6	0.0	12/06/2024 21:00						
12/06/2024 21:15	4.7	45.5	0.0	7.4	11.6	0.1	12/06/2024 21:15						
12/06/2024 21:30	4.7	45.6	0.0	7.5	11.6	0.3	12/06/2024 21:30						
12/06/2024 21:45	4.7	45.6	0.0	7.5	11.6	0.2	12/06/2024 21:45						
12/06/2024 22:00	4.7	46.0	0.0	7.4	11.6	0.5	12/06/2024 22:00						
12/06/2024 22:15	4.7	45.3	0.0	7.5	11.6	1.3	12/06/2024 22:15						
12/06/2024 22:30	4.7	45.4	0.0	7.5	11.6	0.6	12/06/2024 22:30						
12/06/2024 22:45	4.7	45.5	0.0	7.5	11.6	0.9	12/06/2024 22:45						
12/06/2024 23:00	4.7	45.5	0.0	7.4	11.6	0.0	12/06/2024 23:00						
12/06/2024 23:15	4.7	45.3	0.0	7.5	11.6	0.0	12/06/2024 23:15						
12/06/2024 23:30	4.7	45.5	0.0	7.4	11.6	0.3	12/06/2024 23:30						
12/06/2024 23:45	4.8	45.2	0.0	7.4	11.6	1.5	12/06/2024 23:45						
12/07/2024 0:00	4.8	44.9	0.0	7.4	11.6	0.4	12/07/2024 0:00						
12/07/2024 0:15	4.8	45.0	0.0	7.5	11.6	0.6	12/07/2024 0:15						
12/07/2024 0:30	4.8	44.7	0.0	7.3	11.6	1.3	12/07/2024 0:30						
12/07/2024 0:45	4.8	44.4	0.0	7.4	11.6	0.8	12/07/2024 0:45						
12/07/2024 1:00	4.8	44.9	0.0	7.4	11.6	3.8	12/07/2024 1:00						
12/07/2024 1:15	4.8	44.4	0.0	7.5	11.6	1.2	12/07/2024 1:15						
12/07/2024 1:30	4.8	44.2	0.0	7.4	11.6	1.4	12/07/2024 1:30						
12/07/2024 1:45	4.8	44.0	0.0	7.5	11.6	1.1	12/07/2024 1:45						
12/07/2024 2:00	4.8	43.8	0.0	7.5	11.6	0.9	12/07/2024 2:00						
12/07/2024 2:15	4.8	43.2	0.0	7.5	11.6	2.9	12/07/2024 2:15						
12/07/2024 2:30	4.8	42.8	0.0	7.4	11.6	1.5	12/07/2024 2:30						
12/07/2024 2:45	4.8	42.9	0.0	7.5	11.6	4.9	12/07/2024 2:45			0.0			
12/07/2024 3:00	4.8	43.1	0.0	7.5	11.6	5.5	12/07/2024 3:00						
12/07/2024 3:15	4.9	42.8	0.0	7.5	11.6	2.2	12/07/2024 3:15						
12/07/2024 3:30	4.9	42.5	0.0	7.5	11.6	6.3	12/07/2024 3:30						
12/07/2024 3:45	4.9	42.4	0.0	7.5	11.6	4.6	12/07/2024 3:45						
12/07/2024 4:00	4.9	41.8	0.0	7.5	11.7	6.1	12/07/2024 4:00	6.0	65.1	0.0			
12/07/2024 4:15	4.9	41.5	0.0	7.5	11.7	5.6	12/07/2024 4:15						
12/07/2024 4:30	4.9	41.6	0.0	7.6	11.7	5.0	12/07/2024 4:30	5.9	67.1	0.0	6.7	12.1	0.0
12/07/2024 4:45	4.9	40.8	0.0	7.5	11.7	16.6	12/07/2024 4:45	5.9	66.1	0.0	6.8	12.2	0.0
12/07/2024 5:00	4.9	40.3	0.0	7.5	11.7	14.2	12/07/2024 5:00	5.9	65.4	0.0	6.9	12.1	3.8
12/07/2024 5:15	4.8	39.3	0.0	7.5	11.7	13.2	12/07/2024 5:15	5.9	64.0	0.0	6.9	12.2	2.8
12/07/2024 5:30	4.8	38.7	0.0	7.5	11.7	16.8	12/07/2024 5:30	5.9	63.6	0.0	6.9	12.2	28.3
12/07/2024 5:45	4.8	37.6	0.0	7.6	11.7	19.6	12/07/2024 5:45	5.9	61.2	0.0	6.9	12.2	6.9
12/07/2024 6:00	4.8	36.5	0.0	7.6	11.8	23.4	12/07/2024 6:00	5.8	57.4	0.0		12.3	17.4
12/07/2024 6:15	4.7	36.0	0.0	7.5	11.8	46.4	12/07/2024 6:15						10.3
12/07/2024 6:30	4.8	36.1	0.0	7.5	11.8	49.9	12/07/2024 6:30						
12/07/2024 6:45	4.8	35.7	0.0	7.4	11.9	78.7	12/07/2024 6:45	5.8	55.2	0.0		12.4	29.8
12/07/2024 7:00	4.7	34.3	0.0	7.6	11.9	96.5	12/07/2024 7:00	5.8	56.3	0.0	6.8	12.4	15.1
12/07/2024 7:15	4.7	33.2	0.0	7.5	11.9	48.2	12/07/2024 7:15	5.7	54.4	0.0	6.8	12.4	43.5
12/07/2024 7:30	4.7	31.9	0.0	7.6	12.0	31.7	12/07/2024 7:30	5.7	50.7	0.0	6.9	12.5	45.6
12/07/2024 7:45	4.6	30.7	0.0	7.6	12.0	33.7	12/07/2024 7:45	5.6	49.1	0.0	6.9	12.5	30.5
12/07/2024 8:00	4.6	29.6	0.0	7.6	12.0	19.8	12/07/2024 8:00	5.6	48.6	0.0	6.8	12.6	29.1
12/07/2024 8:15	4.5	28.9	0.0	7.5	12.1	19.1	12/07/2024 8:15	5.6	46.7	0.0	6.9	12.6	39.8
12/07/2024 8:30	4.5	28.0	0.0	7.6	12.1	23.2	12/07/2024 8:30	5.5		0.0			
12/07/2024 8:45	4.5	27.2	0.0	7.5	12.2	33.6	12/07/2024 8:45						
12/07/2024 9:00	4.5	26.8	0.0	7.5	12.2	33.2	12/07/2024 9:00	5.5	44.2		6.8	12.8	32.2
12/07/2024 9:15	4.4	26.1	0.0	7.5	12.2	25.8	12/07/2024 9:15						30.0
12/07/2024 9:30	4.4	25.3	0.0	7.4	12.3	45.0	12/07/2024 9:30	5.4		0.0	6.9	12.8	24.3
12/07/2024 9:45	4.4	24.9	0.0	7.4	12.3	95.8	12/07/2024 9:45						
12/07/2024 10:00	4.4	24.2	0.0	7.5	12.3	95.9	12/07/2024 10:00	5.4	40.9	0.0	6.8	12.9	
12/07/2024 10:15	4.4	24.0	0.0	7.5	12.3	46.5	12/07/2024 10:15	5.4	40.4	0.0	6.8	12.9	26.8
12/07/2024 10:30	4.4	23.4	0.0	7.5	12.3	47.6	12/07/2024 10:30						
12/07/2024 10:45	4.4	23.2	0.0	7.4	12.4	40.3	12/07/2024 10:45						
12/07/2024 11:00	4.4	23.0	0.0	7.5	12.3	40.1	12/07/2024 11:00		38.7				21.1
12/07/2024 11:15	4.3	22.5	0.0	7.4	12.4	50.9	12/07/2024 11:15						
12/07/2024 11:30	4.4	22.9	0.0	7.5	12.3	38.7	12/07/2024 11:30		39.4	0.0	6.8	12.9	23.5
12/07/2024 11:45	4.4	22.6	0.0	7.4	12.3	93.7	12/07/2024 11:45					12.9	
12/07/2024 12:00	4.4	22.5	0.0	7.4	12.3	27.7	12/07/2024 12:00						
12/07/2024 12:15	4.4	22.3	0.0	7.4	12.3	33.5	12/07/2024 12:15		38.4	0.0	6.8	12.8	19.4
12/07/2024 12:30	4.4	21.9	0.0	7.4	12.3	37.5	12/07/2024 12:30						
12/07/2024 12:45	4.4	21.9	0.0	7.4	12.3	41.6	12/07/2024 12:45	5.5	41.5	0.0	6.6	12.8	13.4
12/07/2024 13:00	4.4	21.7	0.0	7.4	12.3	32.4	12/07/2024 13:00	5.5	41.3	0.0	6.7	12.8	29.0
12/07/2024 13:15	4.4	21.6	0.0	7.4	12.3	33.1	12/07/2024 13:15	5.5	40.4	0.0	6.7	12.8	17.4
12/07/2024 13:30	4.5	21.2	0.0	7.4	12.3	30.5	12/07/2024 13:30	5.5	40.3	0.0	6.7	12.8	10.2
12/07/2024 13:45	4.5	21.2	0.0	7.4	12.3	22.8	12/07/2024 13:45	5.5	40.4	0.0	6.8	12.8	16.0
12/07/2024 14:00	4.5	21.0	0.0	7.4	12.2	24.8	12/07/2024 14:00	5.6	37.4	0.0	6.8	12.8	16.4
12/07/2024 14:15	4.5	21.5	0.0	7.3	12.2	51.3	12/07/2024 14:15		38.2	0.0	6.8	12.8	14.0
12/07/2024 14:30	4.5	21.4	0.0	7.3	12.2	29.2	12/07/2024 14:30	5.6	38.0	0.0	6.7	12.7	12.8
12/07/2024 14:45	4.6	21.2	0.0	7.4	12.2	25.7	12/07/2024 14:45	5.7	37.8	0.0	6.7	12.7	8.8
12/07/2024 15:00	4.6	21.1	0.0	7.4	12.2	27.1	12/07/2024 15:00	5.6	38.9	0.0	6.7	12.8	16.8
12/07/2024 15:15	4.5	21.0	0.0	7.4	12.2	23.1	12/07/2024 15:15	5.6	39.1	0.0	6.7	12.7	8.0

12/07/2024 15:30	4.5	21.0	0.0	7.4	12.2	22.1	12/07/2024 15:30	5.6	38.6	0.0	6.7	12.7	11.1
12/07/2024 15:45	4.5	21.3	0.0	7.3	12.2	17.6	12/07/2024 15:45	5.6	38.1	0.0	6.8	12.7	7.2
12/07/2024 16:00	4.5	21.3	0.0	7.4	12.2	21.0	12/07/2024 16:00	5.6	37.3	0.0	6.8	12.7	10.0
12/07/2024 16:15	4.5	21.3	0.0	7.4	12.2	16.4	12/07/2024 16:15	5.6	37.4	0.0	6.7	12.7	11.1
12/07/2024 16:30	4.5	21.0	0.0	7.3	12.2	20.2	12/07/2024 16:30	5.6	37.0	0.0		12.7	
12/07/2024 16:45	4.5	21.0	0.0	7.3	12.2	17.5	12/07/2024 16:45	5.6	37.1	0.0	6.7	12.7	7.9
12/07/2024 17:00	4.6	21.1	0.0	7.4	12.2	20.3	12/07/2024 17:00	5.6	37.0	0.0	6.7	12.7	
12/07/2024 17:15	4.6	21.1	0.0	7.4	12.2	18.3	12/07/2024 17:15	5.6	37.2	0.0	6.7	12.8	9.6
12/07/2024 17:30	4.6	21.1	0.0	7.4	12.2	17.5	12/07/2024 17:30	5.6	36.9	0.0	6.7	12.8	10.5
12/07/2024 17:45	4.6	20.9	0.0	7.4	12.2	18.0	12/07/2024 17:45	5.6	37.1	0.0	6.8	12.8	11.6
12/07/2024 18:00	4.6	21.0	0.0	7.4	12.3	18.6	12/07/2024 18:00	5.6	36.5	0.0	6.7	12.8	12.0
12/07/2024 18:15	4.6	21.1	0.0	7.4	12.3	17.2	12/07/2024 18:15	5.6	36.6	0.0	6.8	12.8	10.0
12/07/2024 18:30	4.6	21.0	0.0	7.4	12.3	17.3	12/07/2024 18:30	5.6	36.4	0.0	6.8	12.8	12.6
12/07/2024 18:45	4.5	20.7	0.0	7.4	12.3	21.2	12/07/2024 18:45	5.6	36.3	0.0	6.7	12.8	15.5
12/07/2024 19:00	4.5	20.7	0.0	7.4	12.3	17.4	12/07/2024 19:00	5.6	36.2	0.0	6.7	12.8	17.0
12/07/2024 19:15	4.5	20.6	0.0	7.4	12.3	21.9	12/07/2024 19:15	5.6	36.2	0.0	6.8	12.8	13.9
12/07/2024 19:30	4.5	20.5	0.0	7.4	12.3	14.6	12/07/2024 19:30	5.6	36.1	0.0	6.8		12.6
12/07/2024 19:45	4.5	20.6	0.0	7.4	12.3	19.1	12/07/2024 19:45	5.6	35.7	0.0	6.6	12.8	13.8
12/07/2024 20:00	4.5	20.3	0.0	7.4	12.3	18.0	12/07/2024 20:00	5.6	35.4	0.0	6.7	12.8	17.2
12/07/2024 20:15	4.5	20.6	0.0	7.4	12.2	17.2	12/07/2024 20:15	5.6	35.6	0.0	6.7	12.8	11.9
12/07/2024 20:30	4.5	20.2	0.0	7.4	12.2	19.7	12/07/2024 20:30	5.5	35.2	0.0	6.8	12.8	13.2
12/07/2024 20:45	4.5	20.6	0.0	7.4	12.2	16.4	12/07/2024 20:45		36.0	0.0	6.8	12.8	9.8
12/07/2024 21:00	4.5	20.3	0.0	7.3	12.2	15.4	12/07/2024 21:00	5.5	35.2	0.0	6.7	12.8	13.0
12/07/2024 21:15	4.5	20.5	0.0	7.4	12.2	12.2	12/07/2024 21:15	5.5	36.0	0.0	6.8	12.7	12.7
12/07/2024 21:30	4.4	20.4	0.0	7.4	12.2	11.2	12/07/2024 21:30	5.5	35.6	0.0	6.7	12.7	8.6
12/07/2024 21:45	4.4	20.7	0.0	7.3	12.2	15.9	12/07/2024 21:45	5.5	36.2	0.0	6.8	12.7	10.0
12/07/2024 22:00	4.4	20.6	0.0	7.4	12.2	19.0	12/07/2024 22:00	5.5	36.3	0.0	6.6	12.7	11.7
12/07/2024 22:15	4.4	20.7	0.0	7.4	12.2	15.9	12/07/2024 22:15	5.5	36.8	0.0	6.7	12.7	8.2
12/07/2024 22:30	4.4	20.9	0.0	7.4	12.2	9.3	12/07/2024 22:30	5.5	36.1		6.8	12.7	6.3
12/07/2024 22:45	4.4	20.6	0.0	7.3	12.2	13.3	12/07/2024 22:45	5.5	36.7	0.0	6.7	12.7	5.6
12/07/2024 23:00	4.4	21.0	0.0	7.4	12.2	8.4	12/07/2024 23:00	5.5	36.5	0.0	6.6	12.7	9.8
12/07/2024 23:15	4.4	21.1	0.0	7.4	12.2	14.8	12/07/2024 23:15	5.5	37.2	0.0	6.7	12.7	4.8
12/07/2024 23:30	4.4	21.0	0.0	7.4	12.2	14.5	12/07/2024 23:30	5.5	37.1	0.0	6.7	12.6	4.3
12/07/2024 23:45	4.4	21.2	0.0	7.4	12.1	14.4	12/07/2024 23:45	5.4	36.7	0.0	6.7	12.6	10.9
12/08/2024 0:00	4.4	21.1	0.0	7.3	12.1	17.2	12/08/2024 0:00	5.4	36.9	0.0	6.7	12.6	7.9
12/08/2024 0:15	4.4	21.3	0.0	7.4	12.1	15.2	12/08/2024 0:15	5.4	37.3	0.0	6.8	12.6	7.4
12/08/2024 0:30	4.4	21.2	0.0	7.4	12.1	18.2	12/08/2024 0:30	5.4	36.8	0.0	6.8	12.6	5.5
12/08/2024 0:45	4.4	21.5	0.0	7.4	12.1	11.1	12/08/2024 0:45	5.4	37.7	0.0	6.8	12.6	8.0
12/08/2024 1:00	4.4	21.4	0.0	7.3	12.1	11.6	12/08/2024 1:00	5.4	37.2	0.0	6.8	12.6	7.4
12/08/2024 1:15	4.4	21.5	0.0	7.4	12.1	12.0	12/08/2024 1:15	5.4	38.1	0.0	6.8	12.5	5.2
12/08/2024 1:30	4.4	21.7	0.0	7.4	12.1	11.1	12/08/2024 1:30	5.4	37.9	0.0	6.8	12.6	7.0
12/08/2024 1:45	4.4	21.8	0.0	7.3	12.1	11.5	12/08/2024 1:45	5.4	38.2	0.0	6.7	12.6	3.9
12/08/2024 2:00	4.3	21.7	0.0	7.4	12.1	8.9	12/08/2024 2:00	5.4	38.4	0.0	6.8	12.6	5.3
12/08/2024 2:15	4.3	21.8	0.0	7.3	12.1	13.7	12/08/2024 2:15	5.4	38.1	0.0	6.7	12.5	5.0
12/08/2024 2:30	4.3	21.8	0.0	7.4	12.1	7.3	12/08/2024 2:30	5.4	38.4	0.0	6.8	12.5	5.1
12/08/2024 2:45	4.3	21.8	0.0	7.3	12.1	16.8	12/08/2024 2:45	5.4	38.3	0.0	6.7	12.5	4.1
12/08/2024 3:00	4.3	22.0	0.0	7.3	12.1	9.2	12/08/2024 3:00	5.4	38.5	0.0	6.7	12.5	3.8
12/08/2024 3:15	4.3	22.0	0.0	7.4	12.1	13.8	12/08/2024 3:15	5.4	38.5	0.0	6.7	12.5	6.8
12/08/2024 3:30	4.3	22.0	0.0	7.4	12.1	11.8	12/08/2024 3:30	5.4	38.4	0.0	6.7	12.5	2.9
12/08/2024 3:45	4.3	22.1	0.0	7.3	12.0	14.8	12/08/2024 3:45	5.4	38.6	0.0	6.7	12.5	9.0
12/08/2024 4:00	4.3	22.2	0.0	7.4	12.1	7.9	12/08/2024 4:00	5.4	38.8	0.0	6.7	12.5	4.0
12/08/2024 4:15	4.3	22.4	0.0	7.4	12.0	8.3	12/08/2024 4:15	5.3	39.2	0.0	6.7	12.5	3.4
12/08/2024 4:30	4.3	22.4	0.0	7.3	12.0	7.4	12/08/2024 4:30	5.3	38.9	0.0	6.7	12.5	3.8
12/08/2024 4:45	4.2	22.3	0.0	7.4	12.0	14.2	12/08/2024 4:45	5.3	39.0	0.0	6.7	12.5	17.7
12/08/2024 5:00	4.2	22.6	0.0	7.4	12.0	3.8	12/08/2024 5:00	5.3	39.4	0.0	6.7	12.5	5.6
12/08/2024 5:15	4.2	22.6	0.0	7.4	12.0	5.3	12/08/2024 5:15	5.3	39.3	0.0	6.7	12.5	4.6
12/08/2024 5:30	4.2	22.6	0.0	7.4	12.0	8.7	12/08/2024 5:30	5.3	39.4	0.0	6.7	12.5	8.0
12/08/2024 5:45	4.2	22.8	0.0	7.4	12.0	7.3	12/08/2024 5:45	5.3	39.3	0.0	6.7	12.5	12.6
12/08/2024 6:00	4.2	22.9	0.0	7.4	12.0	7.7	12/08/2024 6:00	5.2	39.8	0.0	6.7	12.5	3.5
12/08/2024 6:15	4.2	22.9	0.0	7.4	12.0	15.3	12/08/2024 6:15	5.2	39.3	0.0	6.7	12.5	5.8
12/08/2024 6:30	4.2	22.9	0.0	7.4	12.0	9.7	12/08/2024 6:30	5.2	39.0	0.0	6.7	12.5	5.0
12/08/2024 6:45	4.1	23.0	0.0	7.4	12.0	6.7	12/08/2024 6:45	5.2	39.7	0.0	6.8	12.5	13.2
12/08/2024 7:00	4.1	23.0	0.0	7.4	12.0	8.1	12/08/2024 7:00	5.2	39.5	0.0	6.7	12.5	2.5
12/08/2024 7:15	4.1	23.2	0.0	7.4	12.0	5.2	12/08/2024 7:15	5.2	39.8	0.0	6.7	12.5	3.1
12/08/2024 7:30	4.1	23.2	0.0	7.4	12.0	8.9	12/08/2024 7:30	5.1	39.8	0.0	6.7	12.5	0.5
12/08/2024 7:45	4.1	23.2	0.0	7.4	12.0	6.4	12/08/2024 7:45	5.1	39.5	0.0	6.8	12.5	12.0
12/08/2024 8:00	4.1	23.3	0.0	7.4	12.0	7.7	12/08/2024 8:00	5.1	40.2	0.0	6.7	12.5	4.3
12/08/2024 8:15	4.1	23.2	0.0	7.4	12.1	5.9	12/08/2024 8:15	5.1	39.9	0.0	6.7	12.5	6.2
12/08/2024 8:30	4.1	23.1	0.0	7.4	12.0	9.4	12/08/2024 8:30	5.1	40.1	0.0	6.7	12.5	0.1
12/08/2024 8:45	4.1	23.2	0.0	7.4	12.1	7.2	12/08/2024 8:45	5.1	40.1	0.0	6.8	12.5	30.9
12/08/2024 9:00	4.1	23.2	0.0	7.4	12.0	5.7	12/08/2024 9:00	5.1	39.9	0.0	6.7	12.5	0.0
12/08/2024 9:15	4.1	23.3	0.0	7.4	12.0	5.2	12/08/2024 9:15	5.1	40.3	0.0	6.7	12.5	1.4
12/08/2024 9:30	4.0	23.4	0.0	7.3	12.1	5.3	12/08/2024 9:30	5.1	40.5	0.0	6.7	12.5	2.1
12/08/2024 9:45	4.0	23.6	0.0	7.4	12.1	8.0	12/08/2024 9:45	5.1	41.1	0.0	6.8	12.5	16.5
12/08/2024 10:00	4.0	23.6	0.0	7.4	12.1	7.0	12/08/2024 10:00	5.0	40.5	0.0	6.8	12.6	0.9
12/08/2024 10:15	4.0	23.4	0.0	7.4	12.1	5.2	12/08/2024 10:15	5.0	40.3	0.0	6.8	12.6	0.0
12/08/2024 10:30	4.0	23.5	0.0	7.4	12.1	4.4	12/08/2024 10:30	5.0	40.4	0.0	6.8	12.6	0.0
12/08/2024 10:45	4.0	23.6	0.0	7.4	12.1	2.8	12/08/2024 10:45	5.0	40.4	0.0	6.8	12.6	2.8
12/08/2024 11:00	4.0	23.7	0.0	7.3	12.1	5.4	12/08/2024 11:00	5.1	41.0	0.0	6.8	12.6	0.0
12/08/2024 11:15	4.1	24.0	0.0	7.4	12.1	4.6	12/08/2024 11:15			0.0		12.6	
12/08/2024 11:30	4.1	24.1	0.0	7.4	12.1	6.9	12/08/2024 11:30						
12/08/2024 11:45	4.1	24.6	0.0	7.3	12.1	10.1	12/08/2024 11:45	5.2	43.0	0.0	6.7	12.6	0.0
12/08/2024 12:00	4.2	24.9	0.0	7.3	12.1	5.7	12/08/2024 12:00	5.2	42.7	0.0	6.5	12.6	0.0
12/08/2024 12:15	4.2	25.1	0.0	7.4	12.1	3.9	12/08/2024 12:15		43.5	0.0	6.7	12.6	0.0
12/08/2024 12:30	4.2	25.3	0.0	7.4	12.1	4.3	12/08/2024 12:30	5.2			6.7	12.6	0.0
12/08/2024 12:45	4.2	25.5	0.0	7.4	12.1	3.4	12/08/2024 12:45	5.2	44.5	0.0	6.7	12.6	0.0
12/08/2024 13:00	4.2	25.8	0.0	7.4	12.1	6.3	12/08/2024 13:00	5.2			6.8	12.6	
12/08/2024 13:15	4.2	25.7	0.0	7.4	12.1	3.9	12/08/2024 13:15	5.3	44.3	0.0	6.7	12.6	
12/08/2024 13:30	4.2	26.0	0.0	7.4	12.1	4.6	12/08/2024 13:30	5.3	44.7	0.0	6.7	12.5	0.0
12/08/2024 13:45	4.3	26.0	0.0	7.4	12.1	2.6	12/08/2024 13:45	5.3	45.5	0.0	6.6	12.6	0.0
12/08/2024 14:00	4.3	26.2	0.0	7.4	12.0	2.2	12/08/2024 14:00	5.3	44.8	0.0	6.7	12.6	0.0

12/08/2024 14:15	4.3	26.2	0.0	7.4	12.1	4.9
12/08/2024 14:30	4.3	26.4	0.0	7.4	12.1	4.3
12/08/2024 14:45	4.3	26.5	0.0	7.4	12.0	7.9
12/08/2024 15:00	4.3	26.4	0.0	7.4	12.0	5.0
12/08/2024 15:15	4.4	26.7	0.0	7.4	12.0	3.1
12/08/2024 15:30	4.3	26.5	0.0	7.4	12.0	5.7
12/08/2024 15:45	4.3	26.3	0.0	7.4	12.0	4.0
12/08/2024 16:00	4.3	26.4	0.0	7.4	12.0	8.0
12/08/2024 16:15	4.3	26.5	0.0	7.4	12.0	4.1
12/08/2024 16:30	4.3	26.4	0.0	7.4	12.0	2.6
12/08/2024 16:45	4.3	26.3	0.0	7.4	12.0	2.4
12/08/2024 17:00	4.3	26.3	0.0	7.4	12.0	5.6
12/08/2024 17:15	4.3	26.7	0.0	7.3	12.0	8.3
12/08/2024 17:30	4.3	26.6	0.0	7.4	12.0	2.8
12/08/2024 17:45	4.3	26.6	0.0	7.4	11.9	3.4
12/08/2024 18:00	4.3	26.8	0.0	7.4	11.9	3.4
12/08/2024 18:15	4.3	27.1	0.0	7.4	11.9	4.7
12/08/2024 18:30	4.3	27.0	0.0	7.4	11.9	5.3
12/08/2024 18:45	4.3	27.1	0.0	7.4	11.9	4.8
12/08/2024 19:00	4.3	27.3	0.0	7.4	11.9	2.8
12/08/2024 19:15	4.3	27.3	0.0	7.4	11.9	3.8
12/08/2024 19:30	4.3	27.6	0.0	7.4	11.9	5.8
12/08/2024 19:45	4.3	27.6	0.0	7.4	11.9	2.6
12/08/2024 20:00	4.3	27.7	0.0	7.4	11.9	4.4
12/08/2024 20:15	4.4	27.9	0.0	7.4	11.9	6.1
12/08/2024 20:30	4.4	27.9	0.0	7.4	11.9	2.2
12/08/2024 20:45	4.4	28.2	0.0	7.4	11.9	3.2
12/08/2024 21:00	4.4	28.1	0.0	7.4	11.9	4.8
12/08/2024 21:15	4.4	28.3	0.0	7.4	11.9	5.0
12/08/2024 21:30	4.4	28.5	0.0	7.4	11.9	2.2
12/08/2024 21:45	4.4	28.5	0.0	7.4	11.9	3.6
12/08/2024 22:00	4.4	28.6	0.0	7.4	11.9	3.2
12/08/2024 22:15	4.4	28.5	0.0	7.4	11.9	2.9
12/08/2024 22:30	4.4	28.8	0.0	7.4	11.9	2.0
12/08/2024 22:45	4.4	28.9	0.0	7.4	11.9	2.2
12/08/2024 23:00	4.4	29.0	0.0	7.4	11.9	3.0
12/08/2024 23:15	4.3	28.7	0.0	7.4	11.9	4.3
12/08/2024 23:30	4.3	29.1	0.0	7.4	11.9	2.9
12/08/2024 23:45	4.3	29.0	0.0	7.4	11.9	2.6

12/08/2024 14:15	5.4	45.3	0.0	6.6	12.5	0.0
12/08/2024 14:30	5.4	45.8	0.0	6.7	12.5	0.0
12/08/2024 14:45	5.4	46.5	0.0	6.6	12.4	0.0
12/08/2024 15:00	5.4	46.5	0.0	6.6	12.4	6.1
12/08/2024 15:15	5.4	46.6	0.0	6.6	12.4	0.0
12/08/2024 15:30	5.4	45.7	0.0	6.6	12.4	0.0
12/08/2024 15:45	5.4	45.2	0.0	6.7	12.4	0.0
12/08/2024 16:00	5.4	45.6	0.0	6.7	12.4	14.9
12/08/2024 16:15	5.4	45.5	0.0	6.7	12.4	0.0
12/08/2024 16:30	5.4	45.1	0.0	6.7	12.4	0.0
12/08/2024 16:45	5.4	45.0	0.0	6.7	12.4	0.0
12/08/2024 17:00	5.4	45.3	0.0	6.7	12.4	22.0
12/08/2024 17:15	5.4	45.9	0.0	6.7	12.4	0.0
12/08/2024 17:30	5.4	45.5	0.0	6.7	12.4	0.0
12/08/2024 17:45	5.4	45.4	0.0	6.7	12.4	1.3
12/08/2024 18:00	5.4	46.1	0.0	6.7	12.4	12.3
12/08/2024 18:15	5.4	46.3	0.0	6.7	12.4	0.0
12/08/2024 18:30	5.4	46.1	0.0	6.7	12.4	0.0
12/08/2024 18:45	5.4	46.2	0.0	6.7	12.4	0.0
12/08/2024 19:00	5.4	46.1	0.0	6.8	12.4	17.3
12/08/2024 19:15	5.4	47.1	0.0	6.7	12.4	0.0
12/08/2024 19:30	5.4	47.2	0.0	6.7	12.4	0.0
12/08/2024 19:45	5.4	46.7	0.0	6.7	12.4	0.0
12/08/2024 20:00	5.4	47.2	0.0	6.7	12.4	5.2
12/08/2024 20:15	5.4	47.5	0.0	6.7	12.4	0.0
12/08/2024 20:30	5.4	47.9	0.0	6.7	12.4	0.0
12/08/2024 20:45	5.4	47.7	0.0	6.7	12.4	0.0
12/08/2024 21:00	5.4	47.5	0.0	6.7	12.4	10.0
12/08/2024 21:15	5.4	48.0	0.0	6.7	12.4	0.0
12/08/2024 21:30	5.4	48.1	0.0	6.7	12.4	0.0
12/08/2024 21:45	5.4	48.5	0.0	6.7	12.4	0.0
12/08/2024 22:00	5.4	48.7	0.0	6.7	12.4	0.0
12/08/2024 22:15	5.4	48.7	0.0	6.7	12.3	0.0
12/08/2024 22:30	5.4	48.8	0.0	6.7	12.4	0.0
12/08/2024 22:45	5.4	48.7	0.0	6.7	12.4	0.0
12/08/2024 23:00	5.4	48.8	0.0	6.7	12.4	15.8
12/08/2024 23:15	5.4	48.7	0.0	6.7	12.4	0.0
12/08/2024 23:30	5.4	49.2	0.0	6.7	12.4	0.0
12/08/2024 23:45	5.4	48.8	0.0	6.7	12.4	0.0

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

Woodfibre Site Sample Analysis

TRITON	Sample ID				Fershaw Shafer Ph.D., R.P.Bio.	WLNG EQP		BCWQ FAL - Short Term	BCWQ FAL - Long Term	BCWQ WAL - Short Term	BCWQ WAL - Long Term
	LAB ID	Reviewed and signed off by:				VA24S0025-005					
	Date Sampled					03-Dec-2024					
	Time Sampled					12:00					
Analyte	Units	FAL-ST [1,2]	FAL-LT [1,2]	WAL-ST [1]	WAL-LT [1,2]	Water					
						N/A		Guideline notes			
In Situ Parameters											
pH (field)	pH units	6.5-9.0	6.5-9.0	7.0-8.7	7.0-8.7	7.80		If natural pH < 6.5, no statistically significant decrease from background. No restriction in increase except in areas with unique flora or fauna. Unrestricted change permitted within range of 6.5 to 9.0. If natural pH > 9.0, no statistically significant increase from background. Refer to BC Water Quality Guidelines for more information.		Unrestricted change within this range (for protection of mollusc embryo development)	
Temperature (field)	°C	Multiple guidelines dependent on water use and species; see notes: Short-term daily temperature ≤ 15°C, or Max +/- 1°C from optimum temperature range for most sensitive salmonid species present, or Short-term daily temperature ≤ 18°C, or Max +/- 1°C from optimum temperature range for most sensitive non-salmonid species present, or Short-term daily temperature ≤ 18°C, or Max +/- 1°C from BKG (°C)	-	Max +/- from BKG (°C	-	9.4		Guideline is species-dependent: Short-term daily temperature ≤ 15°C for streams with Bull Trout &/or Dolly Varden, Max +/- 1°C from optimum temperature range for most sensitive (i.e. Bull Trout) life-for-each life-history phase of the most sensitive salmonid species present. Mean Weekly Max Temperature guideline ≤15°C. Short-term daily temperature guideline ≤ 18°C for streams with unknown fish distribution, or Max +/- 1°C from background. Refer to footnote 4 for background temperature range for East Creek.		Guideline for marine waters are based on natural ambient conditions. Refer to footnote 4 for background temperature range for East Creek. Calculation: US value +/- 1 = guideline range	
Conductivity (field)	µS/cm	-	-	-	-	108					
Turbidity (field)	NTU	Varies with background, see note US1 (background) guideline = 8.7	Varies with background, see note US1 (background) guideline = 2.2 (EQP) 5-week discrete sampling average = 2.2 (EQP)	Varies with background, see note US1 (background) guideline = 12.6	Varies with background, see note US1 (background) guideline = 2.8 (EQP) 5-week discrete sampling average = 2.8 (EQP)	0.55		Change from background of 8 NTU at any one time for a duration of ≤8 h in all waters during clear flows or in clear waters. Calculation: US value + 8 = CG guideline Change from background of 3 NTU at any time when background is 5 - 50 NTU during high flows or in turbid waters. Calculation: US value + 3 = CG guideline Change from background of 10% when background is > 50 mg/L at any time during high flows or turbid waters. Calculation: US value + (US value*0.1) = CG guideline	Change from background of 2 NTU at any one time for 30 days in clear flows. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in this spreadsheet using US concentration at the time of sampling.	Change from background of 8 NTU at any one time for a duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value + 8 = DS guideline Change from background of 3 NTU at any time when background is 8 - 50 NTU during high flows or in turbid waters. Calculation: US value + 3 = DS guideline Change from background of 10% when background is > 50 mg/L at any time during high flows or in turbid waters. Calculation: US value + (US value*0.1) = DS guideline	Change from background of 2 NTU at any one time for 30 days in clear flows. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in this spreadsheet using US concentration at the time of sampling.
Dissolved Oxygen (field)	mg/L	Varies with life stage, see note	Varies with life stage, see note	Varies with life stage, see note	Varies with life stage, see note	-		Buried embryo/alevin minimum 9 mg/L, all other life stages 5 mg/L. Refer to BC Water Quality Guidelines for more information.	Buried embryo/alevin minimum 11 mg/L, all other life stages 8 mg/L. Refer to BC Water Quality Guidelines for more information.	Buried embryo/alevin minimum 9 mg/L, all other life stages 5 mg/L. Refer to BC Water Quality Guidelines for more information.	Buried embryo/alevin minimum 11 mg/L, all other life stages 8 mg/L. Refer to BC Water Quality Guidelines for more information.
General Parameters											
Hardness (as CaCO3) (total)	mg/L	-	-	-	-	87.1					
Total Dissolved Solids	mg/L	-	-	-	-	83					
Total Suspended Solids	mg/L	Varies with background, see note US1 (background) guideline = 28	Varies with background, see note US1 (background) guideline = 8.00 5-week discrete sampling average = 3.84 (EQP)	Varies with background, see note US1 (background) guideline = 28	Varies with background, see note US1 (background) guideline = 8.00 5-week discrete sampling average = 3.84 (EQP)	< 3.0		Change from background of 25 mg/L at any one time for duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value + 25 = CG guideline Change from background of 10 mg/L at any one time when background 25-250 mg/L during high flows or turbid waters. Calculation: US value + 10 = CG guideline Change from background of 10% when background is > 100 mg/L at any time during high flows or turbid waters. Calculation: US value + (US value*0.1) = CG guideline	Change from background of 5 mg/L @ one time for a duration of 30 days in clear flows. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in this spreadsheet using US concentration at the time of sampling.	Change from background of 25 mg/L at any one time for duration of 24 h in all waters during clear flows or in clear waters. Calculation: DS value + 25 = DS guideline Change from background of 10 mg/L at any one time when background 25-100 mg/L during high flows or turbid waters. Calculation: DS value + 10 = DS guideline Change from background of 10% when background is > 100 mg/L at any time during high flows or turbid waters. Calculation: DS value + (DS value*0.1) = DS guideline	Change from background of 5 mg/L @ one time for a duration of 30 days in clear flows. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in this spreadsheet using DS concentration at the time of sampling.
Dissolved Organic Carbon (DOC)	mg/L	-	-	-	-	< 0.50		-	-	-	-
Total Phenols	mg/L	0.05	-	-	-	-		Interim guideline		Interim guideline	
Total Alkalinity ($CaCO_3$)	mg/L	-	Categorical	-	-	63.4			Guideline is for alkalinity (as CaCO3) and categorizes the sensitivity of a water body to acid inputs. Alkalinity < 10 mg/L is considered highly sensitive to acid inputs, 10 - 20 mg/L is considered moderately sensitive to acid inputs, > 20 mg/L is considered low sensitivity		
Total Sulfide (as S)	mg/L	-	-	-	-	< 0.0010					
Total Sulfide (un-ionized as H_2S)	mg/L	-	0.002	-	-	< 0.0010			Working guideline		
Total Sulfide (as H_2S)	mg/L	-	-	-	-	< 0.0016					
Anions and Nutrients											
Ammonia	mg/L ammonia-N	Varies with pH and temperature. See note. Guideline = 14.8	Varies with pH and temperature. See note. Guideline = 1.90	Varies with pH and temperature. See note. Guideline = 22	Varies with pH, temperature and salinity. See note. Guideline = 20.0	< 0.0050		Guideline for ammonia as N and is pH and temperature-dependent. Refer to Table 2FD in BC WQG for guideline values.	Guideline for ammonia as N and is pH and temperature-dependent. Refer to Table 2FD in BC WQG for guideline values.	Guideline for ammonia as N. Guideline is pH, temperature and salinity dependent. Refer to Table 2FP in BC WQG for guideline values.	Guideline for ammonia as N. Guideline is pH, temperature and salinity dependent. Refer to Table 2FP in BC WQG for guideline values.
Bromide	mg/L	-	-	-	-	< 0.050					
Chloride	mg/L	600	150	+/- 10% from BKG	+/- 10% from BKG	0.8				Human activities should not cause the chronic chloride level in estuarine waters to fluctuate by more than 10% of the natural background level.	Human activities should not cause the chronic chloride level in estuarine waters to fluctuate by more than 10% of the natural background level.
Fluoride	mg/L	Varies with hardness US1 (background) guideline = 0.165	-	1.5	-	0.214		Guideline has interim status. Guideline is calculated with the following equations: Guideline = [- 19.913+(0.572*Hardness)]-[0.011*(Hardness^2)]			
Nitrate (as N)	mg/L	32.8	3	-	3.7	0.0138					
Nitrite (as N)	mg/L	Varies with chloride. Table 2TB, see note. US1 (background) guideline = 0.06	Varies with chloride. Table 2TB, see note. US1 (background) guideline = 0.02	-	-	< 0.0010		Varies with chloride. Refer to Table 2TB in BC WQG for guideline values.	Varies with chloride. Refer to Table 2TB in BC WQG for guideline values.		
Total Nitrogen	mg/L	-	-	-	-	0.059					
Total Phosphorous	mg/L	-	0.002 to 0.010	-	-	0.0044			Guideline is for lakes, refer to BCWQ guideline for nutrients and algae for more information. Guideline does not apply to site.		
Sulfate (as SO_4)	mg/L	-	Varies with hardness. See note. US1 (background) guideline = 128	-	-	0.08			Guidelines for hardness ranges below: Hardness 0 - 75: 309 Hardness 75 - 150: 218 Hardness 150 - 180: 309 Hardness 180 - 250: 429		
Total Metals											
Aluminum (Al) Total	mg/L	-	Varies with pH, DOC, hardness US1 (background) guideline = 0.077 5-week discrete sampling average = 12.79 (EQP); 0.170 (US); 0.172 (DS)	-	-	0.0068			Guideline varies with pH, hardness and Dissolved Organic Carbon (DOC). Guideline is calculated using the following formula: Guideline = [EXP(0.0461 * LN(DOC)) + (0.262 * LN(Hardness)) - 0.982 * pH) + (1.0294 * (LN(Hardness)^ pH)) + 0.8663)/1000] If hardness or DOC is below the hardness range, the minimum hardness or DOC will be applied in the calculation.		
Antimony (Sb) Total	mg/L	0.25	0.074	-	-	< 0.00010					
Arsenic (As) Total	mg/L	-	0.005	-	0.0125	0.00141					Interim guideline status
Barium (Ba) Total	mg/L	-	1	-	-	0.00299			Working guideline status		
Beryllium (Be) Total	mg/L	-	0.00013	-	0.100	< 0.000100			Working guideline status		Working guideline status
Bismuth (Bi) Total	mg/L	-	-	-	-	< 0.000050					
Boron (B) Total	mg/L	-	1.2	-	1.2	0.01					
Cadmium (Cd) Total	mg/L	-	-	-	0.00012	< 0.0000100					Working guideline status
Calcium (Ca) Total	mg/L	-	-	-	-	21.2					
Cesium (Cs) Total	mg/L	-	-	-	-	0.000311					
Chromium (Cr) - Total	mg/L	-	-	-	-	< 0.00050					
Chromium (Cr(III)) Total	mg/L	-	0.0089	-	3.088	< 0.00050			Working guideline status		Working guideline status
Chromium (Cr(VI)) Total	mg/L	-	0.0005	-	0.0015	< 0.00050			Working guideline status		Working guideline status
Cobalt (Co) Total	mg/L	0.11	0.004	-	-	< 0.000010					
Copper (Cu) Total	mg/L	-	-	0.003	0.002 5-week discrete sampling average = 0.00585 (EQP); 0.00315 (US); 0.00841 (DS)	0.00124					
Iron (Fe) Total	mg/L	-	-	0.14	0.002 5-week discrete sampling average = 0.00585 (EQP);0.00315 (US); 0.00841 (DS)	0.0012					
Lead (Pb) Total	mg/L	-	-	-	-	0.000206					
Lithium (Li) Total	mg/L	-	-	-	-	0.002					
Magnesium (Mg) Total	mg/L	-	-	-	-	1.02					
Manganese (Mn) Total	mg/L	Varies with hardness US1 (background) guideline = 0.82	Varies with hardness US1 (background) guideline = 0.77 5-week discrete sampling average = 0.0046 (EQP); 0.0055 (US); 0.0052 (DS)	-	-	0.00097		Guideline varies with hardness. The guideline is calculated using the following equation: Guideline = [0.0595*Hardness + 0.002] Guideline applies to samples with hardness 25-208 mg/L. Lowest value for guideline is 0.77 mg/L. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.	Guideline varies with hardness, refer to BC Water Quality Guidelines for more information. The guideline is calculated using the following formula: Guideline = [0.0595*Hardness + 0.04] Guideline applies to samples with hardness 37-455 mg/L. Lowest value for guideline is 0.81 mg/L. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.		
Mercury (Hg) Total	mg/L	-	Varies with methyl mercury US1 (background) guideline = N/A	-	-	< 0.0000050			When Meng is 0.5% of total Hg, guideline is equal to 0.02 mg/L Guideline = 1.1 [(Meng%/total)] When Meng = 0.5% of total Hg, guideline is equal to 0.02 mg/L		
Molybdenum (Mo) Total	mg/L	46	7.4	-	-	0.0167					
Nickel (Ni) Total	mg/L	-	-	-	0.008	< 0.00050			Guideline only applies to lakes with salmonid species being the dominant fish species. Guideline is for reference only and does not apply to site.		Working guideline status
Phosphorus (P) Total	mg/L	-	0.005 to 0.010	-	-	< 0.050					
Potassium (K) Total	mg/L	-	-	-	-	0.858					
Rubidium (Rb) Total	mg/L	-	-	-	-	0.0018					
Selenium (Se) Total	mg/L	-	0.002	-	0.002	0.000066			Guideline for freshwater aquatic life (water column). Alert concentration is 0.001 mg/L, with separate guidelines for sediment, invertebrates and fish tissue. Refer to BC Water Quality Guidelines for more information on guidelines and sampling guidance.		Guideline for marine aquatic life (water column). Alert concentration is 0.001 mg/L, with separate guidelines for sediment, invertebrates and fish tissue. Refer to BC Water Quality Guidelines for more information on guidelines and sampling guidance.
Silicon (Si) Total	mg/L	-	-	-	-	6.31					
Silver (Ag) Total	mg/L	Varies with hardness, see note US1 (background) guideline = 0.0001	Varies with hardness, see note US1 (background) guideline = 0.00005	0.003	0.0015	< 0.0000010		Varies with hardness Guideline ranges: Hardness = 100: 0.0001 Hardness = 200: 0.0002	Varies with hardness Guideline ranges: Hardness = 100: 0.00005 Hardness = 200: 0.00010		Guideline applies to open coast and estuaries. Guideline is applicable to the EQP site.
Sodium (Na) Total	mg/L	-	-	-	-	0.39					
Strontium (Sr) Total	mg/L	-	-	-	-	0.0436					
Sulfur (S) Total	mg/L	-	-	-	-	1.66					
Tellurium (Te) Total	mg/L	-	-	-	-	< 0.00020					
Thallium (Tl) Total	mg/L	-	0.00003 5-week discrete sampling average = 0.00009 (EQP); <0.000015 (US); 0.00021 (DS)	-	-	< 0.0000010			20-day average, site-specific objective for the lower Columbia River. Guideline is for reference only and does not apply to the EQP site.		
Thorium (Th) Total	mg/L	-	-	-	-	< 0.00010					
Tin (Sn) Total	mg/L	-	-	-	-	< 0.00010					
Titanium (Ti) Total	mg/L	-	-	-	-	< 0.00030					
Tungsten (W) Total	mg/L	-	-	-	-	0.00025					
Uranium (U) Total	mg/L	0.0165	0.0075	-	-	0.00010			Working guideline status		
Vanadium (V) Total	mg/L	-	0.06	-	0.005	< 0.00050					Working guideline status
Zinc (Zn) Total	mg/L	-	-	0.055	0.010 5-week discrete sampling average = 0.0171 (EQP); 0.0259 (US); 0.0030 (DS)	0.0077					
Zirconium (Zr) Total	mg/L	-	-	-	-	< 0.00020					
Dissolved Metals											
Aluminum (Al) Dissolved	mg/L	-	-	-	-	0.0039					
Antimony (Sb) Dissolved	mg/L	-	-	-	-	< 0.00010					
Arsenic (As) Dissolved	mg/L	-	-	-	-	0.00141					
Barium (Ba) Dissolved	mg/L	-	-	-	-	0.00293					
Beryllium (Be) Dissolved	mg/L	-	-	-	-	< 0.000100					
Bismuth (Bi) Dissolved	mg/L	-	-	-	-	< 0.000050					
Boron (B) Dissolved	mg/L	-	-	-	-	0.01					
Cadmium (Cd) Dissolved	mg/L	Varies with hardness, see note US1 (background) guideline = 0.000034	Varies with hardness, see note US1 (background) guideline = 0.000034 5-week discrete sampling average = 0.00001 (EQP); 0.000068 (US); 0.000068 (DS)	-	-	< 0.0000050		Guideline is hardness dependent. Guideline is applicable to water hardness between 17 and 450 mg/L. Guideline is calculated with the following formula: Guideline = [0.9672 * LN(Hardness) - 3.2736]/1000 Lowest value for guideline is 0.000034 mg/L. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.	Guideline is hardness dependent. Guideline is applicable to hardness between 3.4 and 395 mg/L. Guideline is calculated with the following formula: Guideline = [EXP(0.726 * LN(Hardness) - 5.943)/1000] Lowest value for guideline is 0.00004. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.		
Calcium (Ca) Dissolved	mg/L	-	Categorical, see note	-	-	21.1			Guideline categorizes the sensitivity of a water body to acid inputs (i.e. buffering capacity). Standard is 4 mg/L dissolved Ca for the protection of freshwater life. Ca < 4 mg/L dissolved Ca is considered sensitivity to acid inputs. Waterbodies with dissolved calcium > 4mg/L are considered to have low sensitivity to acid inputs.		
Cesium (Cs) Dissolved	mg/L	-	-	-	-	0.000317					
Chromium (Cr) Dissolved	mg/L	-	-	-	-	< 0.00050					
Chromium (Cr(III)) Dissolved	mg/L	-	-	-	-	-					
Chromium (Cr(VI)) Dissolved	mg/L	-	-	-	-	-					
Cobalt (Co) Dissolved	mg/L	-	-	-	-	< 0.00010					
Copper (Cu) Dissolved	mg/L	Guideline varies with other parameters, see note US1 (background) guideline = 0.002	Guideline varies with other parameters, see note US1 (background) guideline = 0.0016 5-week discrete sampling average = 0.00429 (EQP); 0.00599 (US); 0.00599 (DS)	-	-	0.0011		Guideline varies with other parameters and is calculated using BC BLMsoftware. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date	Guideline varies with other parameters and is calculated using BC BLMsoftware. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date		
Iron (Fe) Dissolved	mg/L	0.35	-	-	-	< 0.010					
Lead (Pb) Dissolved	mg/L	-	Guideline varies with DOC and hardness Guideline: 0.00201 5-week discrete sampling average = 0.00174 (EQP); <0.00003 (US);	-	-	0.00271			Guideline varies with DOC and hardness, refer to BC Water Quality Guidelines for more information. Guideline uses equation Guideline = [EXP(1.273 * LN(DOC) + 1.46) * (0.210 * (LN(Hardness)^2) - 0.350 * LN(Hardness) - 3.4843)/1000] where DOC range is 0.5-34.3 mg/L and hardness range is 4.7-371 mg/L		
Lithium (Li) Dissolved	mg/L	-	-	-	-	0.0002					
Magnesium (Mg) Dissolved	mg/L	-	-	-	-	1.01					
Manganese (Mn) Dissolved	mg/L	-	-	-	-	0.00096					
Mercury (Hg) Dissolved	mg/L	-	-	-	-	< 0.0000050					
Molybdenum (Mo) Dissolved	mg/L	-	-	-	-	0.0163					
Nickel (Ni) Dissolved	mg/L	Guideline varies with pH, temperature, DOC, and hardness US1 (background) guideline: 0.00288 5-week discrete sampling average = 0.0059 (EQP); 0.00034 (US); 0.00058 (DS)	Guideline varies with pH, temperature, DOC, and hardness US1 (background) guideline: 0.00288 5-week discrete sampling average = 0.0071 (EQP); 0.0059 (US); 0.0058 (DS)	-	-	< 0.00050		Guideline varies with other parameters and is calculated using BC BLMsoftware. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date	Guideline varies with other parameters and is calculated using BC BLMsoftware. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date		
Phosphorus (P) Dissolved	mg/L	-	-	-	-	< 0.050					
Potassium (K) Dissolved	mg/L	-	-	-	-	0.87					
Rubidium (Rb) Dissolved	mg/L	-	-	-	-	0.00141					
Selenium (Se) Dissolved	mg/L	-	-	-	-	0.000063					
Silicon (Si) Dissolved	mg/L	-	-	-	-	6.3					
Silver (Ag) Dissolved	mg/L	-	-	-	-	< 0.000010					
Sodium (Na) Dissolved	mg/L	-	-	-	-	3.3					
Strontium (Sr) Dissolved	mg/L	-	-	-	-	0.0436					
Sulfur (S) Dissolved	mg/L	-	-	-	-	1.68					
Tellurium (Te) Dissolved	mg/L	-	-	-	-	< 0.00020					
Thallium (Tl) Dissolved	mg/L	-	-	-	-	< 0.000010					
Thorium (Th) Dissolved	mg/L	-	-	-	-	< 0.00010					
Tin (Sn) Dissolved	mg/L	-	-	-	-	< 0.00010					
Titanium (Ti) Dissolved	mg/L	-	-	-	-	< 0.00030					
Tungsten (W) Dissolved	mg/L	-	-	-	-	0.00026					
Uranium (U) Dissolved	mg/L	-	-	-	-	0.00012					
Vanadium (V) Dissolved	mg/L	-	-	-	-	< 0.00050					
Zinc (Zn) Dissolved	mg/L	Varies with DOC and hardness US1 (background) guideline = 0.008	Varies with pH, DOC, hardness US1 (background) guideline = 0.0046 5-week discrete sampling average = 0.0171 (EQP); 0.0074 (US); 0.008 (DS)	-	-	0.0072		Guideline varies with DOC and hardness. Guideline is calculated using the following formula: Guideline = [EXP(0.553 * LN(Hardness)) + (0.24 * (LN(DOC))) + 0.0516] If hardness or DOC is below the hardness or DOC range, the minimum hardness or DOC will be applied in the calculation.	Guideline varies with pH, hardness and Dissolved Organic Carbon (DOC). Guideline is calculated using the following formula: Guideline = [EXP(0.2374 * LN(Hardness)) - (0.016 * pH) + 0.394] If hardness or DOC is below the hardness or DOC range, the minimum hardness or DOC will be applied in the calculation.		
Zirconium (Zr) Dissolved	mg/L	-	-	-	-	< 0.00020					
Volatile Organic Compounds											
Chlorobenzene	µg/L	-	-	-	-	< 0.50					
Chloroethane	µg/L	-	-	-	-	< 5.0					
Dichlorobenzene, 1,2-	µg/L	-	0.7	-	42	< 0.50			Working guideline status		Working guideline status
Dichlorobenzene, 1,3-	µg/L	-	130	-	-	< 0.50			Working guideline status		
Dichlorobenzene, 1,4-	µg/L	-	26	-	-	< 0.50			Working guideline status		
Dichloroethane, 1,2-	µg/L	-	-	-	-	< 0.50					
Dichloroethylene, cis-1,2-	µg/L	-	-	-	-	< 0.75					
Dichloroethylene, cis-1,3-	µg/L	-	-	-	-	< 0.50					
Tetrachloroethane, 1,1,1,2-	µg/L	-	-	-	-	< 0.50					
Tetrachloroethane, 1,1,2,2-	µg/L	-	-	-	-	< 0.40					
Trichloroethane, 1,1,2-	µg/L	-	-	-	-	< 0.50					
Trichloroethylene	µg/L	-	-	-	-	< 0.50					
Carbon tetrachloride	µg/L	-	-	-	-	< 0.50					
Chloroform	µg/L	-	-	-	-	< 0.50					
Dichloroethane, 1,1-	µg/L	-	-	-	-	< 0.50					
Dichloroethane, 1,2-	µg/L	-	190	-	-	< 0.50			Working guideline status		
Dichloroethylene, 1,1-	µg/L	-	-	-	-	< 0.50					
Dichloroethylene, cis-1,2-	µg/L	-	-	-	-	< 0.50					
Dichloroethylene, trans-1,2-	µg/L	-	-	-	-	< 0.50					
Dichloromethane	µg/L	-	98.1	-	-	< 1.0			Working guideline status		
Dichloropropane, trans-1,3-	µg/L	-	-	-	-	< 0.50					
Hexachloroethane	µg/L	-	110	-	-	< 0.50			Working guideline status		
Trichloroethane, 1,1,1-	µg/L	-	-	-	-	< 0.40					
Dichloroethylene	µg/L	-	21	-	-	< 0.50			Working guideline status		
Vinyl chloride	µg/L	-	-	-	-	< 0.40					
Benzene	µg/L	-	40	-	110	< 0.50			Interim guideline status		Interim guideline status
Ethylbenzene	µg/L	-	200	-	200	< 0.50			Interim guideline status		Interim guideline status
Methyl-tert-butyl ether (MTBE)	µg/L	2400	-	440	-	< 0.50					
Styrene	µg/L	-	72	-	-	< 0.50			Working guideline status		
Toluene	µg/L	-	1.2	-	-	< 0.50					
Xylenes, m+p-	µg/L	-	-	-	-	< 0.40					
Xylene, o-	µg/L	-	-	-	-	< 0.40					
Styrene, total	µg/L	-	30	-	-	< 0.50					
Bromodichloromethane	µg/L	-	-	-	-	< 0.50					
Bromoform	µg/L	-	-	-	-	< 0.50					
Chloroform	µg/L	-	1.8	-	-	< 0.50			Working guideline status		
Monochloromethane	µg/L	-	-	-	-	< 0.50					
Hydrocarbons											
EPH (C10-C19)	µg/L	-	-	-	-	< 200					
EPH (C19-C32)	µg/L	-	-	-	-	< 200					
HEM (C9-C10)	µg/L	-	-	-	-	< 100					
VPHw	µg/L	-	-	-	-	< 100					
Polycyclic Aromatic Hydrocarbons											
Acenaphthene	µg/L	-	6	-	6	< 0.010					
Acenaphthylene	µg/L	-	-	-	-	< 0.010					
Acridine	µg/L	-	-	-	-	< 0.010					
Anthracene	µg/L	0.1	4	-	-	< 0.010					
Benz(a)anthracene	µg/L	0.1	0.1	-	-	< 0.010					
Benzo(a)pyrene	µg/L	0.01	0.01	-	0.01	< 0.0050					
Benzo(b+j)fluoranthene	µg/L	-	-	-	-	< 0.010					
Benzo(b+k)fluoranthene	µg/L	-	-	-	-	< 0.010					
Benzo(g,h,i)perylene	µg/L	-	-	-	-	< 0.010					
Benzo(k)fluoranthene	µg/L	-	-	-	-	< 0.010					
Chrysene	µg/L	-	-	-	0.1	< 0.010					
Dibenz(a,h)anthracene	µg/L	-	-	-	-	< 0.0050					
Fluoranthene	µg/L	0.2	4	-	4	< 0.010		Guideline is for phototoxic effects			
Fluorene	µg/L	-	12	-	12	< 0.010					
Indeno(1,2,3-c,d)pyrene	µg/L	-	-	-	-	< 0.010					
Methylnaphthalene, 1-	µg/L	-	-	-	1	< 0.010					Guideline is for total methylated naphthalene and is presented here for reference.
Methylnaphthalene, 2-	µg/L	-	-	-	1	< 0.010					Guideline is for total methylated naphthalene and is presented here for reference.
Naphthalene	µg/L	-	1	-	1	< 0.050					
Phenanthrene	µg/L	-	0.3	-	-	< 0.020					
Pyrene	µg/L	0.02	2.6	-	-	< 0.010					
Quinoline	µg/L	-	3.4	-	-	< 0.050		Working guideline status			
Glycols											
Ethylene glycol	mg/L	-	192	-	-	< 5.0					
Propylene glycol, 1,2-	mg/L	-	590	-	-	< 5.0					

Applied Guideline:

British Columbia Approved and Working Water Quality Guidelines (NOV 2023) for Freshwater Aquatic Life (FAL) & Marine Aquatic Life (MAL):
Short-Term (ST) & Long-Term (LT)

Color Key:

Exceeds FAL Short term Guideline	Exceeds both FAL and WAL Guideline	Exceeds WAL Short term Guideline

[1] BC MOECCS. 2023. BC Water Quality Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from: https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/water-quality-guidelines

[2] BC MOECCS. 2021. BC Working Water Quality Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from: https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-quality/water-quality-guidelines/approved-water-quality-guidelines

Short-term guideline is the long-term average of a water parameter, though this may vary by parameter and site conditions. Long-term guidelines applied here are for reference only and may not indicate chronic impacts to aquatic life if exceedances occur in the short-term (ST).

Background temperature ranges: Dec-Feb: 0-8.0C; Mar-Apr: 3.0-10.0C; May-June: 6.8-15.1C; Jul-present: 12.3-19.2C
Reference: AquaTROLL In-Situ Data Logger - Background water quality readings collected from Dec- present
For guidelines dependent on other parameters, when hardness, pH or DOC are below the range stated in the guideline, the lowest value in the range is used to calculate the guideline.

Parameters Used to Calculate Guidelines

Analyte	Units	Measurement method	Values	
			WLNG EQP	WLNG US 03-Dec-2024
pH (field)	pH units	Field pH meter using handheld meters during sampling used in calculations	7.8	7.8
Temperature (field)	°C	Field temperature taken using handheld meters during sampling used in calculations	9.4	4.6
Turbidity (field)	NTU	Field turbidity taken using handheld meters during sampling used in calculations	0.55	0.85
Hardness (as CaCO3) (total)	mg/L	Laboratory tested total hardness taken at each respective sample site on the day of sampling used in guideline calculations	87.1	6.76
Dissolved Organic Carbon (DOC)	mg/L	Laboratory tested dissolved organic carbon taken at the lab used in guideline calculations	0.5	1.51
Total Alkalinity ($CaCO_3$)	mg/L	Laboratory tested total alkalinity used in calculations	63.4	3
Chloride	mg/L	Laboratory tested chloride taken at each respective sample site on the day of sampling used in guideline calculations	0.8	0.75
Total Suspended Solids	mg/L	Laboratory tested total suspended solids tested at the lab used in guideline calculations	3	< 3.0

RESULTS OF RAINBOW TROUT LC50 MULTI-CONCENTRATION

Client : 4800 Triton Environmental Consultants Ltd., Vancouver Job Number: C498171

Client Project Name & Number: EGP EOP 11964-Task 40-phase 3C-4C

Test Result:

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

Sample Name : WLNG EOP

Description:	Clear and colourless			Sample Number:	DBJ753-01
Sample Collected:	Dec 03, 2024 12:56 PM	Sampling Method :	N/A	Site Collection:	N/A
Sample Collected By:	N/A	Volume Received:	4 x ECO10	Avg Temp Arrival:	8 °C Storage: 2-6°C
Sample Received:	Dec 03, 2024 05:23 PM	pH:	7.8	Dissolved Oxygen:	10.8 mg/L
Analysis Start :	Dec 04, 2024 12:50 PM	Temperature :	15 °C	Sample Conductance:	132 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	7.5	52	0	0	0
6.25	14	15	10.4	10.1	7.6	7.5	58	0	0	0
12.5	14	15	10.4	10.1	7.6	7.5	63	0	0	0
25	14	15	10.4	10.1	7.6	7.6	72	0	0	0
50	15	15	10.4	10.1	7.8	7.7	95	0	0	0
100	15	15	10.4	10.1	7.9	7.8	132	0	0	0

Comments : All fish appeared and behaved normally at 24 hours, 48 hours, 72 hours, and 96 hours into testing.

Culture/Control/Dilution Water Burnaby Municipal Dechlorinated Water

Hardness: 21 mg/L $CaCO_3$ 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 :	18 L	Vessel Volume :	20L	Test pH Adjusted:	No
Loading Density :	0.3 g/L	Photoperiod :	16:8 (light: dark)		

Test Organism : Rainbow Trout *(Oncorhynchus mykiss)* Source : Aqua Farm

Culture Temperature :	15 ± 2 °C	Weight (Mean) +- SD :	0.6 ± 0.2 g	Length (Mean) +- SD :	4.21 ± 0.34 cm
Culture Water Renewal :	≥ 1L/min/kg fish	Weight (Range) :	0.4 – 0.9 g	Length (Range) :	3.70 – 4.80 cm
Culture Photoperiod :	16:8 (light: dark)			% Mortality within 7 days :	0%
Feeding rate and frequency :	daily: 1-5% biomass of trout.			Acclimation Time:	>14 days

Reference chemical: Zinc Test Date: Nov 19, 2024

Test Endpoint 96 hrs LC50 (95% confidence interval) : 0.21 (0.19, 0.24)mg/L Statistical Method : Untrimmed Spearman-Kärber

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.

Analyst : Melanie Mazziotti, Ryan Colman

Verified By : Kimberly Tamaki, Scientist, Ecotoxicology Date: Dec 11, 2024 01:15 PM

Woodfibre Site Sample Lab Documentation

CERTIFICATE OF ANALYSIS

Work Order	: **VA24D2625**		
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 03-Dec-2024 18:00
PO	: 11964-Task 40-Phase 3C-4C	Date Analysis Commenced	: 04-Dec-2024
C-O-C number	: ----	Issue Date	: 11-Dec-2024 08:35
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
- Surrogate Control Limits

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
	Laboratory Analyst	Inorganics, Edmonton, Alberta
	Supervisor - Organics Instrumentation	Organics, Burnaby, British Columbia
	Department Manager - Metals	Metals, Burnaby, British Columbia
	Supervisor - Water Chemistry	Inorganics, Burnaby, British Columbia
		Metals, Burnaby, British Columbia
	Account Manager Assistant	Administration, Burnaby, British Columbia
	Team Leader - Metals	Inorganics, Burnaby, British Columbia
	Team Leader - Metals	Metals, Burnaby, British Columbia
	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

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

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

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

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

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

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

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	WLNG EOP	DUP	----	----	----
				Client sampling date / time	03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D2625-001	VA24D2625-002	----	----	----
					Result	Result	----	----	----
Field Tests									
Conductivity, field	----	EF001/VA	0.10	µS/cm	144.00	144.00	----	----	----
pH, field	----	EF001/VA	0.10	pH units	7.85	7.85	----	----	----
Temperature, field	----	EF001/VA	0.10	°C	9.50	9.50	----	----	----
Physical Tests									
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	56.8	59.0	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	57.1	58.6	----	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	83	91	----	----	----
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	<3.0	<3.0	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L	63.4	62.8	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	0.0119	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	<0.050	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	0.80	0.80	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.214	0.214	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.0139	0.0130	----	----	----
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	0.059	0.070	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0044	0.0059	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	5.08	5.09	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	<0.50	<0.50	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	DUP	----	----	----
					Client sampling date / time	03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
						VA24D2625-001	VA24D2625-002	----	----	----
						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		0.0068	0.0071	----	----	----
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		0.00141	0.00146	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00299	0.00292	----	----	----
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	0.011	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000100 DLM	0.0000064	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		21.2	21.8	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000011	0.000012	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	0.00734	----	----	----
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		0.00124	0.00059	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.014	0.100	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.000295	0.000177	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0020	0.0021	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		1.02	1.00	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	DUP	----	----	----
					Client sampling date / time	03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
						VA24D2625-001	VA24D2625-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00097	0.00137	----	----	----
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		0.0187	0.0191	----	----	----
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		0.858	0.864	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00160	0.00153	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.000086	<0.000050	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		6.31	6.48	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		3.29	3.30	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0426	0.0412	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		1.66	1.62	----	----	----
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		<0.00030	<0.00030	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		0.00025	0.00024	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.00515	0.00507	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	0.00110	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	DUP	----	----	----
					Client sampling date / time	03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
						VA24D2625-001	VA24D2625-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0077	0.0077	----	----	----
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		0.0029	0.0029	----	----	----
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		0.00141	0.00140	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L		0.00303	0.00320	----	----	----
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		<0.0000050	<0.0000100 DLM	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		21.1	22.0	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L		0.000011	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		0.00110	0.00101	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L		<0.010	<0.010	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L		0.000271	0.000266	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L		0.0022	0.0021	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		1.01	0.979	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		0.00098	0.00117	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	DUP	----	----	----
					Client sampling date / time	03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
						VA24D2625-001	VA24D2625-002	----	----	----
						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		0.0183	0.0178	----	----	----
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		0.870	0.832	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00141	0.00133	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L		0.000063	0.000083	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L		6.30	6.17	----	----	----
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		3.30	3.25	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		0.0426	0.0411	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		1.68	1.46	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L		<0.00020	<0.00020	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L		<0.000010	<0.000010	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L		<0.00030	<0.00030	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L		0.00026	0.00026	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L		0.00522	0.00546	----	----	----
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		0.0072	0.0067	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)			Client sample ID		WLNG EOP	DUP	----	----	----
			Client sampling date / time		03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D2625-001	VA24D2625-002	----	----	----
					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	0.00734	----	----	----
Aggregate Organics									
Phenols, total (4AAP)	----	E562/EO	0.0010	mg/L	<0.0010	<0.0010	----	----	----
Volatile Organic Compounds									
Chlorobenzene	108-90-7	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----
Chloromethane	74-87-3	E611C/VA	5.0	µg/L	<5.0	<5.0	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----
Dichloropropane, 1,2-	78-87-5	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	0.75	µg/L	<0.75	<0.75	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C/VA	0.20	µg/L	<0.20	<0.20	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----
Trichlorofluoromethane	75-69-4	E611C/VA	0.50	µg/L	<0.50	<0.50	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	DUP	----	----	----
					Client sampling date / time	03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
						VA24D2625-001	VA24D2625-002	----	----	----
						Result	Result	----	----	----
Volatile Organic Compounds [Drycleaning]										
Carbon tetrachloride	56-23-5	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Chloroethane	75-00-3	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Dichloroethane, 1,1-	75-34-3	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Dichloroethane, 1,2-	107-06-2	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Dichloromethane	75-09-2	E611C/VA	1.0	µg/L		<1.0	<1.0	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Tetrachloroethylene	127-18-4	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Trichloroethylene	79-01-6	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Vinyl chloride	75-01-4	E611C/VA	0.40	µg/L		<0.40	<0.40	----	----	----
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Ethylbenzene	100-41-4	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Styrene	100-42-5	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Toluene	108-88-3	E611C/VA	0.40	µg/L		<0.40	<0.40	----	----	----
Xylene, m+p-	179601-23-1	E611C/VA	0.40	µg/L		<0.40	<0.40	----	----	----
Xylene, o-	95-47-6	E611C/VA	0.30	µg/L		<0.30	<0.30	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	DUP	----	----	----
					Client sampling date / time	03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
						VA24D2625-001	VA24D2625-002	----	----	----
						Result	Result	----	----	----
Volatile Organic Compounds [Fuels]										
Xylenes, total	1330-20-7	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Bromoform	75-25-2	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Chloroform	67-66-3	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Dibromochloromethane	124-48-1	E611C/VA	0.50	µg/L		<0.50	<0.50	----	----	----
Hydrocarbons										
EPH (C10-C19)	----	E601A/VA	250	µg/L		<250	<250	----	----	----
EPH (C19-C32)	----	E601A/VA	250	µg/L		<250	<250	----	----	----
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	<100	----	----	----
HEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	----
LEPHw	----	EC600A/VA	250	µg/L		<250	<250	----	----	----
VPHw	----	EC580A/VA	100	µg/L		<100	<100	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (EPH surrogate)	392-83-6	E601A/VA	1.0	%		92.4	96.2	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		81.2	93.7	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611C/VA	1.0	%		89.2	93.8	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611C/VA	1.0	%		98.9	100	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	DUP	----	----	----
					Client sampling date / time	03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
						VA24D2625-001	VA24D2625-002	----	----	----
						Result	Result	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	<0.015	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	<0.0050	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		<0.020	<0.020	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L		<0.010	<0.010	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L		<0.050	<0.050	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	WLNG EOP	DUP	----	----	----
					Client sampling date / time	03-Dec-2024 12:56	03-Dec-2024 00:00	----	----	----
						VA24D2625-001	VA24D2625-002	----	----	----
						Result	Result	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		75.5	80.4	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		103	108	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		98.4	101	----	----	----
Glycols										
Diethylene glycol	111-46-6	E680E/VA	5.0	mg/L		<5.0	<5.0	----	----	----
Ethylene glycol	107-21-1	E680E/VA	5.0	mg/L		<5.0	<5.0	----	----	----
Propylene glycol, 1,2-	57-55-6	E680E/VA	5.0	mg/L		<5.0	<5.0	----	----	----
Triethylene glycol	112-27-6	E680E/VA	5.0	mg/L		<5.0	<5.0	----	----	----
Glycols, total (EG+DEG+PG)	----	E680E/VA	10	mg/L		<10	<10	----	----	----
Glycols Surrogates										
Propanediol, 1,3-	504-63-2	E680E/VA	1.0	%		112	109	----	----	----

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

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24D2625**	Page	: 1 of 18
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 03-Dec-2024 18:00
PO	: 11964-Task 40-Phase 3C-4C	Issue Date	: 11-Dec-2024 08:34
C-O-C number	: ----		
Sampler			
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Matrix Spike outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Matrix Spike (MS) Recoveries								
Dissolved Metals	Anonymous	Anonymous	Thorium, dissolved	7440-29-1	E421	60.4 % 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).*

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	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid) WLNG EOP	E562	03-Dec-2024	06-Dec-2024	28 days	3 days	✓	06-Dec-2024	28 days	3 days	✓
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry										
Amber glass total (sulfuric acid) DUP	E562	03-Dec-2024	06-Dec-2024	28 days	3 days	✓	06-Dec-2024	28 days	4 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) WLNG EOP	E298	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	06-Dec-2024	28 days	3 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) DUP	E298	03-Dec-2024	04-Dec-2024	28 days	2 days	✓	06-Dec-2024	28 days	4 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE DUP	E235.Br-L	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE WLNG EOP	E235.Br-L	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE DUP	E235.Cl	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE WLNG EOP	E235.Cl	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE DUP	E235.F	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE WLNG EOP	E235.F	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE DUP	E235.NO3-L	03-Dec-2024	04-Dec-2024	3 days	1 days	✓	04-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE WLNG EOP	E235.NO3-L	03-Dec-2024	04-Dec-2024	3 days	1 days	✓	04-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE DUP	E235.NO2-L	03-Dec-2024	04-Dec-2024	3 days	1 days	✓	04-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE WLNG EOP	E235.NO2-L	03-Dec-2024	04-Dec-2024	3 days	1 days	✓	04-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE DUP	E235.SO4	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE WLNG EOP	E235.SO4	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid)										
WLNG EOP	E366	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	05-Dec-2024	28 days	2 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid)										
DUP	E366	03-Dec-2024	04-Dec-2024	28 days	2 days	✓	05-Dec-2024	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
WLNG EOP	E372-U	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	05-Dec-2024	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
DUP	E372-U	03-Dec-2024	04-Dec-2024	28 days	2 days	✓	05-Dec-2024	28 days	2 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
DUP	E509	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
WLNG EOP	E509	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
WLNG EOP	E421	03-Dec-2024	03-Dec-2024	180 days	0 days	✓	04-Dec-2024	180 days	1 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
DUP	E421	03-Dec-2024	04-Dec-2024	180 days	2 days	✓	05-Dec-2024	180 days	2 days	✓
Field Tests : Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial dissolved (hydrochloric acid)										
WLNG EOP	EF001	03-Dec-2024	----	----	----		04-Dec-2024	----	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	
Field Tests : Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial dissolved (hydrochloric acid)										
DUP	EF001	03-Dec-2024	----	----	----		04-Dec-2024	----	2 days	
Glycols : Glycols (4 analytes) by GC-FID										
Glass vial										
DUP	E680E	03-Dec-2024	05-Dec-2024	7 days	2 days	✓	05-Dec-2024	40 days	0 days	✓
Glycols : Glycols (4 analytes) by GC-FID										
Glass vial										
WLNG EOP	E680E	03-Dec-2024	05-Dec-2024	7 days	2 days	✓	05-Dec-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
DUP	E601A	03-Dec-2024	10-Dec-2024	14 days	7 days	✓	10-Dec-2024	40 days	0 days	✓
Hydrocarbons : BC PHCs - EPH by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate)										
WLNG EOP	E601A	03-Dec-2024	10-Dec-2024	14 days	7 days	✓	10-Dec-2024	40 days	0 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
DUP	E581.VH+F1	03-Dec-2024	05-Dec-2024	14 days	2 days	✓	05-Dec-2024	14 days	2 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
WLNG EOP	E581.VH+F1	03-Dec-2024	05-Dec-2024	14 days	2 days	✓	05-Dec-2024	14 days	2 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
WLNG EOP	E358-L	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	05-Dec-2024	28 days	2 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
DUP	E358-L	03-Dec-2024	04-Dec-2024	28 days	2 days	✓	05-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Alkalinity Species by Titration										
HDPE										
DUP	E290	03-Dec-2024	04-Dec-2024	14 days	1 days	✓	04-Dec-2024	14 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE										
WLNG EOP	E290	03-Dec-2024	04-Dec-2024	14 days	1 days	✓	04-Dec-2024	14 days	1 days	✓
Physical Tests : TDS by Gravimetry										
HDPE										
DUP	E162	03-Dec-2024	----	----	----		04-Dec-2024	7 days	1 days	✓
Physical Tests : TDS by Gravimetry										
HDPE										
WLNG EOP	E162	03-Dec-2024	----	----	----		04-Dec-2024	7 days	1 days	✓
Physical Tests : TSS by Gravimetry										
HDPE										
DUP	E160	03-Dec-2024	----	----	----		04-Dec-2024	7 days	1 days	✓
Physical Tests : TSS by Gravimetry										
HDPE										
WLNG EOP	E160	03-Dec-2024	----	----	----		04-Dec-2024	7 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
DUP	E641A	03-Dec-2024	10-Dec-2024	14 days	7 days	✓	10-Dec-2024	40 days	0 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
WLNG EOP	E641A	03-Dec-2024	10-Dec-2024	14 days	7 days	✓	10-Dec-2024	40 days	0 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
WLNG EOP	E532	03-Dec-2024	----	----	----		03-Dec-2024	28 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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide)										
DUP	E532	03-Dec-2024	----	----	----		03-Dec-2024	28 days	1 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
DUP	E508	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
WLNG EOP	E508	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
WLNG EOP	E420	03-Dec-2024	03-Dec-2024	180 days	0 days	✓	04-Dec-2024	180 days	1 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
DUP	E420	03-Dec-2024	04-Dec-2024	180 days	2 days	✓	04-Dec-2024	180 days	2 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
DUP	E395	03-Dec-2024	----	----	----		04-Dec-2024	7 days	1 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
WLNG EOP	E395	03-Dec-2024	----	----	----		04-Dec-2024	7 days	1 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
DUP	E611C	03-Dec-2024	05-Dec-2024	14 days	2 days	✓	05-Dec-2024	14 days	2 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
WLNG EOP	E611C	03-Dec-2024	05-Dec-2024	14 days	2 days	✓	05-Dec-2024	14 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			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1794746	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1796144	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1794752	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1794751	1	16	6.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794655	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1794439	2	8	25.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1796140	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1794750	1	13	7.6	5.0	✓
Glycols (4 analytes) by GC-FID	E680E	1796675	1	2	50.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1794748	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1794749	1	16	6.2	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1798925	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1794747	1	13	7.6	5.0	✓
TDS by Gravimetry	E162	1795239	1	19	5.2	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1794495	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1794571	1	5	20.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1794435	2	9	22.2	5.0	✓
Total Nitrogen by Colourimetry	E366	1796141	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1796142	1	16	6.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1795176	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	1795233	1	19	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1796820	1	9	11.1	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1796821	1	2	50.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1794746	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1796144	1	16	6.2	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1803294	1	3	33.3	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1794752	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1794751	1	16	6.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794655	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1794439	2	8	25.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1796140	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1794750	1	13	7.6	5.0	✓
Glycols (4 analytes) by GC-FID	E680E	1796675	1	2	50.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1794748	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1794749	1	16	6.2	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
PAHs in Water by Hexane LVI GC-MS	E641A	1803295	1	8	12.5	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1798925	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1794747	1	13	7.6	5.0	✓
TDS by Gravimetry	E162	1795239	1	19	5.2	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1794495	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1794571	1	5	20.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1794435	2	9	22.2	5.0	✓
Total Nitrogen by Colourimetry	E366	1796141	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1796142	1	16	6.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1795176	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	1795233	1	19	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1796820	1	9	11.1	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1796821	1	2	50.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1794746	1	16	6.2	5.0	✓
Ammonia by Fluorescence	E298	1796144	1	16	6.2	5.0	✓
BC PHCs - EPH by GC-FID	E601A	1803294	1	3	33.3	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1794752	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1794751	1	16	6.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794655	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1794439	2	8	25.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1796140	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1794750	1	13	7.6	5.0	✓
Glycols (4 analytes) by GC-FID	E680E	1796675	1	2	50.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1794748	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1794749	1	16	6.2	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	1803295	1	8	12.5	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1798925	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1794747	1	13	7.6	5.0	✓
TDS by Gravimetry	E162	1795239	1	19	5.2	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1794495	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1794571	1	5	20.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1794435	2	9	22.2	5.0	✓
Total Nitrogen by Colourimetry	E366	1796141	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1796142	1	16	6.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1795176	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	1795233	1	19	5.2	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1796820	1	9	11.1	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1796821	1	2	50.0	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1796144	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1794752	1	13	7.6	5.0	✓
Chloride in Water by IC	E235.Cl	1794751	1	16	6.2	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1794655	1	19	5.2	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1794439	1	8	12.5	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1796140	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1794750	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1794748	1	13	7.6	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1794749	1	16	6.2	5.0	✓
Phenols (4AAP) in Water by Colorimetry	E562	1798925	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1794747	1	13	7.6	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1794495	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1794571	1	5	20.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1794435	1	9	11.1	5.0	✓
Total Nitrogen by Colourimetry	E366	1796141	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1796142	1	16	6.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1795176	1	12	8.3	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1796820	1	9	11.1	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	1796821	1	2	50.0	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 ± 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.
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 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.
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 methlyene blue colourimetric method. Results expressed "as H2S" if reported represent the maximum possible H2S concentration based on the total sulfide concentration in the sample. The H2S calculation converts Total Sulphide as (S2-) and reports it as Total Sulphide as (H2S)
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 ($K_3Fe(CN)_6$) 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 CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 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, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine	EF001 ALS Environmental - Vancouver	Water	Field Measurement (Client Supplied)	Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3 or Chloramine measurements provided by client and recorded on ALS report may affect the validity of results.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
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 orgaic solvent.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **VA24D2625**	Page	: 1 of 30
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 03-Dec-2024 18:00
PO	: 11964-Task 40-Phase 3C-4C	Date Analysis Commenced	: 03-Dec-2024
C-O-C number	: ----	Issue Date	: 11-Dec-2024 08:34
Sampler	:		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
	Laboratory Analyst	Edmonton Inorganics, Edmonton, Alberta
	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
	Supervisor - Water Chemistry	Vancouver Inorganics, Burnaby, British Columbia
		Vancouver Metals, Burnaby, British Columbia
	Account Manager Assistant	Vancouver Administration, Burnaby, British Columbia
	Team Leader - Metals	Vancouver Inorganics, Burnaby, British Columbia
	Team Leader - Metals	Vancouver Metals, Burnaby, British Columbia
	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia

General Comments

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

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Physical Tests (QC Lot: 1794746)											
VA24D2559-020	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1795233)											
VA24D2301-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 1795239)											
VA24D2301-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	193	181	12	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1794747)											
VA24D2559-020	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	<0.30	<0.30	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1794748)											
VA24D2559-020	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1794749)											
VA24D2559-020	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: 1794750)											
VA24D2559-020	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1794751)											
VA24D2559-020	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1794752)											
VA24D2559-020	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: 1796141)											
VA24D2625-001	WLNG EOP	Nitrogen, total	7727-37-9	E366	0.030	mg/L	0.059	0.059	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1796142)											
VA24D2625-001	WLNG EOP	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0044	0.0049	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1796144)											
VA24D2625-001	WLNG EOP	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1796140)											
VA24D2625-001	WLNG EOP	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Total Sulfides (QC Lot: 1795176)											
VA24D2625-001	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: 1794435)											
VA24D2625-001	WLNG EOP	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0068	0.0070	0.0002	Diff <2x LOR	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	*Client sample ID*	*Analyte*	*CAS Number*	*Method*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD(%) or Difference*	*Duplicate Limits*	*Qualifier*
Total Metals (QC Lot: 1794435) - continued											
VA24D2625-001	WLNG EOP	Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00141	0.00141	0.371%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.00299	0.00297	0.507%	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	0.0002	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000100	mg/L	<0.0000100	<0.0000100	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	21.2	20.3	4.12%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000011	0.000011	0.000000008	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00124	0.00126	0.00001	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.014	0.014	0.0004	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000295	0.000294	0.000002	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0020	0.0020	0.00003	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	1.02	1.03	1.13%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.00097	0.00099	0.00002	Diff <2x LOR	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0187	0.0182	2.68%	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	0.858	0.866	0.938%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00160	0.00149	0.00011	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000086	0.000072	0.000015	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	6.31	6.17	2.22%	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	0.050	mg/L	3.29	3.27	0.669%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.0426	0.0417	2.25%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	1.66	1.73	0.07	Diff <2x LOR	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00025	0.00024	0.00002	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00515	0.00505	2.06%	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: 1794435) - continued											
VA24D2625-001	WLNG EOP	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	0.0077	0.0076	0.0002	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: 1794571)											
VA24D2599-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000250	mg/L	0.0000440	0.0000430	0.0000010	Diff <2x LOR	----
Total Metals (QC Lot: 1794590)											
VA24D2597-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0768	0.0762	0.712%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00912	0.00894	2.01%	20%	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00388	0.00397	2.15%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0385	0.0385	0.209%	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	0.112	0.593%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000200	0.0000158	0.0000042	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	27.5	28.1	2.26%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.00179	0.00176	1.67%	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	0.015	0.015	0.00009	Diff <2x LOR	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000196	0.000203	0.000007	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0586	0.0601	2.54%	20%	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	2.00	1.98	1.30%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0616	0.0616	0.00588%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.0107	0.0106	1.15%	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	14.7	14.9	1.74%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.0179	0.0177	1.20%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000792	0.000745	6.16%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	1.77	1.70	3.91%	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	31.2	30.8	1.26%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.486	0.484	0.392%	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: 1794590) - continued											
VA24D2597-001	Anonymous	Sulfur, total	7704-34-9	E420	0.50	mg/L	25.3	25.1	0.681%	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	0.000041	0.000042	0.000001	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	0.00047	0.00064	0.00017	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00110	0.00112	1.89%	20%	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000430	0.000424	1.45%	20%	----
		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	----
Dissolved Metals (QC Lot: 1794439)											
VA24D2625-001	WLNG EOP	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0029	0.0033	0.0003	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	0.00141	0.00141	0.411%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.00303	0.00298	1.65%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.010	0.010	0.0003	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	0.0000074	0.0000024	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	21.1	21.4	1.38%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000011	0.000012	0.0000005	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00110	0.00110	0.000005	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	0.000271	0.000279	0.000008	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0022	0.0021	0.00004	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	1.01	1.01	0.680%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.00098	0.00103	5.33%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.0183	0.0180	1.50%	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	0.870	0.858	1.40%	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: 1794439) - continued											
VA24D2625-001	WLNG EOP	Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00141	0.00151	0.00010	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000063	0.000068	0.000006	Diff <2x LOR	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	6.30	6.28	0.278%	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	3.30	3.18	3.44%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.0426	0.0417	2.12%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	1.68	1.61	0.07	Diff <2x LOR	----
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000010	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	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	0.00026	0.00026	0.0000003	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00522	0.00537	2.94%	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	0.0072	0.0071	0.0002	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1794614)											
VA24D2597-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0143	0.0148	3.34%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00890	0.00895	0.589%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00382	0.00368	3.75%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0392	0.0376	4.07%	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	0.104	0.107	2.92%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000193	0.0000191	0.0000002	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	27.7	28.2	1.73%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.00167	0.00172	2.91%	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	0.0566	0.0577	1.90%	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: 1794614) - continued											
VA24D2597-001	Anonymous	Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	1.91	1.91	0.171%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.0586	0.0590	0.649%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.0104	0.0104	0.418%	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	13.9	14.2	2.68%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.0169	0.0171	0.794%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000765	0.000834	8.58%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	1.54	1.54	0.246%	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	31.5	31.2	0.958%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.476	0.487	2.28%	20%	----
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	23.5	23.7	0.922%	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	0.000045	0.000042	0.000003	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	0.00110	0.00111	0.306%	20%	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000453	0.000443	2.25%	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	0.0021	<0.0010	0.0011	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: 1794655)											
VA24D2006-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 1794495)											
VA24D2553-001	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L	0.00133	0.00144	0.00011	Diff <2x LOR	----
Aggregate Organics (QC Lot: 1798925)											
VA24D2625-001	WLNG EOP	Phenols, total (4AAP)	----	E562	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1796821)											
VA24D2625-001	WLNG EOP	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	----

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: 1796821) - continued											
VA24D2625-001	WLNG EOP	Chlorobenzene	108-90-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroethane	75-00-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloromethane	74-87-3	E611C	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611C	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		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: 1796820)											
FJ2403626-002	Anonymous	VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----
Glycols (QC Lot: 1796675)											

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: 1796675) - continued											
VA24D2625-001	WLNG EOP	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: 1794746)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 1795233)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 1795239)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 1794747)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1794748)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1794749)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1794750)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1794751)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1794752)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1796141)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Anions and Nutrients (QCLot: 1796142)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1796144)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1796140)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1795176)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1794435)						
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: 1794435) - 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: 1794571)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 1794590)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1794590) - continued						
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	----
Dissolved Metals (QCLot: 1794439)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1794439) - continued						
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: 1794614)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1794614) - continued						
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	----
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: 1794655)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1794495)						
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	<0.00050	----
Aggregate Organics (QCLot: 1798925)						
Phenols, total (4AAP)	----	E562	0.001	mg/L	<0.0010	----
Volatile Organic Compounds (QCLot: 1796821)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1796821) - continued						
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	----
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: 1796820)						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Hydrocarbons (QCLot: 1803294)						
EPH (C10-C19)	----	E601A	250	µg/L	<250	----
EPH (C19-C32)	----	E601A	250	µg/L	<250	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1803295)						
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1803295) - continued						
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	----
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: 1796675)						
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: 1794746)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1795233)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	101	85.0	115	----
Physical Tests (QCLot: 1795239)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	107	85.0	115	----
Anions and Nutrients (QCLot: 1794747)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.1	90.0	110	----
Anions and Nutrients (QCLot: 1794748)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.5	90.0	110	----
Anions and Nutrients (QCLot: 1794749)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.4	90.0	110	----
Anions and Nutrients (QCLot: 1794750)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	97.6	90.0	110	----
Anions and Nutrients (QCLot: 1794751)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.5	90.0	110	----
Anions and Nutrients (QCLot: 1794752)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	104	85.0	115	----
Anions and Nutrients (QCLot: 1796141)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	91.2	75.0	125	----
Anions and Nutrients (QCLot: 1796142)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	94.4	80.0	120	----
Anions and Nutrients (QCLot: 1796144)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1796140)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	100	80.0	120	----
Total Sulfides (QCLot: 1795176)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	99.4	80.0	120	----
Total Metals (QCLot: 1794435)									

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: 1794435) - 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	103	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	111	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	100	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.5	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	98.2	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	111	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	98.6	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	107	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	107	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	103	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	97.1	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	99.1	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	96.9	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	111	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	101	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	105	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	108	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	104	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	104	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	98.4	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	107	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	95.1	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	110	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	101	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	107	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	102	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	101	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1794435) - 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	105	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	100	80.0	120	----
Total Metals (QCLot: 1794571)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	96.9	80.0	120	----
Total Metals (QCLot: 1794590)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	99.0	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	102	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	105	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	93.8	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	99.8	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	97.3	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	97.2	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	96.5	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	105	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.5	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	95.9	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	96.0	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	92.0	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	98.6	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	97.4	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	98.0	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	96.7	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	104	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	96.8	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	98.0	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	95.8	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	92.9	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	108	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	96.0	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	99.8	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	98.7	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	105	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1794590) - continued									
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	100	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	95.6	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	104	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	96.9	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	99.1	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	95.4	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	98.0	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	95.9	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	100.0	80.0	120	----
Dissolved Metals (QCLot: 1794439)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	108	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	104	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	112	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	103	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	102	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	108	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	107	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	110	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	104	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	98.2	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	105	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	100	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	114	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	107	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	104	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	113	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	104	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	110	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	107	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	109	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: 1794439) - continued									
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	98.9	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	108	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	105	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	94.9	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	112	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	106	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	102	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	108	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	106	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	104	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	106	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	102	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Dissolved Metals (QCLot: 1794614)									
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	99.4	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	106	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	99.3	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	98.9	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	96.0	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.6	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	104	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	101	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	99.8	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	99.2	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	100	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	97.6	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	99.8	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	100	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	99.4	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	106	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1794614) - continued									
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	99.4	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	99.0	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	103	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	94.8	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	105	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	103	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	84.8	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	99.2	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	99.0	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	95.2	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	97.0	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	99.6	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	104	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	93.7	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	96.7	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	96.3	80.0	120	----
Speciated Metals (QCLot: 1794495)									
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.25 mg/L	100	80.0	120	----
Aggregate Organics (QCLot: 1798925)									
Phenols, total (4AAP)	----	E562	0.001	mg/L	0.02 mg/L	96.4	85.0	115	----
Volatile Organic Compounds (QCLot: 1796821)									
Benzene	71-43-2	E611C	0.5	µg/L	100 µg/L	106	70.0	130	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	100 µg/L	111	70.0	130	----
Bromoform	75-25-2	E611C	0.5	µg/L	100 µg/L	127	70.0	130	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	100 µg/L	123	70.0	130	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	100 µg/L	104	70.0	130	----
Chloroethane	75-00-3	E611C	0.5	µg/L	100 µg/L	119	60.0	140	----
Chloroform	67-66-3	E611C	0.5	µg/L	100 µg/L	104	70.0	130	----
Chloromethane	74-87-3	E611C	5	µg/L	100 µg/L	102	60.0	140	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	100 µg/L	129	70.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike: Target Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Volatile Organic Compounds (QCLot: 1796821) - continued									
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	100 µg/L	104	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	100 µg/L	110	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	100 µg/L	109	70.0	130	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	100 µg/L	107	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	100 µg/L	97.1	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	100 µg/L	109	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	100 µg/L	103	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	100 µg/L	109	70.0	130	----
Dichloromethane	75-09-2	E611C	1	µg/L	100 µg/L	95.5	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	100 µg/L	99.7	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	100 µg/L	81.2	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	100 µg/L	70.9	70.0	130	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	100 µg/L	116	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	100 µg/L	97.3	70.0	130	----
Styrene	100-42-5	E611C	0.5	µg/L	100 µg/L	109	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	100 µg/L	115	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	100 µg/L	100.0	70.0	130	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	100 µg/L	126	70.0	130	----
Toluene	108-88-3	E611C	0.4	µg/L	100 µg/L	113	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	100 µg/L	95.2	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	100 µg/L	93.5	70.0	130	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	100 µg/L	112	70.0	130	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	100 µg/L	90.1	60.0	140	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	100 µg/L	107	60.0	140	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	200 µg/L	116	70.0	130	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	100 µg/L	110	70.0	130	----
Hydrocarbons (QCLot: 1796820)									
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	79.7	70.0	130	----
Hydrocarbons (QCLot: 1803294)									
EPH (C10-C19)	----	E601A	250	µg/L	13000 µg/L	104	70.0	130	----
EPH (C19-C32)	----	E601A	250	µg/L	6730 µg/L	106	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1803295)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	126	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: 1803295) - continued									
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	125	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	126	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	124	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	111	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	118	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	126	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	120	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	120	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	120	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	115	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	129	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	117	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	123	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	118	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	127	60.0	130	----
Glycols (QCLot: 1796675)									
Diethylene glycol	111-46-6	E680E	5	mg/L	25 mg/L	90.9	70.0	130	----
Ethylene glycol	107-21-1	E680E	5	mg/L	25 mg/L	92.5	70.0	130	----
Propylene glycol, 1,2-	57-55-6	E680E	5	mg/L	25 mg/L	87.1	70.0	130	----
Triethylene glycol	112-27-6	E680E	5	mg/L	25 mg/L	93.4	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: 1794747)										
VA24D2559-021	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1794748)										
VA24D2559-021	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.53 mg/L	2.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1794749)										
VA24D2559-021	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.504 mg/L	0.5 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 1794750)										
VA24D2559-021	Anonymous	Fluoride	16984-48-8	E235.F	1.00 mg/L	1 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1794751)										
VA24D2559-021	Anonymous	Chloride	16887-00-6	E235.Cl	102 mg/L	100 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 1794752)										
VA24D2559-021	Anonymous	Bromide	24959-67-9	E235.Br-L	0.539 mg/L	0.5 mg/L	108	75.0	125	----
Anions and Nutrients (QCLot: 1796141)										
VA24D2625-002	DUP	Nitrogen, total	7727-37-9	E366	0.386 mg/L	0.4 mg/L	96.4	70.0	130	----
Anions and Nutrients (QCLot: 1796142)										
VA24D2625-002	DUP	Phosphorus, total	7723-14-0	E372-U	0.0478 mg/L	0.05 mg/L	95.6	70.0	130	----
Anions and Nutrients (QCLot: 1796144)										
VA24D2625-002	DUP	Ammonia, total (as N)	7664-41-7	E298	0.103 mg/L	0.1 mg/L	103	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1796140)										
VA24D2625-002	DUP	Carbon, dissolved organic [DOC]	----	E358-L	5.26 mg/L	5 mg/L	105	70.0	130	----
Total Sulfides (QCLot: 1795176)										
VA24D2625-002	DUP	Sulfide, total (as S)	18496-25-8	E395	0.212 mg/L	0.2 mg/L	106	75.0	125	----
Total Metals (QCLot: 1794571)										
VA24D2625-001	WLNG EOP	Mercury, total	7439-97-6	E508	0.0000955 mg/L	0 mg/L	95.5	70.0	130	----
Total Metals (QCLot: 1794590)										
VA24D2597-002	Anonymous	Aluminum, total	7429-90-5	E420	0.200 mg/L	0.2 mg/L	100	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00951 mg/L	0.01 mg/L	95.1	70.0	130	----
		Boron, total	7440-42-8	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00403 mg/L	0.004 mg/L	101	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: 1794590) - continued										
VA24D2597-002	Anonymous	Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0101 mg/L	0.01 mg/L	101	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0390 mg/L	0.04 mg/L	97.6	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0190 mg/L	0.02 mg/L	94.8	70.0	130	----
		Copper, total	7440-50-8	E420	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	----
		Iron, total	7439-89-6	E420	1.83 mg/L	2 mg/L	91.6	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	0.0911 mg/L	0.1 mg/L	91.1	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	0.0198 mg/L	0.02 mg/L	98.9	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0376 mg/L	0.04 mg/L	94.1	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.00 mg/L	10 mg/L	100.0	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0198 mg/L	0.02 mg/L	99.0	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0364 mg/L	0.04 mg/L	91.0	70.0	130	----
		Silicon, total	7440-21-3	E420	9.62 mg/L	10 mg/L	96.2	70.0	130	----
		Silver, total	7440-22-4	E420	0.00391 mg/L	0.004 mg/L	97.8	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	0.0412 mg/L	0.04 mg/L	103	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00370 mg/L	0.004 mg/L	92.6	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0172 mg/L	0.02 mg/L	85.8	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	0.0383 mg/L	0.04 mg/L	95.7	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0190 mg/L	0.02 mg/L	95.0	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00373 mg/L	0.004 mg/L	93.2	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0974 mg/L	0.1 mg/L	97.4	70.0	130	----
		Zinc, total	7440-66-6	E420	0.394 mg/L	0.4 mg/L	98.4	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0385 mg/L	0.04 mg/L	96.3	70.0	130	----
Dissolved Metals (QCLot: 1794614)										
VA24D2597-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.194 mg/L	0.2 mg/L	96.9	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0158 mg/L	0.02 mg/L	79.1	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0200 mg/L	0.02 mg/L	100.0	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0338 mg/L	0.04 mg/L	84.5	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00789 mg/L	0.01 mg/L	78.9	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00341 mg/L	0.004 mg/L	85.3	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Cesium, dissolved	7440-46-2	E421	0.00841 mg/L	0.01 mg/L	84.1	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0374 mg/L	0.04 mg/L	93.6	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0186 mg/L	0.02 mg/L	93.0	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: 1794614) - continued										
VA24D2597-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0184 mg/L	0.02 mg/L	91.8	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.79 mg/L	2 mg/L	89.7	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0163 mg/L	0.02 mg/L	81.4	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0713 mg/L	0.1 mg/L	71.3	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	0.0159 mg/L	0.02 mg/L	79.3	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0367 mg/L	0.04 mg/L	91.8	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.75 mg/L	10 mg/L	97.5	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0187 mg/L	0.02 mg/L	93.3	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0382 mg/L	0.04 mg/L	95.5	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.07 mg/L	10 mg/L	90.7	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00339 mg/L	0.004 mg/L	84.8	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	0.0344 mg/L	0.04 mg/L	85.9	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00320 mg/L	0.004 mg/L	80.0	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0121 mg/L	0.02 mg/L	60.4	70.0	130	MES
		Tin, dissolved	7440-31-5	E421	0.0172 mg/L	0.02 mg/L	85.8	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0362 mg/L	0.04 mg/L	90.6	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0164 mg/L	0.02 mg/L	82.0	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00329 mg/L	0.004 mg/L	82.2	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0952 mg/L	0.1 mg/L	95.2	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.364 mg/L	0.4 mg/L	91.0	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0342 mg/L	0.04 mg/L	85.6	70.0	130	----
Dissolved Metals (QCLot: 1794655)										
VA24D2006-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000958 mg/L	0 mg/L	95.8	70.0	130	----
Speciated Metals (QCLot: 1794495)										
VA24D2553-002	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.255 mg/L	0.25 mg/L	102	70.0	130	----
Aggregate Organics (QCLot: 1798925)										
VA24D2625-002	DUP	Phenols, total (4AAP)	----	E562	0.0199 mg/L	0.02 mg/L	99.6	75.0	125	----
Volatile Organic Compounds (QCLot: 1796821)										
VA24D2625-001	WLNG EOP	Benzene	71-43-2	E611C	92.2 µg/L	100 µg/L	92.2	60.0	140	----
		Bromodichloromethane	75-27-4	E611C	100 µg/L	100 µg/L	100	60.0	140	----
		Bromoform	75-25-2	E611C	137 µg/L	100 µg/L	137	60.0	140	----
		Carbon tetrachloride	56-23-5	E611C	96.6 µg/L	100 µg/L	96.6	60.0	140	----
		Chlorobenzene	108-90-7	E611C	89.7 µg/L	100 µg/L	89.7	60.0	140	----
		Chloroethane	75-00-3	E611C	93.2 µg/L	100 µg/L	93.2	50.0	150	----
		Chloroform	67-66-3	E611C	92.1 µg/L	100 µg/L	92.1	60.0	140	----
		Chloromethane	74-87-3	E611C	73.1 µg/L	100 µg/L	73.1	50.0	150	----

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: 1796821) - continued										
VA24D2625-001	WLNG EOP	Dibromochloromethane	124-48-1	E611C	120 µg/L	100 µg/L	120	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	93.3 µg/L	100 µg/L	93.3	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	97.0 µg/L	100 µg/L	97.0	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	97.1 µg/L	100 µg/L	97.1	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611C	89.2 µg/L	100 µg/L	89.2	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611C	92.1 µg/L	100 µg/L	92.1	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	91.6 µg/L	100 µg/L	91.6	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	90.3 µg/L	100 µg/L	90.3	60.0	140	----
		Dichloromethane	75-09-2	E611C	86.3 µg/L	100 µg/L	86.3	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611C	89.8 µg/L	100 µg/L	89.8	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	72.3 µg/L	100 µg/L	72.3	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	62.3 µg/L	100 µg/L	62.3	60.0	140	----
		Ethylbenzene	100-41-4	E611C	95.9 µg/L	100 µg/L	95.9	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	92.0 µg/L	100 µg/L	92.0	60.0	140	----
		Styrene	100-42-5	E611C	94.4 µg/L	100 µg/L	94.4	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	95.8 µg/L	100 µg/L	95.8	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	93.1 µg/L	100 µg/L	93.1	60.0	140	----
		Tetrachloroethylene	127-18-4	E611C	107 µg/L	100 µg/L	107	60.0	140	----
		Toluene	108-88-3	E611C	94.8 µg/L	100 µg/L	94.8	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	77.2 µg/L	100 µg/L	77.2	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	86.0 µg/L	100 µg/L	86.0	60.0	140	----
		Trichloroethylene	79-01-6	E611C	94.8 µg/L	100 µg/L	94.8	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611C	54.0 µg/L	100 µg/L	54.0	50.0	150	----
		Vinyl chloride	75-01-4	E611C	76.2 µg/L	100 µg/L	76.2	50.0	150	----
		Xylene, m+p-	179601-23-1	E611C	194 µg/L	200 µg/L	97.0	60.0	140	----
		Xylene, o-	95-47-6	E611C	93.9 µg/L	100 µg/L	93.9	60.0	140	----
Hydrocarbons (QCLot: 1796820)										
FJ2403626-003	Anonymous	VHw (C6-C10)	----	E581.VH+F1	4780 µg/L	6310 µg/L	75.8	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).*

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 20 -

Page 1 of 1

Environmental Division Vancouver
Work Order Reference
VA24D2625

Telephone : +1 604 253 4188

Report To	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 #	
Job #:	
PO / AFE:	
LSD:	

ALS Lab Work Order # (ALS use only): D2627

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

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 [E] if received by 3pm M-F - 100% rush surcharge minimum
- ☐ Same day [E2] if received by 10am M-S - 200% rush surcharge

Additional fees may apply to rush requests on weekends, statutory holidays and for non-routine

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

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

Analysis Request

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	NUMBER OF CONTAINERS	Total metals +~~dissolved~~	Dissolved metals +~~dissolved~~	Total hexavalent chromium	Total trivalent chromium	TSS, TDS, T-Alkalinity,Anions scan (Br, Cl, F, NO2, NO3, SO4)	Total sulfide (low) (as H2S), Unionized Sulfide (low)	Nutrients (ammonia, ammonium, total nitrogen, total phosphorus, phenols)	VOC/VPH	EPH, PAH, LEPH/HEPH	DOC	Glycols	General parameters (alkalinity)	Dissolved Mercury	Total Mercury	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
						P	F/P	P	P	P	P	P	P	P	F/P			F/P	P			
	WLNG EOP	03-Dec-24	12:56	Water	15	~~DE~~	~~DE~~	R	R	R	R	R	R	R	R	R	R	R	R			
	pH: 7.85 cond: 144 µs temp: 9.5	↓																				
	DUP	↓	NA	Water	15	~~DE~~ R	~~DE~~ R	R	R	R	R	R	R	R	R	R	R	R	R			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☑ NO EOP

Are samples for human consumption/ use? ☐ YES ☑ NO

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

Diss + Total Metals/Hg on 1-day TAT, everything else on normal TAT

ESDAT/EDD to ESdat_CA+tritonenv@ESdatLabSync.net

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			

SHIPMENT RELEASE (client use)

Relea	Date:	Time:
	Dec 3 2024	17:50

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Receive	D	Time:
		9m

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

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.**

Woodfibre Site WTP Discharge Field Notes and Logs

FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-12-3-Rysdale-5FFED

Project Component:	Tunnel	**Site Name:**	WLNG Treatment Discharge
Inspection Date:	12/03/2024	**Location:**	WLNG
Triton QP:	Aaron Rysdale	**Latitude/Longitude:**	49.669348 -123.249814
Temperature(c):	Low 3 High 7	**Permit:**	PE 110136
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 10:23:08 **Flow Volume (visual):** N/A

Notes: DUP and EOP (including LC50) taken during second WTP discharge event at 12:56. Previous EOP and dup samples taken at 10:23 were not submitted since discharge stopped before LC50 could be taken, WQ readings at 10:23 were 0.55NTU, temp 9.4, pH 7.85, cond 138. No issues with filtering during sampling.

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:**	Yes
Nutrients	Yes	**VOC/VPH**	Yes		
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: WLNG EOP

Description: EOP sampling port

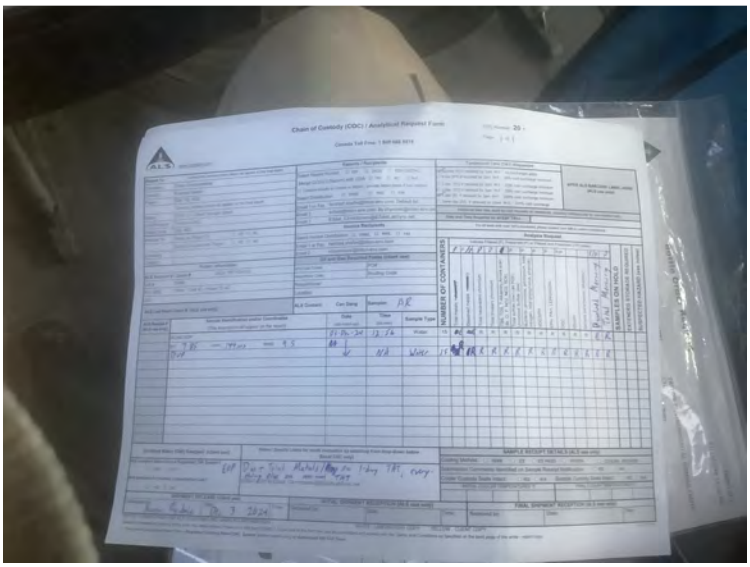


Photo: 2

Location:

Description: ALS COC

Photos

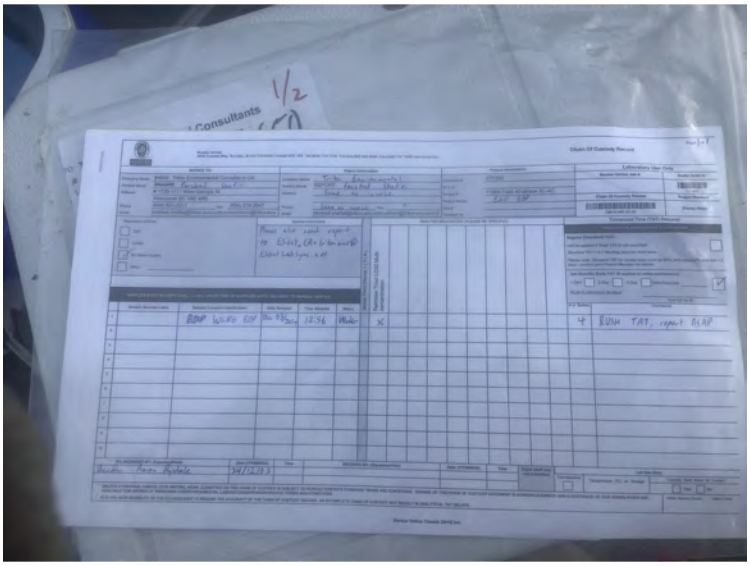


Photo: 3

Location:

Description: BV LC50 COC

Sign Off

Report Prepared By:	Aaron Rysdale	**Report Reviewed:**	Yes
Report Reviewer:		**Professional(s) of Record:**	
Name:			
Designation:			
Designation Number:			

FRONTIER-KEMPER MICHELS® joint venture		**Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope**	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

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

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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 2nd was 30,695 m^3.

Daily Volume Summary:

Table 1: Discharge Volumes Daily Summary

Date	Location	Volume (m3)	Comments
December 2	WoodFibre (WF)	407	None
December 3	WF	383	None
December 4	WF	402	None
December 5	WF	393	None
December 6	WF	412	None
December 7	WF	384	None
December 8	WF	472	None
	Total	2,853	None

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)
12/2/2024	2:00:00	7.8	0.858	0	30,705	10.3	116
12/2/2024	2:15:00	7.8	0.869	0	30,718	10.3	116
12/2/2024	4:00:00	7.8	0.858	0	30,734	9.9	118
12/2/2024	4:15:00	7.8	0.858	0	30,747	10.1	117
12/2/2024	4:30:00	7.8	0.854	0	30,760	10.2	117
12/2/2024	4:45:00	7.8	0.835	0	30,773	10.2	116
12/2/2024	6:15:00	7.8	0.851	0	30,777	12.3	118
12/2/2024	6:30:00	7.8	0.851	0	30,789	9.9	114
12/2/2024	6:45:00	7.8	0.835	0	30,802	9.7	114
12/2/2024	7:00:00	7.8	0.835	0	30,815	9.7	114
12/2/2024	7:15:00	7.8	0.828	0	30,827	9.6	113
12/2/2024	9:45:00	7.8	0.843	0	30,842	10	119
12/2/2024	10:00:00	7.8	0.839	0	30,855	10.1	119
12/2/2024	10:15:00	7.8	0.816	0	30,867	10.2	119
12/2/2024	10:30:00	7.8	0.843	0	30,880	10.2	118
12/2/2024	13:00:00	7.8	0.854	0	30,896	10.6	121
12/2/2024	13:15:00	7.8	0.851	0	30,909	10.7	119
12/2/2024	14:30:00	7.8	0.843	0	30,920	10.9	119
12/2/2024	14:45:00	7.8	0.820	0	30,933	10.9	119

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/2/2024	15:00:00	7.8	0.862	0	30,945	11	119
12/2/2024	17:15:00	7.8	0.801	0	30,961	11.6	119
12/2/2024	17:30:00	7.8	0.858	0	30,973	10.9	119
12/2/2024	17:45:00	7.8	0.866	0	30,986	10.9	118
12/2/2024	19:30:00	7.8	0.835	0	30,999	10.9	121
12/2/2024	19:45:00	7.8	0.851	0	31,012	10.9	119
12/2/2024	20:00:00	7.8	0.854	0	31,025	10.8	119
12/2/2024	20:15:00	7.8	0.839	0	31,037	10.8	118
12/2/2024	22:00:00	7.8	0.843	0	31,045	10.1	116
12/2/2024	22:15:00	7.8	0.873	0	31,057	10.2	117
12/2/2024	22:30:00	7.8	0.851	0	31,070	10.2	117
12/2/2024	22:45:00	7.8	0.435	0	31,081	10.6	116
12/2/2024	23:00:00	7.8	0.862	0	31,093	10	114
12/3/2024	1:45:00	7.8	0.839	0	31,113	10.2	118
12/3/2024	2:00:00	7.8	0.839	0	31,126	10.1	118
12/3/2024	2:15:00	7.8	0.835	0	31,138	10	115
12/3/2024	2:30:00	7.8	0.851	0	31,150	9.9	114
12/3/2024	4:45:00	7.8	0.816	0	31,157	10.3	118
12/3/2024	5:00:00	7.8	0.824	0	31,170	10.2	119
12/3/2024	5:15:00	7.8	0.816	0	31,182	10.2	119
12/3/2024	5:30:00	7.8	0.801	0	31,195	10.3	118
12/3/2024	7:45:00	7.8	0.832	0	31,207	10.1	118
12/3/2024	8:00:00	7.8	0.851	0	31,220	10.3	119
12/3/2024	8:15:00	7.8	0.851	0	31,232	10.3	118
12/3/2024	8:30:00	7.8	0.854	0	31,245	10.3	119

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/3/2024	10:45:00	7.8	0.839	0	31,255	10.4	119
12/3/2024	11:00:00	7.8	0.820	0	31,267	10.4	118
12/3/2024	11:15:00	7.8	0.839	0	31,279	10.4	118
12/3/2024	11:30:00	7.8	0.828	0	31,292	10.4	118
12/3/2024	11:45:00	7.8	0.824	0	31,304	10.5	119
12/3/2024	14:00:00	7.8	0.665	0	31,308	11.3	120
12/3/2024	14:15:00	7.8	0.673	0	31,318	11.1	119
12/3/2024	16:00:00	7.8	0.839	0	31,336	11.1	119
12/3/2024	16:15:00	7.8	0.816	0	31,348	11	119
12/3/2024	16:30:00	7.8	0.877	0	31,361	11.1	119
12/3/2024	18:15:00	7.7	0.862	0	31,370	12	121
12/3/2024	18:30:00	7.8	0.866	0	31,383	11.2	119
12/3/2024	18:45:00	7.8	0.877	0	31,396	11.1	119
12/3/2024	20:00:00	7.7	0.877	0	31,399	11.6	119
12/3/2024	20:15:00	7.8	0.869	0	31,412	11.1	119
12/3/2024	20:30:00	7.8	0.851	0	31,425	10.8	116
12/3/2024	20:45:00	7.8	0.820	0	31,437	10.7	116
12/3/2024	23:15:00	7.8	0.858	0	31,459	10.6	117
12/3/2024	23:30:00	7.8	0.847	0	31,472	10.6	118
12/3/2024	23:45:00	7.8	0.877	0	31,485	10.6	118
12/4/2024	0:00:00	7.8	0.854	0	31,497	10.7	119
12/4/2024	0:15:00	7.8	0.862	0	31,510	10.7	118
12/4/2024	2:45:00	7.8	0.873	0	31,520	10.5	119
12/4/2024	3:00:00	7.8	0.828	0	31,533	10.6	119
12/4/2024	3:15:00	7.8	0.873	0	31,546	10.6	118

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/4/2024	3:30:00	7.8	0.816	0	31,558	10.6	119
12/4/2024	5:45:00	7.7	0.862	0	31,565	11.8	114
12/4/2024	6:00:00	7.8	0.824	0	31,577	10.1	113
12/4/2024	6:15:00	7.8	0.828	0	31,590	10.1	116
12/4/2024	6:30:00	7.8	0.847	0	31,603	10.2	116
12/4/2024	6:45:00	7.8	0.847	0	31,615	10.3	117
12/4/2024	9:00:00	7.8	0.805	0	31,623	10.5	119
12/4/2024	9:15:00	7.8	0.854	0	31,636	10.5	118
12/4/2024	10:15:00	7.8	0.809	1.5	31,637	14.6	119
12/4/2024	10:30:00	7.8	0.839	0	31,649	10.6	119
12/4/2024	10:45:00	7.8	0.862	0	31,662	10.6	118
12/4/2024	11:00:00	7.8	0.858	0	31,674	10.6	119
12/4/2024	12:45:00	7.7	0.851	0	31,683	13.8	121
12/4/2024	13:00:00	7.8	0.854	0	31,696	11	119
12/4/2024	13:15:00	7.8	0.839	0	31,709	11	119
12/4/2024	13:30:00	7.8	0.851	0	31,722	11.1	119
12/4/2024	15:00:00	7.8	0.869	0	31,740	11.5	121
12/4/2024	16:45:00	7.8	0.911	0	31,755	11.6	119
12/4/2024	17:00:00	7.8	0.903	0	31,768	11.5	119
12/4/2024	17:15:00	7.8	0.915	0	31,782	11.5	119
12/4/2024	19:15:00	7.7	0.926	0	31,792	11.5	120
12/4/2024	20:00:00	7.8	0.900	0	31,809	11.3	119
12/4/2024	20:15:00	7.8	0.911	0	31,823	11.2	119
12/4/2024	20:30:00	7.8	0.881	0	31,837	11.2	119
12/4/2024	20:45:00	7.8	0.907	0	31,850	11.1	118

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/4/2024	23:15:00	7.8	0.851	0	31,873	10.8	116
12/4/2024	23:30:00	7.8	0.866	0	31,886	10.6	114
12/4/2024	23:45:00	7.8	0.869	0	31,899	10.4	112
12/5/2024	0:00:00	7.8	0.885	0	31,913	10.3	111
12/5/2024	2:15:00	7.7	0.858	0	31,920	10.1	114
12/5/2024	2:30:00	7.8	0.907	0	31,933	10.3	116
12/5/2024	2:45:00	7.8	0.911	0	31,947	10.4	116
12/5/2024	3:00:00	7.8	0.900	0	31,960	10.4	116
12/5/2024	5:00:00	7.7	0.854	0	31,968	10.7	111
12/5/2024	5:15:00	7.8	0.854	0	31,981	9.9	112
12/5/2024	5:30:00	7.8	0.892	0	31,994	9.9	111
12/5/2024	5:45:00	7.8	0.877	0	32,007	10.1	116
12/5/2024	8:15:00	7.8	0.877	0	32,025	10.6	119
12/5/2024	8:30:00	7.8	0.907	0	32,038	10.5	118
12/5/2024	9:45:00	7.8	0.858	0	32,050	10.6	119
12/5/2024	10:00:00	7.8	0.877	0	32,063	10.6	118
12/5/2024	10:15:00	7.8	0.873	0	32,076	10.6	119
12/5/2024	10:30:00	7.8	0.869	0	32,090	10.6	119
12/5/2024	12:45:00	7.8	0.866	0	32,098	10.9	120
12/5/2024	13:00:00	7.8	0.885	0	32,111	10.9	119
12/5/2024	13:15:00	7.8	0.900	0	32,125	10.8	119
12/5/2024	13:30:00	7.8	0.881	0	32,138	10.9	119
12/5/2024	16:00:00	7.8	0.881	0	32,150	10.9	118
12/5/2024	16:15:00	7.8	0.858	0	32,163	10.9	118
12/5/2024	16:30:00	7.8	0.873	0	32,177	10.9	118

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/5/2024	18:30:00	7.8	0.881	0	32,194	11.2	119
12/5/2024	18:45:00	7.8	0.911	0	32,207	11.1	119
12/5/2024	20:00:00	7.8	0.896	0	32,221	11.1	121
12/5/2024	20:15:00	7.8	0.896	0	32,234	11	118
12/5/2024	20:30:00	7.8	0.896	0	32,247	10.8	117
12/5/2024	20:45:00	7.8	0.888	0	32,261	10.9	117
12/5/2024	23:15:00	7.7	0.832	0	32,280	10.3	113
12/5/2024	23:30:00	7.8	0.922	0	32,293	10.4	113
12/5/2024	23:45:00	7.8	0.896	0	32,306	10.4	113
12/6/2024	0:00:00	7.8	0.900	0	32,320	10.4	114
12/6/2024	2:15:00	7.7	0.862	14.7	32,324	12.9	113
12/6/2024	2:30:00	7.8	0.869	5.4	32,337	10.6	117
12/6/2024	2:45:00	7.8	0.881	0	32,350	10.6	115
12/6/2024	3:00:00	7.8	0.903	0	32,363	10.5	113
12/6/2024	5:15:00	7.7	0.832	0	32,376	12.3	117
12/6/2024	5:30:00	7.8	0.896	0	32,389	10.8	118
12/6/2024	5:45:00	7.8	0.892	0	32,402	10.8	117
12/6/2024	6:00:00	7.8	0.862	0	32,416	10.8	118
12/6/2024	8:30:00	7.8	0.885	0	32,433	11	118
12/6/2024	8:45:00	7.8	0.866	0	32,446	11	119
12/6/2024	9:00:00	7.8	0.888	0	32,459	10.9	118
12/6/2024	9:15:00	7.8	0.907	0	32,473	11	118
12/6/2024	11:30:00	7.7	0.885	0	32,484	11.3	119
12/6/2024	11:45:00	7.8	0.903	0	32,497	11.2	119
12/6/2024	12:00:00	7.8	0.896	0	32,511	11.1	119

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/6/2024	14:00:00	7.7	0.896	0	32,529	11.3	121
12/6/2024	14:15:00	7.8	0.915	0	32,542	11.3	119
12/6/2024	14:30:00	7.8	0.915	0	32,555	11.3	119
12/6/2024	14:45:00	7.8	0.919	0	32,569	11.3	119
12/6/2024	17:15:00	7.7	0.888	0	32,581	11.3	119
12/6/2024	17:30:00	7.8	0.888	0	32,595	11.3	119
12/6/2024	17:45:00	7.8	0.873	0	32,608	11.2	119
12/6/2024	18:00:00	7.8	0.903	0	32,622	11.2	119
12/6/2024	20:15:00	7.7	0.862	0	32,627	19	121
12/6/2024	20:30:00	7.8	0.892	0	32,640	11.4	120
12/6/2024	20:45:00	7.8	0.869	0	32,653	11.3	119
12/6/2024	21:00:00	7.8	0.892	7.2	32,666	11.2	118
12/6/2024	21:15:00	7.8	0.877	3.2	32,680	11.2	119
12/6/2024	22:45:00	7.8	0.892	0	32,691	10.6	114
12/6/2024	23:00:00	7.8	0.858	0	32,704	10.5	114
12/6/2024	23:15:00	7.8	0.885	0	32,717	10.5	114
12/6/2024	23:30:00	7.8	0.881	0	32,730	10.5	114
12/7/2024	1:45:00	7.7	0.885	0	32,738	10.5	117
12/7/2024	2:00:00	7.8	0.903	0	32,752	10.8	116
12/7/2024	2:15:00	7.8	0.885	0	32,765	10.8	116
12/7/2024	2:30:00	7.8	0.900	0	32,778	10.7	114
12/7/2024	5:15:00	7.8	0.896	0	32,805	10.5	114
12/7/2024	5:30:00	7.8	0.510	0	32,816	10.6	114
12/7/2024	5:45:00	7.8	0.869	0	32,829	10.6	114
12/7/2024	8:00:00	7.7	0.888	0	32,841	10.8	118

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/7/2024	8:15:00	7.8	0.911	0	32,854	10.9	116
12/7/2024	8:30:00	7.8	0.881	0	32,867	11	118
12/7/2024	8:45:00	7.8	0.892	0	32,881	11	118
12/7/2024	11:00:00	7.8	0.888	0	32,893	11.3	119
12/7/2024	11:15:00	7.8	0.862	0	32,907	11.2	119
12/7/2024	11:30:00	7.8	0.911	0	32,920	11.2	119
12/7/2024	13:30:00	7.7	0.885	0	32,935	11.5	121
12/7/2024	13:45:00	7.8	0.903	0	32,948	11.3	119
12/7/2024	14:00:00	7.8	0.820	0	32,962	11.3	119
12/7/2024	14:15:00	7.8	0.862	0	32,974	11.2	119
12/7/2024	16:15:00	7.7	0.873	0	32,990	11.2	119
12/7/2024	16:30:00	7.8	0.847	0	33,003	11.1	117
12/7/2024	16:45:00	7.8	0.866	0	33,016	11.1	119
12/7/2024	18:30:00	7.7	0.866	0	33,021	14.3	119
12/7/2024	18:45:00	7.7	0.828	0	33,034	11.3	119
12/7/2024	19:00:00	7.8	0.858	0	33,047	11.2	119
12/7/2024	21:00:00	7.7	0.877	0	33,066	10.9	116
12/7/2024	21:15:00	7.7	0.866	0	33,079	10.9	116
12/7/2024	21:30:00	7.7	0.866	0	33,092	10.7	114
12/7/2024	21:45:00	7.8	0.881	0	33,105	10.7	116
12/8/2024	0:15:00	7.7	0.858	0	33,118	11.3	114
12/8/2024	0:30:00	7.7	0.854	0	33,131	10.5	114
12/8/2024	0:45:00	7.7	0.851	0	33,144	10.4	113
12/8/2024	1:00:00	7.8	0.866	0	33,156	10.4	113
12/8/2024	1:15:00	7.8	0.839	0	33,169	10.4	115

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/8/2024	3:15:00	7.7	0.847	0	33,181	10.5	115
12/8/2024	3:30:00	7.7	0.854	0	33,194	10.3	115
12/8/2024	3:45:00	7.8	0.828	0	33,206	10.2	114
12/8/2024	4:00:00	7.8	0.809	0	33,219	10.1	114
12/8/2024	4:15:00	7.8	0.828	0	33,231	10.1	115
12/8/2024	4:30:00	7.8	0.816	0	33,243	10	113
12/8/2024	4:45:00	7.8	0.790	0	33,255	10	116
12/8/2024	6:30:00	7.6	0.764	5.2	33,260	12.4	113
12/8/2024	6:45:00	7.7	0.824	0	33,272	9.8	113
12/8/2024	7:00:00	7.7	0.779	0	33,285	9.9	113
12/8/2024	7:15:00	7.7	0.824	0	33,297	9.9	113
12/8/2024	7:30:00	7.7	0.843	0	33,309	9.9	113
12/8/2024	9:45:00	7.7	0.329	0	33,315	10.5	117
12/8/2024	10:45:00	7.7	0.374	0	33,328	10.8	118
12/8/2024	11:00:00	7.7	0.820	0	33,340	10.5	118
12/8/2024	11:15:00	7.7	0.809	0	33,352	10.6	118
12/8/2024	11:30:00	7.8	0.816	0	33,365	10.6	118
12/8/2024	13:00:00	7.7	0.877	0	33,371	11.1	120
12/8/2024	13:15:00	7.8	0.805	0	33,384	10.8	116
12/8/2024	13:30:00	7.7	0.824	0	33,396	10.7	116
12/8/2024	14:30:00	7.7	0.813	0	33,404	11.5	119
12/8/2024	14:45:00	7.7	0.828	0	33,416	11.1	119
12/8/2024	15:00:00	7.8	0.824	0	33,428	11.1	119
12/8/2024	15:15:00	7.8	0.847	0	33,440	11.2	118
12/8/2024	16:15:00	7.7	0.828	0	33,445	11.5	119

Date	Time	Discharge pH	Flow Rate (m3)	Discharge NTU	Flow Total (m3)	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/8/2024	17:15:00	7.7	0.832	0	33,459	11.5	119
12/8/2024	17:30:00	7.7	0.835	0	33,472	11.2	120
12/8/2024	17:45:00	7.7	0.828	0	33,484	11.2	119
12/8/2024	19:30:00	7.6	0.601	0	33,493	12.4	119
12/8/2024	19:45:00	7.7	0.722	0	33,504	11.2	119
12/8/2024	20:00:00	7.7	0.714	0	33,515	11.2	119
12/8/2024	20:15:00	7.7	0.726	0	33,525	11.1	118
12/8/2024	20:30:00	7.7	0.714	0	33,536	10.9	116
12/8/2024	23:00:00	7.7	0.696	0	33,554	10.5	114
12/8/2024	23:15:00	7.7	0.737	0	33,565	10.4	114
12/8/2024	23:30:00	7.7	0.764	0	33,576	10.3	113
12/8/2024	23:45:00	7.7	0.771	0	33,588	10.3	113

Table 3. In-Situ Parameters

Date	Time	Temperature °C	DO mg/L	Conductivity SPC-uS/cm	SAL-ppt	pH	ORP (mV)	NTU
12/02/2024	04:47:36PM	18.6	9.47	131.8	0.06	7.88	144.5	0.62
12/03/2024	10:57:34AM	11.8	11.50	95.9	0.06	8.08	144.5	0.15
12/04/2024	06:56:52PM	11.8	11.54	119.9	0.06	7.89	117.2	0.08
12/05/2024	09:25:56AM	11.4	11.63	123.6	0.06	7.34	111.0	0.65
12/06/2024	10:35:05AM	11.8	11.36	128.1	0.06	8.07	136.5	0.02
12/07/2024	11:49:53PM	10.9	11.47	126.9	0.06	7.9	142.8	0.94
12/08/2024	04:50:00PM	11.3	11.33	124.2	0.06	8.01	139.2	1.73

3. Calibration Log:

Table 4. Calibration Log

Date	Unit	pH	Conductivity/Temp.	Salinity	NTU
12/4/2024	YSI	✓	✓	✓	✓
12/2/2024	WTP	✓	N/A	N/A	✓

APPENDIX A: WTP Log

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/2/2024	0:00:00	7.7	0	0.000	0	8,120,269	30,695	Closed	11.8	116
12/2/2024	0:15:00	7.7	0	0.000	0	8,120,269	30,695	Closed	12.5	116
12/2/2024	0:30:00	7.6	0	0.000	0	8,120,269	30,695	Closed	12.9	116
12/2/2024	0:45:00	7.6	0	0.000	0	8,120,269	30,695	Closed	13.2	118
12/2/2024	1:00:00	7.6	0	0.000	0	8,120,269	30,695	Closed	13.6	116
12/2/2024	1:15:00	7.6	0	0.000	0.1	8,120,269	30,695	Closed	13.7	114
12/2/2024	1:30:00	7.6	0	0.000	0	8,120,269	30,695	Closed	14.1	117
12/2/2024	1:45:00	7.6	0	0.000	0	8,120,269	30,695	Closed	14.7	116
12/2/2024	2:00:00	7.8	227	0.858	0	8,123,081	30,705	Open	10.3	116
12/2/2024	2:15:00	7.8	230	0.869	0	8,126,500	30,718	Open	10.3	116
12/2/2024	2:30:00	7.8	0	0.000	0	8,129,085	30,728	Closed	10.4	117
12/2/2024	2:45:00	7.8	0	0.000	0	8,129,085	30,728	Closed	10.7	114
12/2/2024	3:00:00	7.7	0	0.000	0	8,129,085	30,728	Closed	10.9	114

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/2/2024	3:15:00	7.7	0	0.000	0	8,129,085	30,728	Closed	11.2	116
12/2/2024	3:30:00	7.6	0	0.000	0	8,129,085	30,728	Closed	11.5	115
12/2/2024	3:45:00	7.6	0	0.000	0	8,129,085	30,728	Closed	11.8	116
12/2/2024	4:00:00	7.8	227	0.858	0	8,130,727	30,734	Open	9.9	118
12/2/2024	4:15:00	7.8	227	0.858	0	8,134,116	30,747	Open	10.1	117
12/2/2024	4:30:00	7.8	226	0.854	0	8,137,498	30,760	Open	10.2	117
12/2/2024	4:45:00	7.8	221	0.835	0	8,140,874	30,773	Open	10.2	116
12/2/2024	5:00:00	7.8	0	0.000	0	8,141,772	30,776	Closed	10.8	118
12/2/2024	5:15:00	7.8	0	0.000	0	8,141,772	30,776	Closed	11.8	118
12/2/2024	5:30:00	7.7	0	0.000	0	8,141,772	30,776	Closed	12.5	116
12/2/2024	5:45:00	7.7	0	0.000	0	8,141,772	30,776	Closed	13	117
12/2/2024	6:00:00	7.6	0	0.000	0	8,141,772	30,776	Closed	13.4	118
12/2/2024	6:15:00	7.8	225	0.851	0	8,142,033	30,777	Open	12.3	118
12/2/2024	6:30:00	7.8	225	0.851	0	8,145,348	30,789	Open	9.9	114
12/2/2024	6:45:00	7.8	221	0.835	0	8,148,709	30,802	Open	9.7	114

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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/2/2024	7:00:00	7.8	221	0.835	0	8,152,046	30,815	Open	9.7	114
12/2/2024	7:15:00	7.8	219	0.828	0	8,155,332	30,827	Open	9.6	113
12/2/2024	7:30:00	7.8	0	0.000	0	8,157,985	30,837	Closed	9.7	114
12/2/2024	7:45:00	7.8	0	0.000	0	8,157,985	30,837	Closed	10.6	117
12/2/2024	8:00:00	7.7	0	0.000	0	8,157,985	30,837	Closed	11.6	118
12/2/2024	8:15:00	7.7	0	0.000	0	8,157,985	30,837	Closed	12.5	118
12/2/2024	8:30:00	7.7	0	0.000	0	8,157,985	30,837	Closed	13.4	118
12/2/2024	8:45:00	7.6	0	0.000	0	8,157,985	30,837	Closed	14.2	119
12/2/2024	9:00:00	7.6	0	0.000	0	8,157,985	30,837	Closed	15	119
12/2/2024	9:15:00	7.6	0	0.000	0	8,157,985	30,837	Closed	15.7	119
12/2/2024	9:30:00	7.6	0	0.000	0	8,157,985	30,837	Closed	16.4	245
12/2/2024	9:45:00	7.8	223	0.843	0	8,159,283	30,842	Open	10	119
12/2/2024	10:00:00	7.8	222	0.839	0	8,162,586	30,855	Open	10.1	119
12/2/2024	10:15:00	7.8	216	0.816	0	8,165,908	30,867	Open	10.2	119
12/2/2024	10:30:00	7.8	223	0.843	0	8,169,189	30,880	Open	10.2	118

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/2/2024	10:45:00	7.8	0	0.000	0	8,171,326	30,888	Closed	10.5	119
12/2/2024	11:00:00	7.8	0	0.000	0	8,171,326	30,888	Closed	11.6	119
12/2/2024	11:15:00	7.7	0	0.000	0	8,171,326	30,888	Closed	12.8	119
12/2/2024	11:30:00	7.7	0	0.000	0	8,171,326	30,888	Closed	13.9	119
12/2/2024	11:45:00	7.6	0	0.000	0	8,171,326	30,888	Closed	14.9	121
12/2/2024	12:00:00	7.6	0	0.000	0	8,171,326	30,888	Closed	15.8	120
12/2/2024	12:15:00	7.6	0	0.000	0	8,171,326	30,888	Closed	16.6	120
12/2/2024	12:30:00	7.6	0	0.000	0	8,171,326	30,888	Closed	17.4	243
12/2/2024	12:45:00	7.6	0	0.000	0	8,171,326	30,888	Closed	18	243
12/2/2024	13:00:00	7.8	226	0.854	0	8,173,593	30,896	Open	10.6	121
12/2/2024	13:15:00	7.8	225	0.851	0	8,176,942	30,909	Open	10.7	119
12/2/2024	13:30:00	7.8	0	0.000	0	8,177,740	30,912	Closed	11.4	119
12/2/2024	13:45:00	7.8	0	0.000	0	8,177,740	30,912	Closed	12.6	119
12/2/2024	14:00:00	7.7	0	0.000	0	8,177,740	30,912	Closed	13.8	119
12/2/2024	14:15:00	7.7	0	0.000	0	8,177,740	30,912	Closed	14.9	121

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/2/2024	14:30:00	7.8	223	0.843	0	8,179,861	30,920	Open	10.9	119
12/2/2024	14:45:00	7.8	217	0.820	0	8,183,235	30,933	Open	10.9	119
12/2/2024	15:00:00	7.8	228	0.862	0	8,186,608	30,945	Open	11	119
12/2/2024	15:15:00	7.8	0	0.000	0	8,189,496	30,956	Closed	11.1	119
12/2/2024	15:30:00	7.8	0	0.000	0	8,189,496	30,956	Closed	12.1	119
12/2/2024	15:45:00	7.7	0	0.000	0	8,189,496	30,956	Closed	13.3	120
12/2/2024	16:00:00	7.7	0	0.000	0	8,189,496	30,956	Closed	14.3	119
12/2/2024	16:15:00	7.7	0	0.000	0	8,189,496	30,956	Closed	15.2	119
12/2/2024	16:30:00	7.6	0	0.000	0	8,189,496	30,956	Closed	16.2	121
12/2/2024	16:45:00	7.6	0	0.000	0	8,189,496	30,956	Closed	16.9	121
12/2/2024	17:00:00	7.6	0	0.000	0	8,189,496	30,956	Closed	17.5	243
12/2/2024	17:15:00	7.8	212	0.801	0	8,190,664	30,961	Open	11.6	119
12/2/2024	17:30:00	7.8	227	0.858	0	8,194,000	30,973	Open	10.9	119
12/2/2024	17:45:00	7.8	229	0.866	0	8,197,378	30,986	Open	10.9	118
12/2/2024	18:00:00	7.8	0	0.000	0	8,198,406	30,990	Closed	11.5	119

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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/2/2024	18:15:00	7.8	0	0.000	0	8,198,406	30,990	Closed	12.6	119
12/2/2024	18:30:00	7.7	0	0.000	0	8,198,406	30,990	Closed	13.7	120
12/2/2024	18:45:00	7.7	0	0.000	0	8,198,406	30,990	Closed	14.7	119
12/2/2024	19:00:00	7.6	0	0.000	0	8,198,406	30,990	Closed	15.6	120
12/2/2024	19:15:00	7.6	0	0.000	0	8,198,406	30,990	Closed	16.4	119
12/2/2024	19:30:00	7.8	221	0.835	0	8,200,805	30,999	Open	10.9	121
12/2/2024	19:45:00	7.8	225	0.851	0	8,204,189	31,012	Open	10.9	119
12/2/2024	20:00:00	7.8	226	0.854	0	8,207,579	31,025	Open	10.8	119
12/2/2024	20:15:00	7.8	222	0.839	0	8,210,945	31,037	Open	10.8	118
12/2/2024	20:30:00	7.8	0	0.000	0	8,211,222	31,038	Closed	11.5	117
12/2/2024	20:45:00	7.8	0	0.000	0	8,211,222	31,038	Closed	11.9	119
12/2/2024	21:00:00	7.7	0	0.000	0	8,211,222	31,038	Closed	12.6	117
12/2/2024	21:15:00	7.6	0	0.000	0	8,211,222	31,038	Closed	13.3	118
12/2/2024	21:30:00	7.6	0	0.000	0	8,211,222	31,038	Closed	13.6	117
12/2/2024	21:45:00	7.6	0	0.000	0	8,211,222	31,038	Closed	13.7	117

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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/2/2024	22:00:00	7.8	223	0.843	0	8,212,930	31,045	Open	10.1	116
12/2/2024	22:15:00	7.8	231	0.873	0	8,216,269	31,057	Open	10.2	117
12/2/2024	22:30:00	7.8	225	0.851	0	8,219,604	31,070	Open	10.2	117
12/2/2024	22:45:00	7.8	115	0.435	0	8,222,587	31,081	Open	10.6	116
12/2/2024	23:00:00	7.8	228	0.862	0	8,225,600	31,093	Open	10	114
12/2/2024	23:15:00	7.8	0	0.000	0	8,228,053	31,102	Closed	10	113
12/2/2024	23:30:00	7.8	0	0.000	0	8,228,053	31,102	Closed	10.7	117
12/2/2024	23:45:00	7.7	0	0.000	0	8,228,053	31,102	Closed	11.6	116
12/3/2024	0:00:00	7.7	0	0.000	0	8,228,053	31,102	Closed	12.6	118
12/3/2024	0:15:00	7.6	0	0.000	0	8,228,053	31,102	Closed	13.2	117
12/3/2024	0:30:00	7.6	0	0.000	0	8,228,053	31,102	Closed	13.9	118
12/3/2024	0:45:00	7.6	0	0.000	0	8,228,053	31,102	Closed	14.5	118
12/3/2024	1:00:00	7.6	0	0.000	0	8,228,053	31,102	Closed	15.2	119
12/3/2024	1:15:00	7.6	0	0.000	0	8,228,053	31,102	Closed	15.8	119
12/3/2024	1:30:00	7.6	0	0.000	0	8,228,053	31,102	Closed	16.4	243

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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/3/2024	1:45:00	7.8	222	0.839	0	8,230,950	31,113	Open	10.2	118
12/3/2024	2:00:00	7.8	222	0.839	0	8,234,274	31,126	Open	10.1	118
12/3/2024	2:15:00	7.8	221	0.835	0	8,237,567	31,138	Open	10	115
12/3/2024	2:30:00	7.8	225	0.851	0	8,240,858	31,150	Open	9.9	114
12/3/2024	2:45:00	7.8	0	0.000	0	8,241,741	31,154	Closed	10.5	116
12/3/2024	3:00:00	7.8	0	0.000	0	8,241,741	31,154	Closed	11	116
12/3/2024	3:15:00	7.7	0	0.000	0	8,241,741	31,154	Closed	11.7	116
12/3/2024	3:30:00	7.7	0	0.000	0	8,241,741	31,154	Closed	12	116
12/3/2024	3:45:00	7.6	0	0.000	0	8,241,741	31,154	Closed	12.2	116
12/3/2024	4:00:00	7.6	0	0.000	0	8,241,741	31,154	Closed	12.4	117
12/3/2024	4:15:00	7.6	0	0.000	0	8,241,741	31,154	Closed	13	117
12/3/2024	4:30:00	7.6	0	0.000	0	8,241,741	31,154	Closed	13.8	118
12/3/2024	4:45:00	7.8	216	0.816	0	8,242,699	31,157	Open	10.3	118
12/3/2024	5:00:00	7.8	218	0.824	0	8,245,994	31,170	Open	10.2	119
12/3/2024	5:15:00	7.8	216	0.816	0	8,249,306	31,182	Open	10.2	119

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Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/3/2024	5:30:00	7.8	212	0.801	0	8,252,578	31,195	Open	10.3	118
12/3/2024	5:45:00	7.8	0	0.000	0	8,253,987	31,200	Closed	10.7	118
12/3/2024	6:00:00	7.8	0	0.000	0	8,253,987	31,200	Closed	11.4	119
12/3/2024	6:15:00	7.7	0	0.000	0	8,253,987	31,200	Closed	12.5	119
12/3/2024	6:30:00	7.7	0	0.000	0	8,253,987	31,200	Closed	13.5	119
12/3/2024	6:45:00	7.7	0	0.000	0	8,253,987	31,200	Closed	14.4	119
12/3/2024	7:00:00	7.6	0	0.000	0	8,253,987	31,200	Closed	15.1	119
12/3/2024	7:15:00	7.6	0	0.000	0	8,253,987	31,200	Closed	15.9	120
12/3/2024	7:30:00	7.6	0	0.000	0	8,253,987	31,200	Closed	16.2	245
12/3/2024	7:45:00	7.8	220	0.832	0	8,255,910	31,207	Open	10.1	118
12/3/2024	8:00:00	7.8	225	0.851	0	8,259,194	31,220	Open	10.3	119
12/3/2024	8:15:00	7.8	225	0.851	0	8,262,482	31,232	Open	10.3	118
12/3/2024	8:30:00	7.8	226	0.854	0	8,265,770	31,245	Open	10.3	119
12/3/2024	8:45:00	7.8	0	0.000	0	8,266,497	31,247	Closed	11	118
12/3/2024	9:00:00	7.8	0	0.000	0	8,266,497	31,247	Closed	12.1	118

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/3/2024	9:15:00	7.7	0	0.000	0	8,266,497	31,247	Closed	13.2	119
12/3/2024	9:30:00	7.7	0	0.000	0	8,266,497	31,247	Closed	14.2	119
12/3/2024	9:45:00	7.7	0	0.000	0	8,266,497	31,247	Closed	15.1	119
12/3/2024	10:00:00	7.6	0	0.000	0	8,266,497	31,247	Closed	15.9	119
12/3/2024	10:15:00	7.6	0	0.000	0	8,266,497	31,247	Closed	16.6	245
12/3/2024	10:30:00	7.6	0	0.000	0	8,266,497	31,247	Closed	17.3	243
12/3/2024	10:45:00	7.8	222	0.839	0	8,268,398	31,255	Open	10.4	119
12/3/2024	11:00:00	7.8	217	0.820	0	8,271,699	31,267	Open	10.4	118
12/3/2024	11:15:00	7.8	222	0.839	0	8,274,999	31,279	Open	10.4	118
12/3/2024	11:30:00	7.8	219	0.828	0	8,278,269	31,292	Open	10.4	118
12/3/2024	11:45:00	7.8	218	0.824	0	8,281,565	31,304	Open	10.5	119
12/3/2024	12:00:00	7.8	0	0.000	0	8,281,601	31,304	Open	11.3	118
12/3/2024	12:15:00	7.8	0	0.000	0	8,281,601	31,304	Open	12.4	120
12/3/2024	12:30:00	7.7	0	0.000	0	8,281,601	31,304	Open	13.6	119
12/3/2024	12:45:00	7.7	0	0.000	0	8,281,601	31,304	Open	14.6	119

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
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Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/3/2024	13:00:00	7.6	0	0.000	0	8,281,601	31,304	Open	15.5	119
12/3/2024	13:15:00	7.6	0	0.000	0	8,281,601	31,304	Open	16.4	121
12/3/2024	13:30:00	7.6	0	0.000	0	8,281,601	31,304	Open	17.2	246
12/3/2024	13:45:00	7.6	0	0.000	0	8,281,601	31,304	Open	17.8	245
12/3/2024	14:00:00	7.8	176	0.665	0	8,282,531	31,308	Open	11.3	120
12/3/2024	14:15:00	7.8	178	0.673	0	8,285,216	31,318	Open	11.1	119
12/3/2024	14:30:00	7.8	0	0.000	0	8,287,814	31,328	Open	11.1	119
12/3/2024	14:45:00	7.8	0	0.000	0	8,287,814	31,328	Open	12	118
12/3/2024	15:00:00	7.7	0	0.000	0	8,287,814	31,328	Open	12.6	116
12/3/2024	15:15:00	7.7	0	0.000	0	8,287,814	31,328	Closed	13	116
12/3/2024	15:30:00	7.7	0	0.000	0	8,287,814	31,328	Closed	13.5	117
12/3/2024	15:45:00	7.6	0	0.000	0	8,287,814	31,328	Closed	14.4	119
12/3/2024	16:00:00	7.8	222	0.839	0	8,289,827	31,336	Open	11.1	119
12/3/2024	16:15:00	7.8	216	0.816	0	8,293,238	31,348	Open	11	119
12/3/2024	16:30:00	7.8	232	0.877	0	8,296,661	31,361	Open	11.1	119

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/3/2024	16:45:00	7.8	0	0.000	0	8,298,373	31,368	Closed	11.5	119
12/3/2024	17:00:00	7.8	0	0.000	0	8,298,373	31,368	Closed	12.5	119
12/3/2024	17:15:00	7.7	0	0.000	0	8,298,373	31,368	Closed	13.7	119
12/3/2024	17:30:00	7.7	0	0.000	0	8,298,373	31,368	Closed	14.7	119
12/3/2024	17:45:00	7.7	0	0.000	0	8,298,373	31,368	Closed	15.7	121
12/3/2024	18:00:00	7.6	0	0.000	0	8,298,373	31,368	Closed	16.5	120
12/3/2024	18:15:00	7.7	228	0.862	0	8,298,961	31,370	Open	12	121
12/3/2024	18:30:00	7.8	229	0.866	0	8,302,383	31,383	Open	11.2	119
12/3/2024	18:45:00	7.8	232	0.877	0	8,305,812	31,396	Open	11.1	119
12/3/2024	19:00:00	7.8	0	0.000	0	8,305,850	31,396	Closed	12	119
12/3/2024	19:15:00	7.7	0	0.000	0	8,305,850	31,396	Closed	13.2	119
12/3/2024	19:30:00	7.7	0	0.000	0	8,305,850	31,396	Closed	14.3	119
12/3/2024	19:45:00	7.7	0	0.000	0	8,305,850	31,396	Closed	15.3	121
12/3/2024	20:00:00	7.7	232	0.877	0	8,306,535	31,399	Open	11.6	119
12/3/2024	20:15:00	7.8	230	0.869	0	8,309,964	31,412	Open	11.1	119

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
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Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/3/2024	20:30:00	7.8	225	0.851	0	8,313,375	31,425	Open	10.8	116
12/3/2024	20:45:00	7.8	217	0.820	0	8,316,794	31,437	Open	10.7	116
12/3/2024	21:00:00	7.8	0	0.000	0	8,319,465	31,448	Closed	11	118
12/3/2024	21:15:00	7.8	0	0.000	0	8,319,465	31,448	Closed	11.6	116
12/3/2024	21:30:00	7.7	0	0.000	0	8,319,465	31,448	Closed	12	114
12/3/2024	21:45:00	7.7	0	0.000	0	8,319,465	31,448	Closed	12.5	117
12/3/2024	22:00:00	7.6	0	0.000	0	8,319,465	31,448	Closed	13	115
12/3/2024	22:15:00	7.6	0	0.000	0	8,319,465	31,448	Closed	13.1	113
12/3/2024	22:30:00	7.6	0	0.000	0	8,319,465	31,448	Closed	13.2	114
12/3/2024	22:45:00	7.6	0	0.000	0	8,319,465	31,448	Closed	13.3	114
12/3/2024	23:00:00	7.6	0	0.000	0	8,319,465	31,448	Closed	13.8	117
12/3/2024	23:15:00	7.8	227	0.858	0	8,322,463	31,459	Open	10.6	117
12/3/2024	23:30:00	7.8	224	0.847	0	8,325,852	31,472	Open	10.6	118
12/3/2024	23:45:00	7.8	232	0.877	0	8,329,258	31,485	Open	10.6	118
12/4/2024	0:00:00	7.8	226	0.854	0	8,332,660	31,497	Open	10.7	119

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Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/4/2024	0:15:00	7.8	228	0.862	0	8,336,029	31,510	Open	10.7	118
12/4/2024	0:30:00	7.8	0	0.000	0	8,336,992	31,514	Closed	11.3	118
12/4/2024	0:45:00	7.8	0	0.000	0	8,336,992	31,514	Closed	12.1	118
12/4/2024	1:00:00	7.7	0	0.000	0	8,336,992	31,514	Closed	12.8	118
12/4/2024	1:15:00	7.7	0	0.000	0	8,336,992	31,514	Closed	13.6	119
12/4/2024	1:30:00	7.7	0	0.000	0	8,336,992	31,514	Closed	14.4	119
12/4/2024	1:45:00	7.6	0	0.000	0	8,336,992	31,514	Closed	14.7	116
12/4/2024	2:00:00	7.6	0	0.000	0	8,336,992	31,514	Closed	15.1	118
12/4/2024	2:15:00	7.6	0	0.000	0	8,336,992	31,514	Closed	15.7	119
12/4/2024	2:30:00	7.6	0	0.000	0	8,336,992	31,514	Closed	16.1	245
12/4/2024	2:45:00	7.8	231	0.873	0	8,338,631	31,520	Open	10.5	119
12/4/2024	3:00:00	7.8	219	0.828	0	8,342,018	31,533	Open	10.6	119
12/4/2024	3:15:00	7.8	231	0.873	0	8,345,379	31,546	Open	10.6	118
12/4/2024	3:30:00	7.8	216	0.816	0	8,348,742	31,558	Open	10.6	119
12/4/2024	3:45:00	7.8	0	0.000	0	8,350,088	31,563	Closed	11.1	119

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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/4/2024	4:00:00	7.8	0	0.000	0	8,350,088	31,563	Closed	12.2	119
12/4/2024	4:15:00	7.7	0	0.000	0	8,350,088	31,563	Closed	13.3	119
12/4/2024	4:30:00	7.7	0	0.000	0	8,350,088	31,563	Closed	13.8	116
12/4/2024	4:45:00	7.7	0	0.000	0	8,350,088	31,563	Closed	14	116
12/4/2024	5:00:00	7.6	0	0.000	0	8,350,088	31,563	Closed	14.3	117
12/4/2024	5:15:00	7.6	0	0.000	0	8,350,088	31,563	Closed	14.6	116
12/4/2024	5:30:00	7.6	0	0.000	0	8,350,088	31,563	Closed	14.6	114
12/4/2024	5:45:00	7.7	228	0.862	0	8,350,424	31,565	Open	11.8	114
12/4/2024	6:00:00	7.8	218	0.824	0	8,353,779	31,577	Open	10.1	113
12/4/2024	6:15:00	7.8	219	0.828	0	8,357,128	31,590	Open	10.1	116
12/4/2024	6:30:00	7.8	224	0.847	0	8,360,498	31,603	Open	10.2	116
12/4/2024	6:45:00	7.8	224	0.847	0	8,363,865	31,615	Open	10.3	117
12/4/2024	7:00:00	7.8	0	0.000	0	8,363,957	31,616	Closed	10.9	116
12/4/2024	7:15:00	7.7	0	0.000	0	8,363,957	31,616	Closed	11.4	115
12/4/2024	7:30:00	7.7	0	0.000	0	8,363,957	31,616	Closed	11.7	116

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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/4/2024	7:45:00	7.6	0	0.000	0	8,363,957	31,616	Closed	12.4	116
12/4/2024	8:00:00	7.6	0	0.000	0	8,363,957	31,616	Closed	13.3	118
12/4/2024	8:15:00	7.6	0	0.000	0	8,363,957	31,616	Closed	14.1	118
12/4/2024	8:30:00	7.6	0	0.000	0	8,363,957	31,616	Closed	14.8	119
12/4/2024	8:45:00	7.6	0	0.000	0	8,363,957	31,616	Closed	15.6	119
12/4/2024	9:00:00	7.8	213	0.805	0	8,365,936	31,623	Open	10.5	119
12/4/2024	9:15:00	7.8	226	0.854	0	8,369,265	31,636	Open	10.5	118
12/4/2024	9:30:00	7.8	0	0.000	0	8,369,482	31,637	Closed	11.3	119
12/4/2024	9:45:00	7.7	0	0.000	0	8,369,482	31,637	Closed	12.4	119
12/4/2024	10:00:00	7.7	0	0.000	0	8,369,482	31,637	Closed	13.4	119
12/4/2024	10:15:00	7.8	214	0.809	1.5	8,369,482	31,637	Open	14.6	119
12/4/2024	10:30:00	7.8	222	0.839	0	8,372,733	31,649	Open	10.6	119
12/4/2024	10:45:00	7.8	228	0.862	0	8,376,086	31,662	Open	10.6	118
12/4/2024	11:00:00	7.8	227	0.858	0	8,379,461	31,674	Open	10.6	119
12/4/2024	11:15:00	7.8	0	0.000	0	8,381,554	31,682	Closed	10.9	119

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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/4/2024	11:30:00	7.8	0	0.000	0	8,381,554	31,682	Closed	11.9	119
12/4/2024	11:45:00	7.7	0	0.000	0	8,381,554	31,682	Closed	13.1	120
12/4/2024	12:00:00	7.7	0	0.000	0	8,381,554	31,682	Closed	14.2	119
12/4/2024	12:15:00	7.7	0	0.000	0	8,381,554	31,682	Closed	15	119
12/4/2024	12:30:00	7.7	0	0.000	0	8,381,554	31,682	Closed	15.8	119
12/4/2024	12:45:00	7.7	225	0.851	0	8,381,796	31,683	Open	13.8	121
12/4/2024	13:00:00	7.8	226	0.854	0	8,385,156	31,696	Open	11	119
12/4/2024	13:15:00	7.8	222	0.839	0	8,388,552	31,709	Open	11	119
12/4/2024	13:30:00	7.8	225	0.851	0	8,391,947	31,722	Open	11.1	119
12/4/2024	13:45:00	7.8	0	0.000	0	8,394,046	31,729	Closed	11.4	119
12/4/2024	14:00:00	7.8	0	0.000	0	8,394,046	31,729	Closed	12.5	119
12/4/2024	14:15:00	7.7	0	0.000	0	8,394,046	31,729	Closed	13.8	121
12/4/2024	14:30:00	7.7	0	0.000	0	8,394,046	31,729	Closed	14.8	121
12/4/2024	14:45:00	7.7	0	0.000	0	8,394,046	31,729	Closed	15.9	121
12/4/2024	15:00:00	7.8	230	0.869	0	8,396,730	31,740	Open	11.5	121

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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/4/2024	15:15:00	7.8	0	0.000	0	8,397,271	31,742	Closed	12.2	119
12/4/2024	15:30:00	7.7	0	0.000	0	8,397,271	31,742	Closed	13.4	121
12/4/2024	15:45:00	7.7	0	0.000	0	8,397,271	31,742	Closed	14.6	121
12/4/2024	16:00:00	7.7	0	0.000	0	8,397,271	31,742	Closed	15.7	122
12/4/2024	16:15:00	7.6	0	0.000	0	8,397,271	31,742	Closed	16.6	121
12/4/2024	16:30:00	7.6	0	0.000	0	8,397,271	31,742	Closed	17.4	245
12/4/2024	16:45:00	7.8	241	0.911	0	8,400,718	31,755	Open	11.6	119
12/4/2024	17:00:00	7.8	239	0.903	0	8,404,352	31,768	Open	11.5	119
12/4/2024	17:15:00	7.8	242	0.915	0	8,408,026	31,782	Open	11.5	119
12/4/2024	17:30:00	7.8	0	0.000	0	8,408,772	31,785	Closed	12.2	119
12/4/2024	17:45:00	7.7	0	0.000	0	8,408,772	31,785	Closed	13.3	119
12/4/2024	18:00:00	7.7	0	0.000	0	8,408,772	31,785	Closed	14.5	121
12/4/2024	18:15:00	7.7	0	0.000	0	8,408,772	31,785	Closed	15.5	121
12/4/2024	18:30:00	7.7	0	0.000	0	8,408,772	31,785	Closed	16.4	121
12/4/2024	18:45:00	7.6	0	0.000	0	8,408,772	31,785	Closed	17.2	243

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/4/2024	19:00:00	7.6	0	0.000	0	8,408,772	31,785	Closed	17.9	244
12/4/2024	19:15:00	7.7	245	0.926	0	8,410,534	31,792	Open	11.5	120
12/4/2024	19:30:00	7.7	0	0.000	0	8,412,273	31,798	Closed	11.8	119
12/4/2024	19:45:00	7.7	0	0.000	0	8,412,273	31,798	Closed	13	119
12/4/2024	20:00:00	7.8	238	0.900	0	8,415,186	31,809	Open	11.3	119
12/4/2024	20:15:00	7.8	241	0.911	0	8,418,780	31,823	Open	11.2	119
12/4/2024	20:30:00	7.8	233	0.881	0	8,422,374	31,837	Open	11.2	119
12/4/2024	20:45:00	7.8	240	0.907	0	8,425,938	31,850	Open	11.1	118
12/4/2024	21:00:00	7.8	0	0.000	0	8,428,942	31,861	Closed	11.2	119
12/4/2024	21:15:00	7.8	0	0.000	0	8,428,942	31,861	Closed	11.7	116
12/4/2024	21:30:00	7.7	0	0.000	0	8,428,942	31,861	Closed	12.1	116
12/4/2024	21:45:00	7.7	0	0.000	0	8,428,942	31,861	Closed	12.8	117
12/4/2024	22:00:00	7.7	0	0.000	0	8,428,942	31,861	Closed	13.7	119
12/4/2024	22:15:00	7.6	0	0.000	0	8,428,942	31,861	Closed	14.4	118
12/4/2024	22:30:00	7.6	0	0.000	0	8,428,942	31,861	Closed	15.1	118

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/4/2024	22:45:00	7.6	0	0.000	0	8,428,942	31,861	Closed	15.9	119
12/4/2024	23:00:00	7.6	0	0.000	0	8,428,942	31,861	Closed	16.5	245
12/4/2024	23:15:00	7.8	225	0.851	0	8,431,939	31,873	Open	10.8	116
12/4/2024	23:30:00	7.8	229	0.866	0	8,435,480	31,886	Open	10.6	114
12/4/2024	23:45:00	7.8	230	0.869	0	8,438,987	31,899	Open	10.4	112
12/5/2024	0:00:00	7.8	234	0.885	0	8,442,518	31,913	Open	10.3	111
12/5/2024	0:15:00	7.8	0	0.000	0	8,443,066	31,915	Closed	10.5	109
12/5/2024	0:30:00	7.7	0	0.000	0	8,443,066	31,915	Closed	10.6	111
12/5/2024	0:45:00	7.7	0	0.000	0	8,443,066	31,915	Closed	10.8	111
12/5/2024	1:00:00	7.6	0	0.000	0	8,443,066	31,915	Closed	11	111
12/5/2024	1:15:00	7.6	0	0.000	0	8,443,066	31,915	Closed	11.1	113
12/5/2024	1:30:00	7.6	0	0.000	0	8,443,066	31,915	Closed	11.3	114
12/5/2024	1:45:00	7.6	0	0.000	0	8,443,066	31,915	Closed	11.5	114
12/5/2024	2:00:00	7.6	0	0.000	0	8,443,066	31,915	Closed	11.6	114
12/5/2024	2:15:00	7.7	227	0.858	0	8,444,445	31,920	Open	10.1	114

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/5/2024	2:30:00	7.8	240	0.907	0	8,447,948	31,933	Open	10.3	116
12/5/2024	2:45:00	7.8	241	0.911	0	8,451,470	31,947	Open	10.4	116
12/5/2024	3:00:00	7.8	238	0.900	0	8,455,015	31,960	Open	10.4	116
12/5/2024	3:15:00	7.8	0	0.000	0	8,456,553	31,966	Closed	10.5	116
12/5/2024	3:30:00	7.7	0	0.000	0	8,456,553	31,966	Closed	10.9	115
12/5/2024	3:45:00	7.7	0	0.000	0	8,456,553	31,966	Closed	11.3	116
12/5/2024	4:00:00	7.7	0	0.000	0	8,456,553	31,966	Closed	11.7	116
12/5/2024	4:15:00	7.6	0	0.000	0	8,456,553	31,966	Closed	11.9	116
12/5/2024	4:30:00	7.6	0	0.000	0	8,456,553	31,966	Closed	12.2	114
12/5/2024	4:45:00	7.6	0	0.000	0	8,456,553	31,966	Closed	12.2	113
12/5/2024	5:00:00	7.7	226	0.854	0	8,457,013	31,968	Open	10.7	111
12/5/2024	5:15:00	7.8	226	0.854	0	8,460,505	31,981	Open	9.9	112
12/5/2024	5:30:00	7.8	236	0.892	0	8,464,030	31,994	Open	9.9	111
12/5/2024	5:45:00	7.8	232	0.877	0	8,467,536	32,007	Open	10.1	116
12/5/2024	6:00:00	7.8	0	0.000	0	8,469,247	32,014	Closed	10.6	116

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/5/2024	6:15:00	7.7	0	0.000	0	8,469,247	32,014	Closed	11.5	117
12/5/2024	6:30:00	7.7	0	0.000	0	8,469,247	32,014	Closed	12.4	118
12/5/2024	6:45:00	7.7	0	0.000	0	8,469,247	32,014	Closed	13.3	119
12/5/2024	7:00:00	7.7	0	0.000	0	8,469,247	32,014	Closed	14.2	119
12/5/2024	7:15:00	7.6	0	0.000	0	8,469,247	32,014	Closed	14.9	119
12/5/2024	7:30:00	7.6	0	0.000	0	8,469,247	32,014	Closed	15.3	118
12/5/2024	7:45:00	7.6	0	0.000	0	8,469,247	32,014	Closed	15.9	119
12/5/2024	8:00:00	7.6	0	0.000	0	8,469,247	32,014	Closed	16.4	243
12/5/2024	8:15:00	7.8	232	0.877	0	8,472,244	32,025	Open	10.6	119
12/5/2024	8:30:00	7.8	240	0.907	0	8,475,741	32,038	Open	10.5	118
12/5/2024	8:45:00	7.8	0	0.000	0	8,476,434	32,041	Closed	11.2	119
12/5/2024	9:00:00	7.7	0	0.000	0	8,476,434	32,041	Closed	12.3	118
12/5/2024	9:15:00	7.7	0	0.000	0	8,476,434	32,041	Closed	13.3	119
12/5/2024	9:30:00	7.7	0	0.000	0	8,476,434	32,041	Closed	14.3	119
12/5/2024	9:45:00	7.8	227	0.858	0	8,478,832	32,050	Open	10.6	119

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/5/2024	10:00:00	7.8	232	0.877	0	8,482,314	32,063	Open	10.6	118
12/5/2024	10:15:00	7.8	231	0.873	0	8,485,794	32,076	Open	10.6	119
12/5/2024	10:30:00	7.8	230	0.869	0	8,489,295	32,090	Open	10.6	119
12/5/2024	10:45:00	7.8	0	0.000	0	8,489,356	32,090	Closed	11.5	119
12/5/2024	11:00:00	7.7	0	0.000	0	8,489,356	32,090	Closed	12.7	119
12/5/2024	11:15:00	7.7	0	0.000	0	8,489,356	32,090	Closed	13.8	119
12/5/2024	11:30:00	7.7	0	0.000	0	8,489,356	32,090	Closed	14.8	119
12/5/2024	11:45:00	7.7	0	0.000	0	8,489,356	32,090	Closed	15.7	120
12/5/2024	12:00:00	7.6	0	0.000	0	8,489,356	32,090	Closed	16.5	121
12/5/2024	12:15:00	7.6	0	0.000	0	8,489,356	32,090	Closed	17.2	245
12/5/2024	12:30:00	7.6	0	0.000	0	8,489,356	32,090	Closed	17.9	245
12/5/2024	12:45:00	7.8	229	0.866	0	8,491,608	32,098	Open	10.9	120
12/5/2024	13:00:00	7.8	234	0.885	0	8,495,096	32,111	Open	10.9	119
12/5/2024	13:15:00	7.8	238	0.900	0	8,498,595	32,125	Open	10.8	119
12/5/2024	13:30:00	7.8	233	0.881	0	8,502,069	32,138	Open	10.9	119

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/5/2024	13:45:00	7.8	0	0.000	0	8,502,728	32,140	Closed	11.6	119
12/5/2024	14:00:00	7.7	0	0.000	0	8,502,728	32,140	Closed	12.8	119
12/5/2024	14:15:00	7.7	0	0.000	0	8,502,728	32,140	Closed	14	119
12/5/2024	14:30:00	7.7	0	0.000	0	8,502,728	32,140	Closed	15	121
12/5/2024	14:45:00	7.7	0	0.000	0	8,502,728	32,140	Closed	15.9	121
12/5/2024	15:00:00	7.6	0	0.000	0	8,502,728	32,140	Closed	16.8	121
12/5/2024	15:15:00	7.6	0	0.000	0	8,502,728	32,140	Closed	17.4	243
12/5/2024	15:30:00	7.6	0	0.000	0	8,502,728	32,140	Closed	17.8	244
12/5/2024	15:45:00	7.6	0	0.000	0	8,502,728	32,140	Closed	17.7	244
12/5/2024	16:00:00	7.8	233	0.881	0	8,505,359	32,150	Open	10.9	118
12/5/2024	16:15:00	7.8	227	0.858	0	8,508,856	32,163	Open	10.9	118
12/5/2024	16:30:00	7.8	231	0.873	0	8,512,352	32,177	Open	10.9	118
12/5/2024	16:45:00	7.8	0	0.000	0	8,514,676	32,185	Closed	11.1	118
12/5/2024	17:00:00	7.7	0	0.000	0	8,514,676	32,185	Closed	12.1	119
12/5/2024	17:15:00	7.7	0	0.000	0	8,514,676	32,185	Closed	13.2	119

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/5/2024	17:30:00	7.7	0	0.000	0	8,514,676	32,185	Closed	14.3	119
12/5/2024	17:45:00	7.7	0	0.000	0	8,514,676	32,185	Closed	15.2	120
12/5/2024	18:00:00	7.6	0	0.000	0	8,514,676	32,185	Closed	16.1	119
12/5/2024	18:15:00	7.6	0	0.000	0	8,514,676	32,185	Closed	16.8	121
12/5/2024	18:30:00	7.8	233	0.881	0	8,516,902	32,194	Open	11.2	119
12/5/2024	18:45:00	7.8	241	0.911	0	8,520,397	32,207	Open	11.1	119
12/5/2024	19:00:00	7.8	0	0.000	0	8,522,094	32,214	Closed	11.4	119
12/5/2024	19:15:00	7.7	0	0.000	0	8,522,094	32,214	Closed	12.6	119
12/5/2024	19:30:00	7.7	0	0.000	0	8,522,094	32,214	Closed	13.7	119
12/5/2024	19:45:00	7.7	0	0.000	0	8,522,094	32,214	Closed	14.8	119
12/5/2024	20:00:00	7.8	237	0.896	0	8,523,947	32,221	Open	11.1	121
12/5/2024	20:15:00	7.8	237	0.896	0	8,527,471	32,234	Open	11	118
12/5/2024	20:30:00	7.8	237	0.896	0	8,530,999	32,247	Open	10.8	117
12/5/2024	20:45:00	7.8	235	0.888	0	8,534,526	32,261	Open	10.9	117
12/5/2024	21:00:00	7.8	0	0.000	0	8,537,793	32,273	Closed	11	119

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
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Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/5/2024	21:15:00	7.8	0	0.000	0	8,537,793	32,273	Closed	11.7	118
12/5/2024	21:30:00	7.7	0	0.000	0	8,537,793	32,273	Closed	12.2	116
12/5/2024	21:45:00	7.7	0	0.000	0	8,537,793	32,273	Closed	12.6	114
12/5/2024	22:00:00	7.7	0	0.000	0	8,537,793	32,273	Closed	12.8	114
12/5/2024	22:15:00	7.6	0	0.000	0	8,537,793	32,273	Closed	13	114
12/5/2024	22:30:00	7.6	0	0.000	0	8,537,793	32,273	Closed	13.2	114
12/5/2024	22:45:00	7.6	0	0.000	0	8,537,793	32,273	Closed	13.3	113
12/5/2024	23:00:00	7.6	0	0.000	0	8,537,793	32,273	Closed	13.4	113
12/5/2024	23:15:00	7.7	220	0.832	0	8,539,624	32,280	Open	10.3	113
12/5/2024	23:30:00	7.8	244	0.922	0	8,543,146	32,293	Open	10.4	113
12/5/2024	23:45:00	7.8	237	0.896	0	8,546,676	32,306	Open	10.4	113
12/6/2024	0:00:00	7.8	238	0.900	0	8,550,182	32,320	Open	10.4	114
12/6/2024	0:15:00	7.8	0	0.000	0	8,551,348	32,324	Closed	10.7	115
12/6/2024	0:30:00	7.7	0	0.000	0	8,551,348	32,324	Closed	11.3	115
12/6/2024	0:45:00	7.7	0	0.000	2.7	8,551,348	32,324	Closed	11.6	114

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
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Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/6/2024	1:00:00	7.7	0	0.000	2.6	8,551,348	32,324	Closed	11.8	113
12/6/2024	1:15:00	7.6	0	0.000	2.8	8,551,348	32,324	Closed	12	113
12/6/2024	1:30:00	7.6	0	0.000	3	8,551,348	32,324	Closed	12.2	113
12/6/2024	1:45:00	7.6	0	0.000	3.3	8,551,348	32,324	Closed	12.3	113
12/6/2024	2:00:00	7.6	0	0.000	3.7	8,551,348	32,324	Closed	12.4	113
12/6/2024	2:15:00	7.7	228	0.862	14.7	8,551,348	32,324	Closed	12.9	113
12/6/2024	2:30:00	7.8	230	0.869	5.4	8,554,649	32,337	Open	10.6	117
12/6/2024	2:45:00	7.8	233	0.881	0	8,558,152	32,350	Open	10.6	115
12/6/2024	3:00:00	7.8	239	0.903	0	8,561,647	32,363	Open	10.5	113
12/6/2024	3:15:00	7.8	0	0.000	0	8,564,692	32,375	Closed	10.6	114
12/6/2024	3:30:00	7.7	0	0.000	0	8,564,692	32,375	Closed	11.1	115
12/6/2024	3:45:00	7.7	0	0.000	0	8,564,692	32,375	Closed	11.8	115
12/6/2024	4:00:00	7.7	0	0.000	0	8,564,692	32,375	Closed	12.2	114
12/6/2024	4:15:00	7.7	0	0.000	0	8,564,692	32,375	Closed	12.4	116
12/6/2024	4:30:00	7.6	0	0.000	0	8,564,692	32,375	Closed	12.8	118

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/6/2024	4:45:00	7.6	0	0.000	0	8,564,692	32,375	Closed	13.1	116
12/6/2024	5:00:00	7.6	0	0.000	0	8,564,692	32,375	Closed	13.4	118
12/6/2024	5:15:00	7.7	220	0.832	0	8,564,998	32,376	Open	12.3	117
12/6/2024	5:30:00	7.8	237	0.896	0	8,568,515	32,389	Open	10.8	118
12/6/2024	5:45:00	7.8	236	0.892	0	8,572,072	32,402	Open	10.8	117
12/6/2024	6:00:00	7.8	228	0.862	0	8,575,586	32,416	Open	10.8	118
12/6/2024	6:15:00	7.8	0	0.000	0	8,577,805	32,424	Closed	10.9	118
12/6/2024	6:30:00	7.7	0	0.000	0	8,577,805	32,424	Closed	11.3	118
12/6/2024	6:45:00	7.7	0	0.000	0	8,577,805	32,424	Closed	11.7	116
12/6/2024	7:00:00	7.7	0	0.000	0	8,577,805	32,424	Closed	12	114
12/6/2024	7:15:00	7.7	0	0.000	0	8,577,805	32,424	Closed	12.2	114
12/6/2024	7:30:00	7.6	0	0.000	0	8,577,805	32,424	Closed	12.6	115
12/6/2024	7:45:00	7.6	0	0.000	0	8,577,805	32,424	Closed	13.2	117
12/6/2024	8:00:00	7.6	0	0.000	0	8,577,805	32,424	Closed	14.1	118
12/6/2024	8:15:00	7.6	0	0.000	0	8,577,805	32,424	Closed	14.8	119

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/6/2024	8:30:00	7.8	234	0.885	0	8,580,128	32,433	Open	11	118
12/6/2024	8:45:00	7.8	229	0.866	0	8,583,640	32,446	Open	11	119
12/6/2024	9:00:00	7.8	235	0.888	0	8,587,127	32,459	Open	10.9	118
12/6/2024	9:15:00	7.8	240	0.907	0	8,590,654	32,473	Open	11	118
12/6/2024	9:30:00	7.8	0	0.000	0	8,591,291	32,475	Closed	11.7	119
12/6/2024	9:45:00	7.7	0	0.000	0	8,591,291	32,475	Closed	12.7	119
12/6/2024	10:00:00	7.7	0	0.000	0	8,591,291	32,475	Closed	13.8	119
12/6/2024	10:15:00	7.7	0	0.000	0	8,591,291	32,475	Closed	14.7	119
12/6/2024	10:30:00	7.7	0	0.000	0	8,591,291	32,475	Closed	15.6	119
12/6/2024	10:45:00	7.6	0	0.000	0	8,591,291	32,475	Closed	16.4	121
12/6/2024	11:00:00	7.6	0	0.000	0	8,591,291	32,475	Closed	17.1	245
12/6/2024	11:15:00	7.6	0	0.000	0	8,591,291	32,475	Closed	17.7	246
12/6/2024	11:30:00	7.7	234	0.885	0	8,593,599	32,484	Open	11.3	119
12/6/2024	11:45:00	7.8	239	0.903	0	8,597,161	32,497	Open	11.2	119
12/6/2024	12:00:00	7.8	237	0.896	0	8,600,702	32,511	Open	11.1	119

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/6/2024	12:15:00	7.8	0	0.000	0	8,603,841	32,523	Closed	11.2	119
12/6/2024	12:30:00	7.7	0	0.000	0	8,603,841	32,523	Closed	12.1	119
12/6/2024	12:45:00	7.7	0	0.000	0	8,603,841	32,523	Closed	13.3	119
12/6/2024	13:00:00	7.7	0	0.000	0	8,603,841	32,523	Closed	14.4	119
12/6/2024	13:15:00	7.7	0	0.000	0	8,603,841	32,523	Closed	15.4	119
12/6/2024	13:30:00	7.7	0	0.000	0	8,603,841	32,523	Closed	16.3	121
12/6/2024	13:45:00	7.6	0	0.000	0	8,603,841	32,523	Closed	17	246
12/6/2024	14:00:00	7.7	237	0.896	0	8,605,428	32,529	Open	11.3	121
12/6/2024	14:15:00	7.8	242	0.915	0	8,608,970	32,542	Open	11.3	119
12/6/2024	14:30:00	7.8	242	0.915	0	8,612,545	32,555	Open	11.3	119
12/6/2024	14:45:00	7.8	243	0.919	0	8,616,108	32,569	Open	11.3	119
12/6/2024	15:00:00	7.8	0	0.000	0	8,617,362	32,574	Closed	11.8	119
12/6/2024	15:15:00	7.7	0	0.000	0	8,617,362	32,574	Closed	12.9	119
12/6/2024	15:30:00	7.7	0	0.000	0	8,617,362	32,574	Closed	13.5	116
12/6/2024	15:45:00	7.7	0	0.000	0	8,617,362	32,574	Closed	13.9	116

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/6/2024	16:00:00	7.6	0	0.000	0	8,617,362	32,574	Closed	14.6	119
12/6/2024	16:15:00	7.6	0	0.000	0	8,617,362	32,574	Closed	15.5	119
12/6/2024	16:30:00	7.6	0	0.000	0	8,617,362	32,574	Closed	16.3	119
12/6/2024	16:45:00	7.6	0	0.000	0	8,617,362	32,574	Closed	17	246
12/6/2024	17:00:00	7.5	0	0.000	0	8,617,362	32,574	Closed	17.7	245
12/6/2024	17:15:00	7.7	235	0.888	0	8,619,378	32,581	Open	11.3	119
12/6/2024	17:30:00	7.8	235	0.888	0	8,622,943	32,595	Open	11.3	119
12/6/2024	17:45:00	7.8	231	0.873	0	8,626,501	32,608	Open	11.2	119
12/6/2024	18:00:00	7.8	239	0.903	0	8,630,049	32,622	Open	11.2	119
12/6/2024	18:15:00	7.8	0	0.000	0	8,631,337	32,626	Closed	11.8	119
12/6/2024	18:30:00	7.7	0	0.000	0	8,631,337	32,626	Closed	13	119
12/6/2024	18:45:00	7.7	0	0.000	0	8,631,337	32,626	Closed	14.1	119
12/6/2024	19:00:00	7.7	0	0.000	0	8,631,337	32,626	Closed	15.1	121
12/6/2024	19:15:00	7.7	0	0.000	0	8,631,337	32,626	Closed	16.1	121
12/6/2024	19:30:00	7.7	0	0.000	0	8,631,337	32,626	Closed	16.9	121

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/6/2024	19:45:00	7.6	0	0.000	0	8,631,337	32,626	Closed	17.7	245
12/6/2024	20:00:00	7.6	0	0.000	0	8,631,337	32,626	Closed	18.4	244
12/6/2024	20:15:00	7.7	228	0.862	0	8,631,375	32,627	Open	19	121
12/6/2024	20:30:00	7.8	236	0.892	0	8,634,862	32,640	Open	11.4	120
12/6/2024	20:45:00	7.8	230	0.869	0	8,638,389	32,653	Open	11.3	119
12/6/2024	21:00:00	7.8	236	0.892	7.2	8,641,926	32,666	Open	11.2	118
12/6/2024	21:15:00	7.8	232	0.877	3.2	8,645,429	32,680	Open	11.2	119
12/6/2024	21:30:00	7.7	0	0.000	3.7	8,645,571	32,680	Closed	11.7	117
12/6/2024	21:45:00	7.7	0	0.000	3.6	8,645,571	32,680	Closed	12.1	116
12/6/2024	22:00:00	7.7	0	0.000	3.9	8,645,571	32,680	Closed	12.5	114
12/6/2024	22:15:00	7.7	0	0.000	4.3	8,645,571	32,680	Closed	12.8	114
12/6/2024	22:30:00	7.6	0	0.000	4.8	8,645,571	32,680	Closed	13	114
12/6/2024	22:45:00	7.8	236	0.892	0	8,648,366	32,691	Open	10.6	114
12/6/2024	23:00:00	7.8	227	0.858	0	8,651,860	32,704	Open	10.5	114
12/6/2024	23:15:00	7.8	234	0.885	0	8,655,368	32,717	Open	10.5	114

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/6/2024	23:30:00	7.8	233	0.881	0	8,658,852	32,730	Open	10.5	114
12/6/2024	23:45:00	7.7	0	0.000	0	8,659,242	32,732	Closed	10.9	114
12/7/2024	0:00:00	7.7	0	0.000	0	8,659,242	32,732	Closed	11.2	114
12/7/2024	0:15:00	7.7	0	0.000	0	8,659,242	32,732	Closed	11.5	113
12/7/2024	0:30:00	7.6	0	0.000	0	8,659,242	32,732	Closed	11.8	113
12/7/2024	0:45:00	7.6	0	0.000	0	8,659,242	32,732	Closed	12	113
12/7/2024	1:00:00	7.6	0	0.000	0	8,659,242	32,732	Closed	12.3	115
12/7/2024	1:15:00	7.6	0	0.000	0	8,659,242	32,732	Closed	12.5	116
12/7/2024	1:30:00	7.6	0	0.000	0	8,659,242	32,732	Closed	12.8	116
12/7/2024	1:45:00	7.7	234	0.885	0	8,660,863	32,738	Open	10.5	117
12/7/2024	2:00:00	7.8	239	0.903	0	8,664,423	32,752	Open	10.8	116
12/7/2024	2:15:00	7.8	234	0.885	0	8,667,966	32,765	Open	10.8	116
12/7/2024	2:30:00	7.8	238	0.900	0	8,671,465	32,778	Open	10.7	114
12/7/2024	2:45:00	7.7	0	0.000	0	8,672,788	32,783	Closed	10.9	114
12/7/2024	3:00:00	7.7	0	0.000	0	8,672,788	32,783	Closed	11.2	113

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/7/2024	3:15:00	7.7	0	0.000	0	8,672,788	32,783	Closed	11.5	113
12/7/2024	3:30:00	7.7	0	0.000	0	8,672,788	32,783	Closed	11.8	113
12/7/2024	3:45:00	7.6	0	0.000	0	8,672,788	32,783	Closed	12	113
12/7/2024	4:00:00	7.6	0	0.000	0	8,672,788	32,783	Closed	12.2	113
12/7/2024	4:15:00	7.6	0	0.000	0	8,672,788	32,783	Closed	12.4	113
12/7/2024	4:30:00	7.6	0	0.000	0	8,672,788	32,783	Closed	12.6	113
12/7/2024	4:45:00	7.6	0	0.000	0	8,672,788	32,783	Closed	12.7	114
12/7/2024	5:00:00	7.7	229	0.866	289.2	8,675,171	32,792	Closed	10.6	113
12/7/2024	5:15:00	7.8	237	0.896	0	8,678,654	32,805	Open	10.5	114
12/7/2024	5:30:00	7.8	135	0.510	0	8,681,581	32,816	Open	10.6	114
12/7/2024	5:45:00	7.8	230	0.869	0	8,684,866	32,829	Open	10.6	114
12/7/2024	6:00:00	7.7	0	0.000	0	8,685,783	32,832	Closed	10.8	113
12/7/2024	6:15:00	7.7	0	0.000	0	8,685,783	32,832	Closed	11.1	113
12/7/2024	6:30:00	7.7	0	0.000	0	8,685,783	32,832	Closed	11.4	113
12/7/2024	6:45:00	7.6	0	0.000	0	8,685,783	32,832	Closed	11.6	113

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/7/2024	7:00:00	7.6	0	0.000	0	8,685,783	32,832	Closed	11.8	113
12/7/2024	7:15:00	7.6	0	0.000	0	8,685,783	32,832	Closed	12.1	114
12/7/2024	7:30:00	7.6	0	0.000	0	8,685,783	32,832	Closed	12.3	114
12/7/2024	7:45:00	7.6	0	0.000	0	8,685,783	32,832	Closed	12.9	117
12/7/2024	8:00:00	7.7	235	0.888	0	8,688,002	32,841	Open	10.8	118
12/7/2024	8:15:00	7.8	241	0.911	0	8,691,547	32,854	Open	10.9	116
12/7/2024	8:30:00	7.8	233	0.881	0	8,695,066	32,867	Open	11	118
12/7/2024	8:45:00	7.8	236	0.892	0	8,698,601	32,881	Open	11	118
12/7/2024	9:00:00	7.7	0	0.000	0	8,698,653	32,881	Closed	11.9	118
12/7/2024	9:15:00	7.7	0	0.000	0	8,698,653	32,881	Closed	12.9	119
12/7/2024	9:30:00	7.7	0	0.000	0	8,698,653	32,881	Closed	14	119
12/7/2024	9:45:00	7.6	0	0.000	0	8,698,653	32,881	Closed	14.9	119
12/7/2024	10:00:00	7.6	0	0.000	0	8,698,653	32,881	Closed	15.7	119
12/7/2024	10:15:00	7.6	0	0.000	0	8,698,653	32,881	Closed	16.5	119
12/7/2024	10:30:00	7.5	0	0.000	0	8,698,653	32,881	Closed	17.2	245

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/7/2024	10:45:00	7.7	228	0.862	415	8,698,691	32,881	Closed	12.6	120
12/7/2024	11:00:00	7.8	235	0.888	0	8,701,880	32,893	Open	11.3	119
12/7/2024	11:15:00	7.8	228	0.862	0	8,705,440	32,907	Open	11.2	119
12/7/2024	11:30:00	7.8	241	0.911	0	8,708,985	32,920	Open	11.2	119
12/7/2024	11:45:00	7.8	0	0.000	0	8,711,177	32,928	Closed	11.4	119
12/7/2024	12:00:00	7.7	0	0.000	0	8,711,177	32,928	Closed	12.3	119
12/7/2024	12:15:00	7.7	0	0.000	0	8,711,177	32,928	Closed	13.4	119
12/7/2024	12:30:00	7.6	0	0.000	0	8,711,177	32,928	Closed	14.4	119
12/7/2024	12:45:00	7.6	0	0.000	0	8,711,177	32,928	Closed	15.3	119
12/7/2024	13:00:00	7.6	0	0.000	0	8,711,177	32,928	Closed	16.1	120
12/7/2024	13:15:00	7.6	0	0.000	0	8,711,177	32,928	Closed	16.8	121
12/7/2024	13:30:00	7.7	234	0.885	0	8,712,975	32,935	Open	11.5	121
12/7/2024	13:45:00	7.8	239	0.903	0	8,716,508	32,948	Open	11.3	119
12/7/2024	14:00:00	7.8	217	0.820	0	8,719,992	32,962	Open	11.3	119
12/7/2024	14:15:00	7.8	228	0.862	0	8,723,388	32,974	Open	11.2	119

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/7/2024	14:30:00	7.8	0	0.000	0	8,726,170	32,985	Closed	11.2	118
12/7/2024	14:45:00	7.7	0	0.000	0	8,726,170	32,985	Closed	11.9	118
12/7/2024	15:00:00	7.7	0	0.000	0	8,726,170	32,985	Closed	12.9	118
12/7/2024	15:15:00	7.6	0	0.000	0	8,726,170	32,985	Closed	13.5	116
12/7/2024	15:30:00	7.6	0	0.000	0	8,726,170	32,985	Closed	13.8	117
12/7/2024	15:45:00	7.6	0	0.000	0	8,726,170	32,985	Closed	14.3	119
12/7/2024	16:00:00	7.6	0	0.000	0	8,726,170	32,985	Closed	14.9	119
12/7/2024	16:15:00	7.7	231	0.873	0	8,727,548	32,990	Open	11.2	119
12/7/2024	16:30:00	7.8	224	0.847	0	8,730,944	33,003	Open	11.1	117
12/7/2024	16:45:00	7.8	229	0.866	0	8,734,298	33,016	Open	11.1	119
12/7/2024	17:00:00	7.7	0	0.000	0	8,735,458	33,020	Closed	11.6	119
12/7/2024	17:15:00	7.7	0	0.000	0	8,735,458	33,020	Closed	12.6	119
12/7/2024	17:30:00	7.7	0	0.000	0	8,735,458	33,020	Closed	13.7	119
12/7/2024	17:45:00	7.6	0	0.000	0	8,735,458	33,020	Closed	14.6	119
12/7/2024	18:00:00	7.6	0	0.000	0	8,735,458	33,020	Closed	15.5	119

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/7/2024	18:15:00	7.5	0	0.000	0	8,735,458	33,020	Closed	16.2	121
12/7/2024	18:30:00	7.7	229	0.866	0	8,735,739	33,021	Open	14.3	119
12/7/2024	18:45:00	7.7	219	0.828	0	8,739,144	33,034	Open	11.3	119
12/7/2024	19:00:00	7.8	227	0.858	0	8,742,542	33,047	Open	11.2	119
12/7/2024	19:15:00	7.8	0	0.000	0	8,745,534	33,058	Open	11.3	119
12/7/2024	19:30:00	7.7	0	0.000	0	8,745,534	33,058	Closed	12.1	118
12/7/2024	19:45:00	7.7	0	0.000	0	8,745,534	33,058	Closed	12.9	119
12/7/2024	20:00:00	7.6	0	0.000	0	8,745,534	33,058	Closed	13.9	119
12/7/2024	20:15:00	7.6	0	0.000	0	8,745,534	33,058	Closed	14.9	119
12/7/2024	20:30:00	7.6	0	0.000	0	8,745,534	33,058	Closed	15.7	119
12/7/2024	20:45:00	7.6	0	0.000	0	8,745,534	33,058	Closed	15.9	116
12/7/2024	21:00:00	7.7	232	0.877	0	8,747,701	33,066	Open	10.9	116
12/7/2024	21:15:00	7.7	229	0.866	0	8,751,157	33,079	Open	10.9	116
12/7/2024	21:30:00	7.7	229	0.866	0	8,754,605	33,092	Open	10.7	114
12/7/2024	21:45:00	7.8	233	0.881	0	8,758,043	33,105	Open	10.7	116

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/7/2024	22:00:00	7.7	0	0.000	0	8,760,881	33,116	Closed	10.8	114
12/7/2024	22:15:00	7.7	0	0.000	0	8,760,881	33,116	Closed	11.1	113
12/7/2024	22:30:00	7.7	0	0.000	0	8,760,881	33,116	Closed	11.4	113
12/7/2024	22:45:00	7.6	0	0.000	0	8,760,881	33,116	Closed	11.6	114
12/7/2024	23:00:00	7.6	0	0.000	0	8,760,881	33,116	Closed	12.3	116
12/7/2024	23:15:00	7.6	0	0.000	0	8,760,881	33,116	Closed	13.1	116
12/7/2024	23:30:00	7.6	0	0.000	0	8,760,881	33,116	Closed	13.4	116
12/7/2024	23:45:00	7.6	0	0.000	0	8,760,881	33,116	Closed	13.5	114
12/8/2024	0:00:00	7.5	0	0.000	0	8,760,881	33,116	Closed	13.7	116
12/8/2024	0:15:00	7.7	227	0.858	0	8,761,365	33,118	Open	11.3	114
12/8/2024	0:30:00	7.7	226	0.854	0	8,764,755	33,131	Open	10.5	114
12/8/2024	0:45:00	7.7	225	0.851	0	8,768,159	33,144	Open	10.4	113
12/8/2024	1:00:00	7.8	229	0.866	0	8,771,535	33,156	Open	10.4	113
12/8/2024	1:15:00	7.8	222	0.839	0	8,774,860	33,169	Open	10.4	115
12/8/2024	1:30:00	7.7	0	0.000	0	8,775,029	33,170	Closed	11.1	116

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/8/2024	1:45:00	7.7	0	0.000	0	8,775,029	33,170	Closed	12.1	118
12/8/2024	2:00:00	7.7	0	0.000	0	8,775,029	33,170	Closed	13	118
12/8/2024	2:15:00	7.6	0	0.000	0	8,775,029	33,170	Closed	13.7	117
12/8/2024	2:30:00	7.6	0	0.000	0	8,775,029	33,170	Closed	13.8	115
12/8/2024	2:45:00	7.6	0	0.000	0	8,775,029	33,170	Closed	14.3	116
12/8/2024	3:00:00	7.6	0	0.000	0	8,775,029	33,170	Closed	14.7	116
12/8/2024	3:15:00	7.7	224	0.847	0	8,778,107	33,181	Open	10.5	115
12/8/2024	3:30:00	7.7	226	0.854	0	8,781,419	33,194	Open	10.3	115
12/8/2024	3:45:00	7.8	219	0.828	0	8,784,704	33,206	Open	10.2	114
12/8/2024	4:00:00	7.8	214	0.809	0	8,787,976	33,219	Open	10.1	114
12/8/2024	4:15:00	7.8	219	0.828	0	8,791,222	33,231	Open	10.1	115
12/8/2024	4:30:00	7.8	216	0.816	0	8,794,465	33,243	Open	10	113
12/8/2024	4:45:00	7.8	209	0.790	0	8,797,707	33,255	Open	10	116
12/8/2024	5:00:00	7.7	0	0.000	0	8,799,009	33,260	Closed	10.4	117
12/8/2024	5:15:00	7.7	0	0.000	0	8,799,009	33,260	Closed	10.9	116

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/8/2024	5:30:00	7.6	0	0.000	0	8,799,009	33,260	Closed	11.2	116
12/8/2024	5:45:00	7.6	0	0.000	0	8,799,009	33,260	Closed	11.6	115
12/8/2024	6:00:00	7.6	0	0.000	0	8,799,009	33,260	Closed	11.9	114
12/8/2024	6:15:00	7.6	0	0.000	0	8,799,009	33,260	Closed	12	113
12/8/2024	6:30:00	7.6	202	0.764	5.2	8,799,009	33,260	Closed	12.4	113
12/8/2024	6:45:00	7.7	218	0.824	0	8,802,234	33,272	Open	9.8	113
12/8/2024	7:00:00	7.7	206	0.779	0	8,805,480	33,285	Open	9.9	113
12/8/2024	7:15:00	7.7	218	0.824	0	8,808,704	33,297	Open	9.9	113
12/8/2024	7:30:00	7.7	223	0.843	0	8,811,837	33,309	Open	9.9	113
12/8/2024	7:45:00	7.7	0	0.000	0	8,812,207	33,310	Closed	10.2	112
12/8/2024	8:00:00	7.6	0	0.000	0	8,812,207	33,310	Closed	10.4	111
12/8/2024	8:15:00	7.6	0	0.000	0	8,812,207	33,310	Closed	10.5	111
12/8/2024	8:30:00	7.6	0	0.000	0	8,812,207	33,310	Closed	10.7	111
12/8/2024	8:45:00	7.6	0	0.000	0	8,812,207	33,310	Closed	10.8	111
12/8/2024	9:00:00	7.5	0	0.000	0	8,812,207	33,310	Closed	11	111

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
Title	**WoodFibre Weekly Water Discharge Report**	**Revision:**	**0**
Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/8/2024	9:15:00	7.5	0	0.000	0	8,812,207	33,310	Closed	11.4	114
12/8/2024	9:30:00	7.5	0	0.000	0	8,812,207	33,310	Closed	12.1	116
12/8/2024	9:45:00	7.7	87	0.329	0	8,813,391	33,315	Open	10.5	117
12/8/2024	10:00:00	7.7	0	0.000	0	8,816,157	33,325	Closed	10.5	117
12/8/2024	10:15:00	7.7	0	0.000	0	8,816,157	33,325	Closed	11.1	117
12/8/2024	10:30:00	7.6	0	0.000	0	8,816,157	33,325	Closed	11.6	117
12/8/2024	10:45:00	7.7	99	0.374	0	8,816,804	33,328	Open	10.8	118
12/8/2024	11:00:00	7.7	217	0.820	0	8,819,999	33,340	Open	10.5	118
12/8/2024	11:15:00	7.7	214	0.809	0	8,823,296	33,352	Open	10.6	118
12/8/2024	11:30:00	7.8	216	0.816	0	8,826,605	33,365	Open	10.6	118
12/8/2024	11:45:00	7.7	0	0.000	0	8,827,157	33,367	Closed	11.3	119
12/8/2024	12:00:00	7.7	0	0.000	0	8,827,157	33,367	Closed	12.3	119
12/8/2024	12:15:00	7.6	0	0.000	0	8,827,157	33,367	Closed	13.4	119
12/8/2024	12:30:00	7.6	0	0.000	0	8,827,157	33,367	Closed	14.4	120
12/8/2024	12:45:00	7.6	0	0.000	0	8,827,157	33,367	Closed	15.3	119

FRONTIER-KEMPER MICHELS® joint venture		Eagle Mountain- Woodfibre Gas Pipeline Project- Tunnel Scope	
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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/8/2024	13:00:00	7.7	232	0.877	0	8,828,430	33,371	Open	11.1	120
12/8/2024	13:15:00	7.8	213	0.805	0	8,831,698	33,384	Open	10.8	116
12/8/2024	13:30:00	7.7	218	0.824	0	8,834,937	33,396	Open	10.7	116
12/8/2024	13:45:00	7.7	0	0.000	0	8,836,363	33,401	Closed	11.1	117
12/8/2024	14:00:00	7.7	0	0.000	0	8,836,363	33,401	Closed	12.1	118
12/8/2024	14:15:00	7.6	0	0.000	0	8,836,363	33,401	Closed	13.2	119
12/8/2024	14:30:00	7.7	215	0.813	0	8,836,928	33,404	Open	11.5	119
12/8/2024	14:45:00	7.7	219	0.828	0	8,840,135	33,416	Open	11.1	119
12/8/2024	15:00:00	7.8	218	0.824	0	8,843,381	33,428	Open	11.1	119
12/8/2024	15:15:00	7.8	224	0.847	0	8,846,646	33,440	Open	11.2	118
12/8/2024	15:30:00	7.7	0	0.000	0	8,847,021	33,442	Closed	11.9	119
12/8/2024	15:45:00	7.6	0	0.000	0	8,847,021	33,442	Closed	13.1	119
12/8/2024	16:00:00	7.6	0	0.000	0	8,847,021	33,442	Closed	14.1	119
12/8/2024	16:15:00	7.7	219	0.828	0	8,847,849	33,445	Open	11.5	119
12/8/2024	16:30:00	7.7	0	0.000	0	8,850,991	33,457	Closed	11.2	119

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Data Date Range	**December 2nd to December 8th, 2024**	**Prepared by:** **Approved by:** **Date:**	**SD** **BC2** **December 16th 2024**

Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/8/2024	16:45:00	7.7	0	0.000	0	8,850,991	33,457	Closed	12.1	119
12/8/2024	17:00:00	7.6	0	0.000	0	8,850,991	33,457	Closed	13.3	119
12/8/2024	17:15:00	7.7	220	0.832	0	8,851,640	33,459	Open	11.5	119
12/8/2024	17:30:00	7.7	221	0.835	0	8,854,962	33,472	Open	11.2	120
12/8/2024	17:45:00	7.7	219	0.828	0	8,858,262	33,484	Open	11.2	119
12/8/2024	18:00:00	7.7	0	0.000	0	8,859,644	33,489	Closed	11.7	119
12/8/2024	18:15:00	7.6	0	0.000	0	8,859,644	33,489	Closed	12.8	119
12/8/2024	18:30:00	7.6	0	0.000	0	8,859,644	33,489	Closed	13.9	119
12/8/2024	18:45:00	7.6	0	0.000	0	8,859,644	33,489	Closed	14.9	119
12/8/2024	19:00:00	7.6	0	0.000	0	8,859,644	33,489	Closed	15.8	121
12/8/2024	19:15:00	7.7	0	0.000	0	8,860,706	33,493	Closed	11.4	119
12/8/2024	19:30:00	7.6	159	0.601	0	8,860,706	33,493	Closed	12.4	119
12/8/2024	19:45:00	7.7	191	0.722	0	8,863,466	33,504	Open	11.2	119
12/8/2024	20:00:00	7.7	189	0.714	0	8,866,289	33,515	Open	11.2	119
12/8/2024	20:15:00	7.7	192	0.726	0	8,869,131	33,525	Open	11.1	118

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Date	Time	Discharge pH	Discharge Flow Rate (USGPM)	Flow Rate (m3)	Discharge NTU	Flow Total (G)	Flow Total (m3)	Discharge Valve Status	Discharge Temperature (°C)	Discharge Conductivity (uS/cm)
12/8/2024	20:30:00	7.7	189	0.714	0	8,871,948	33,536	Open	10.9	116
12/8/2024	20:45:00	7.7	0	0.000	0	8,874,672	33,546	Closed	10.8	114
12/8/2024	21:00:00	7.7	0	0.000	0	8,874,672	33,546	Closed	11.1	113
12/8/2024	21:15:00	7.6	0	0.000	0	8,874,672	33,546	Closed	11.3	113
12/8/2024	21:30:00	7.6	0	0.000	0	8,874,672	33,546	Closed	11.5	113
12/8/2024	21:45:00	7.6	0	0.000	0	8,874,672	33,546	Closed	11.7	112
12/8/2024	22:00:00	7.5	0	0.000	0	8,874,672	33,546	Closed	11.9	111
12/8/2024	22:15:00	7.5	0	0.000	0	8,874,672	33,546	Closed	12	113
12/8/2024	22:30:00	7.5	0	0.000	0	8,874,672	33,546	Closed	12.1	114
12/8/2024	22:45:00	7.5	0	0.000	0	8,874,672	33,546	Closed	12.7	116
12/8/2024	23:00:00	7.7	184	0.696	0	8,876,824	33,554	Open	10.5	114
12/8/2024	23:15:00	7.7	195	0.737	0	8,879,633	33,565	Open	10.4	114
12/8/2024	23:30:00	7.7	202	0.764	0	8,882,625	33,576	Open	10.3	113
12/8/2024	23:45:00	7.7	204	0.771	0	8,885,584	33,588	Open	10.3	113

Photos:

Photo 1: No visible sheen observed in the WTP water, December 2nd

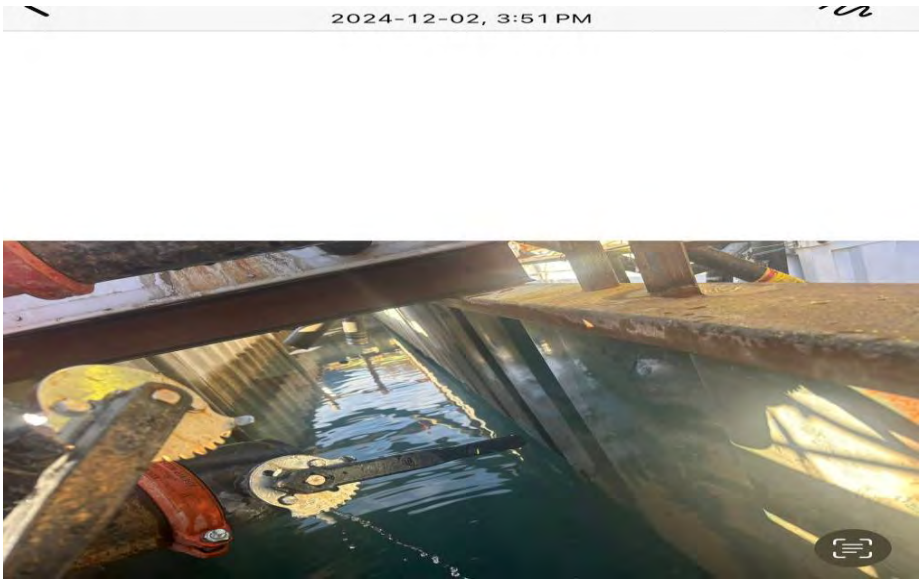



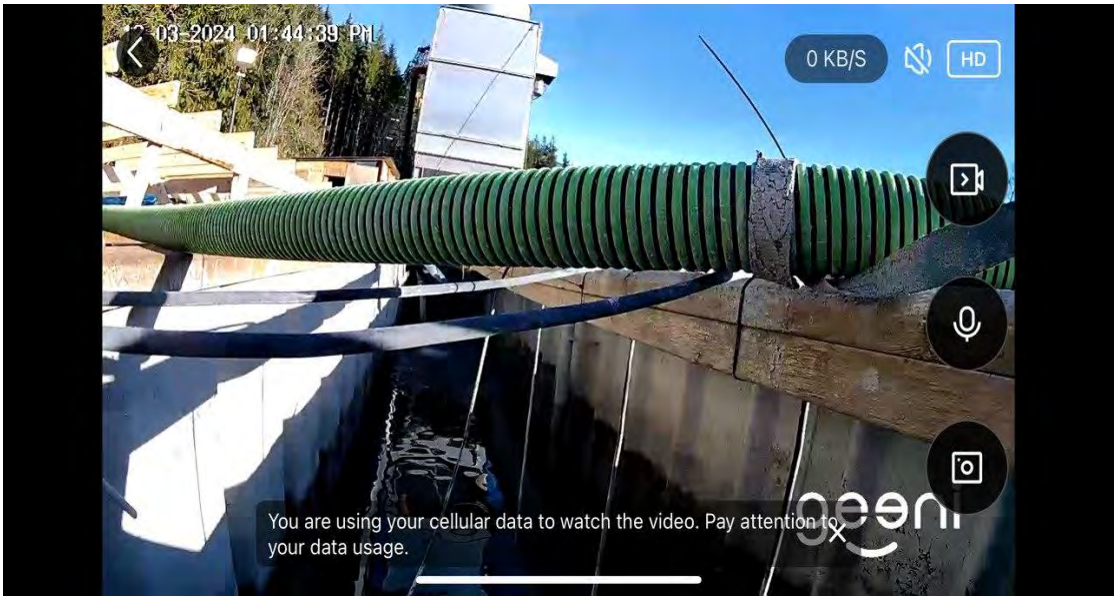
Photo 2: No visible sheen observed in the WTP water, December 3rd


Photo 3: No visible sheen observed in the WTP water, December 5th

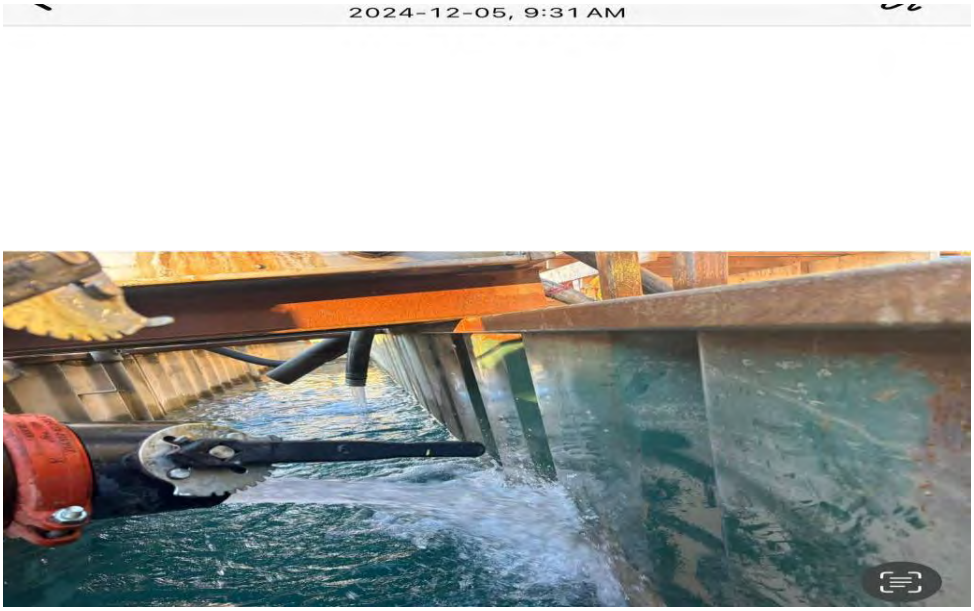


Photo 4: No visible sheen observed in the WTP water, December 6th

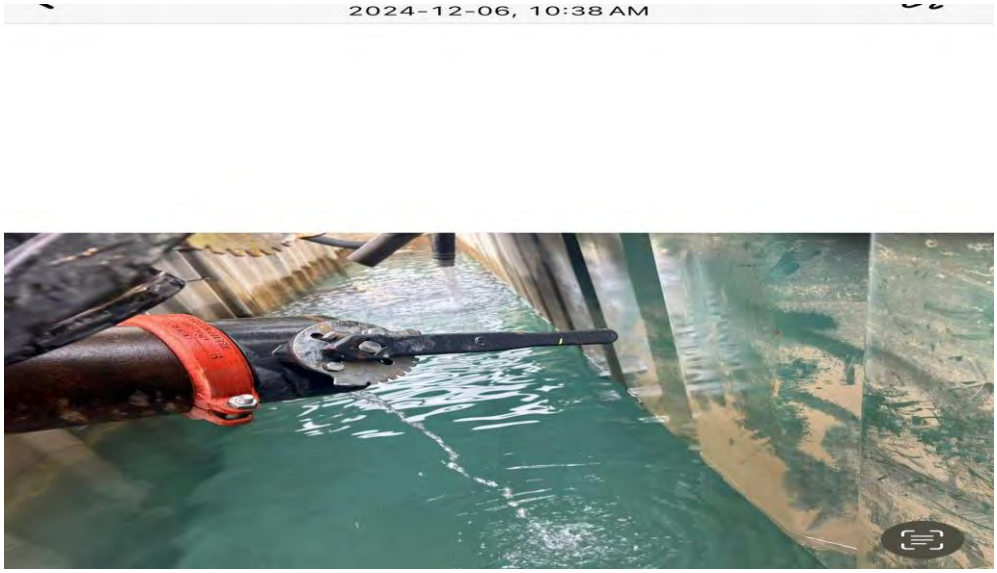
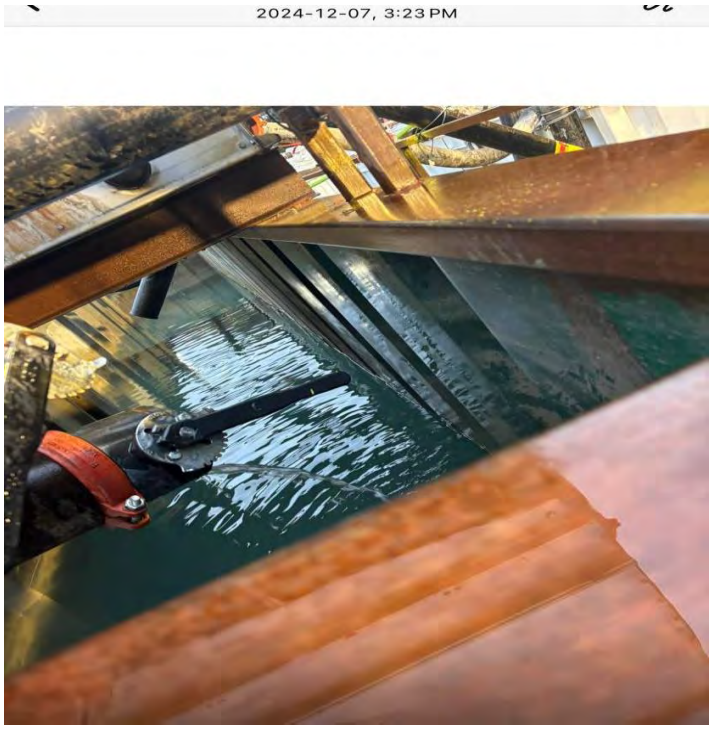


Photo 5: No visible sheen observed in the WTP water, December 7th


Appendix D: Woodfibre Site Receiving Environment Documentation

Woodfibre Site Receiving Environment Sample Analysis

TRITON	Sample ID					EAS US1 (Upstream)	EAS DS 1 (Downstream)					
	LAB ID	Reviewed and signed off by:			Farshad Shafai, Ph.D., R.P.Bio.	VA24D0229-003	VA24D0229-002					
	Date Sampled					03-Dec-2024	03-Dec-2024					
	Time Sampled					11:02	10:01					
Analyte	Units	FAL-ST [1,2]	FAL-LT [1,2]	WAL-ST [1]	WAL-LT [1,2]	Water N/A	Water N/A	Sample or value notes	BCWQ FAL - Short Term	BCWQ FAL - Long Term	BCWQ WAL - Short Term	BCWQ WAL - Long Term
										Guideline notes		
In Situ Parameters												
pH (field)	pH units	6.5-9.0	6.5-9.0	7.0-9.7	7.0-9.7	7.44	7.37		If natural pH < 6.5, no statistically significant decrease from background. No restriction in increase except in areas with unique flora or fauna or downstream changes permitted within range of 6.5 to 9.5 pH. If natural pH > 9.5, no statistically significant change from background. Refer to BC Water Quality Guidelines for more information.		Unrestricted change within this range (for protection of mollusc, embryo development).	
Temperature (field)	°C	Short-term daily temperature guideline is 19°C for streams with unknown fish distribution Max +/- from BKG 1°C [3]	-	Short-term daily temperature guideline is 19°C for streams with unknown fish distribution Max +/- from BKG 1°C [3]	-	6.6	7.6		Guideline is species-dependent. Short-term daily temperature guideline is 19°C for streams with unknown fish distribution. Refer to BC Water Quality Guidelines for more information. Hourly rate of change not to exceed 1°C. Calculation: US value +/- 1 = guideline range		Guideline for marine waters are based on natural ambient variation (NAV) of ±1°C (±0.5°C) from 8:00 to 16:00 hours. Natural temperature cycle characteristic of the site should not be altered in amplitude or frequency by human activities. Where NAV is <1°C, maximum induced change not to exceed 0.5°C hourly. Inside salt wedge of estuaries. Refer to footnote 4 for background temperature range for East Creek. Calculation: US value +/- 1 = guideline range	
Conductivity (field)	uS/cm					20	84					
Turbidity (field)	NTU	Varies with background, see note Guideline = 8.7	Varies with background, see note Guideline = 5.13 5-week discrete sampling average = 1.51 (DS)	Varies with background, see note Guideline = 8.7	Varies with background, see note Guideline = 8.7	0.66	0.59		Change from background of 8 NTU at any one time for a duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value = 24 = DS guideline Change from background of 5 NTU at any time when background is 8 - 50 NTU during high flows or in turbid waters. Calculation: US value = 5 = DS guideline Change from background of 10% when background is > 50 NTU at any time during high flows or in turbid waters. Calculation: US value = 0.05 value*0.1) = DS guideline	Change from background of 2 NTU at any one time for 30 days in clear flows. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in the spreadsheet using US concentration at the time of sampling.	Change from background of 2 NTU at any one time for a duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value = 24 = DS guideline Change from background of 2 NTU at any time when background is 8 - 50 NTU during high flows or in turbid waters. Calculation: US value = 2 = DS guideline Change from background of 10% when background is > 50 NTU at any time during high flows or in turbid waters. Calculation: US value = 0.05 value*0.1) = DS guideline	Change from background of 2 NTU at any one time for 30 days in clear flows. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in the spreadsheet using US concentration at the time of sampling.
Dissolved Oxygen (field)	mg/L	Varies with life stage, see note	Varies with life stage, see note	Varies with life stage, see note	Varies with life stage, see note	13.44	12.24		Buried embryo/alevin minimum 9 mg/L, all other life stages 5 mg/L. Refer to BC Water Quality Guidelines for more information.	Buried embryo/alevin minimum 11 mg/L, all other life stages 8 mg/L. Refer to BC Water Quality Guidelines for more information.	Buried embryo/alevin minimum 9 mg/L, all other life stages 6 mg/L. Refer to BC Water Quality Guidelines for more information.	Buried embryo/alevin minimum 11 mg/L, all other life stages 8 mg/L. Refer to BC Water Quality Guidelines for more information.
General Parameters												
Hardness (as CaCO3) (total)	mg/L	-	-	-	-	3.79	31.8					
Total Dissolved Solids	mg/L	-	-	-	-	37	99					
Total Suspended Solids	mg/L	Varies with background, see note Guideline = 26	Varies with background, see note Guideline = 8.65 5-week discrete sampling average = 3.1 (DS)	Varies with background, see note Guideline = 29	Varies with background, see note Guideline = 8.65 5-week discrete sampling average = 3.1 (DS)	< 3.0	< 3.0		Change from background of 25 mg/L at any one time for duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value = 24 = DS guideline Change from background of 10 mg/L at any one time when background 25-100 mg/L during high flows or turbid waters. Calculation: US value = 10 = DS guideline Change from background of 10% when background is > 100 mg/L at any time during high flows or turbid waters. Calculation: US value = 0.05 value*0.1) = DS guideline	Change from background of 5 mg/L @ one time for a duration of 30 days in clear flow. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in the spreadsheet using US concentration at the time of sampling.	Change from background of 5 mg/L at any one time for a duration of 24 h in all waters during clear flows or in clear waters. Calculation: US value = 24 = DS guideline Change from background of 10 mg/L at any one time when background 25-100 mg/L during high flows or turbid waters. Calculation: US value = 10 = DS guideline Change from background of 10% when background is > 100 mg/L at any time during high flows or turbid waters. Calculation: US value = 0.05 value*0.1) = DS guideline	Change from background of 5 mg/L @ one time for a duration of 30 days in clear flow. Note that a rolling average of US values over a 30-day period is required to properly calculate this guideline. Guideline calculated in the spreadsheet using US concentration at the time of sampling.
Dissolved Organic Carbon (DOC)	mg/L	-	-	-	-	1.31	0.71			Long-term (28-day) median within 20% of background median [4]		
Total Alkalinity ($CaCO_3$)	mg/L	-	Categorical	-	-	5	36.1			Guideline is for alkalinity (as CaCO3) and categorizes the sensitivity of a water body to acid inputs. Alkalinity < 10 mg/L is considered highly sensitive to acid inputs. 10 - 20 mg/L is considered moderately sensitive to acid inputs. > 20 mg/L is considered low sensitivity.		
Total Sulfide (as S)	mg/L	-	-	-	-	< 0.0015	< 0.0015					
Total Sulfide (un-ionized as H_2S)	mg/L	-	0.002	-	-	< 0.0015	< 0.0015			Working guideline		
Total Sulfide (as H_2S)	mg/L	-	-	-	-	< 0.0016	< 0.0016					
Nitrogen and Nutrients												
Ammonia	mg/L ammonia-N	Varies with pH and temperature. See note. Guideline = 14.6	Varies with pH and temperature. See note. Guideline = 1.66	Varies with pH and temperature. See note. Guideline = 32	Varies with pH and temperature and salinity. See note. Guideline = 23.0	< 0.0050	0.0052		Guideline for ammonia as N and is pH and temperature dependent. Refer to Table 27D in BC WQG for guideline values.	Guideline for ammonia as N and is pH and temperature dependent. Refer to Table 27C in BC WQG for guideline values.	Guideline for ammonia as N. Guideline is pHc temperature and salinity dependent. Refer to Table 27E in BC WQG for guideline values.	Guideline for ammonia as N. Guideline is pHc temperature and salinity dependent. Refer to Table 27E in BC WQG for guideline values.
Bromide	mg/L					-	< 0.050	< 0.050				
Chloride	mg/L	600	150	> 110% of background	< 90% of background	0.72	0.76				Human activities should not cause the chloride of marine and estuarine waters to fluctuate by more than 10% of the natural chloride expected at that time and depth.	Human activities should not cause the chloride of marine and estuarine waters to fluctuate by more than 10% of the natural chloride expected at that time and depth.
Fluoride	mg/L	Varies with hardness Guideline = 0.185		1.5		0.021	0.118		Guideline has interim status. Guideline is calculated with the following equation: Guideline = 1 - 0.134 x ln(Hardness) + 0.913			
Nitrate (as N)	mg/L	32.8	-	-	3.7	0.0276	0.0146					
Nitrite (as N)	mg/L	Varies with chloride. Table 27B, see note. Guideline = 0.06	Varies with chloride. Table 27B, see note. Guideline = 0.02	-	-	< 0.0010	< 0.0010		Varies with chloride. Refer to Table 27B in BC WQG for guideline values.	Varies with chloride. Refer to Table 27B in BC WQG for guideline values.		
Total Nitrogen	mg/L	-	-	-	-	0.051	0.062					
Total Phosphorus	mg/L	-	0.005 to 0.015	-	-	0.0071	0.0058			Guideline to be lakes, refer to BCWQ guideline for nutrients and algae for more information. Guideline does not apply to site.		
Sulfate (as SO_4)	mg/L	-	Varies with hardness. See note. Guideline = 128	-	-	2.27	3.83			Guidelines for hardness ranges below: Hardness 0 - 30: 128 Hardness 31 - 75: 218 Hardness 76 - 180: 309 Hardness 181 - 250: 429		
Total Metals												
Aluminum (Al)-Total	mg/L	-	Varies with pH, DOC, hardness Guideline = 0.077 5-week field average = 0.173 (US); 0.172 (DS)	-	-	0.0675	0.0532			Guideline varies with pH, hardness and Dissolved Organic Carbon. Guideline = EXP((0.905*LN(pH)+1.273)-(LN(DOC)*(0.665*LN(pH)-0.0972)+0.943^LN(DOC))^2+(1.561*LN(pH)+LN(DOC)*(0.546*LN(pH)-1.043)+0.814)^2)/1000). If hardness or DOC is below the hardness range, the minimum hardness or DOC will be applied in the calculation.		
Antimony (Sb)-Total	mg/L	0.25	0.016	-	-	< 0.0001	< 0.0001					Interim guideline status
Arsenic (As)-Total	mg/L	-	0.005	-	0.0125	< 0.00050	< 0.00050			Working guideline status		
Barium (Ba)-Total	mg/L	-	-	-	-	0.0011	0.0012			Working guideline status		Working guideline status
Beryllium (Be)-Total	mg/L	-	0.00013	-	0.100	< 0.0003	< 0.0003					
Bismuth (Bi)-Total	mg/L	-	-	-	-	< 0.00005	< 0.00005					
Boron (B)-Total	mg/L	-	1.2	-	29	0.0117	0.0102					Working guideline status
Cadmium (Cd)-Total	mg/L	-	-	-	0.00125	< 0.000010	< 0.000010					
Calcium (Ca)-Total	mg/L	-	-	-	-	0.45	3.45					
Cesium (Cs)-Total	mg/L	-	-	-	-	< 0.00001	< 0.00001					
Chromium (Cr)-Total	mg/L	-	-	-	-	< 0.00050	< 0.00050			Working guideline status		
Cobalt (Co)-Total	mg/L	-	0.004	-	0.0110	< 0.00010	< 0.00010			Working guideline status		Working guideline status
Copper (Cu)-Total	mg/L	-	-	0.003	0.002 5-week field averages = 0.00125 (US); 0.00058 (DS)	0.00055	< 0.00050					
Iron (Fe)-Total	mg/L	1	-	-	-	0.241	0.395					
Lead (Pb)-Total	mg/L	-	-	0.14	0.002 5-week field averages = 0.000106 (US); 0.000085 (DS)	< 0.000050	< 0.000050		Guideline varies with hardness, refer to BC Water Quality Guideline for more information. Guideline is 0.030 where hardness >8mg/L. Guideline = e^(1.273*ln(hardness)-4.705) where hardness is 0-360 mg/L. Lowest value for guideline is 0.030 mg/L	Guideline varies with hardness, refer to BC Water Quality Guidelines for more information. Guideline = e^(1.273*ln(hardness)-4.704) applies to samples with hardness 0-360 mg/L.		
Lithium (Li)-Total	mg/L	-	-	-	-	< 0.0010	0.0011					
Magnesium (Mg)-Total	mg/L	-	-	-	-	0.0016	0.151					
Manganese (Mn)-Total	mg/L	-	Varies with hardness Guideline = 0.82	Varies with hardness Guideline = 5.77	-	-	0.00196	0.00139	Guideline varies with hardness. The guideline is calculated using the following formula: Guideline = EXP(0.7445*LN(Hardness)+1.6405) Guideline applies to samples with hardness 30-208 mg/L. Lowest value for guideline is 0.71 mg/L. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.	Guideline varies with hardness. refer to BC Water Quality Guidelines for more information. The guideline is calculated using the following formula: Guideline = EXP(0.7445*LN(Hardness)+1.6405) Guideline applies to samples with hardness 30-208 mg/L. Lowest value for guideline is 0.71 mg/L. If hardness is below the hardness range, the minimum hardness will be applied in the calculation. Where hardness is greater than 208 mg/L, the guideline is 0.82 mg/L. Guideline = 0.82 where hardness is greater than 208 mg/L (Hardness > 208). Guideline is applied as a function of hardness.		
Mercury (Hg)-Total	mg/L	-	Varies with methyl mercury Guideline = N/A	-	-	< 0.0000050	< 0.0000050					
Molybdenum (Mo)-Total	mg/L	40	7.6	-	-	0.00215	0.00077					
Nickel (Ni)-Total	mg/L	-	-	-	0.0383	< 0.00050	< 0.00050			Working guideline status. Guideline varies with hardness. Refer to BC Water Quality Guidelines for more information. Hardness 0 = 30: 0.025 Hardness = 60 = 180: 0.15 * (LN(Hardness) - 2.24) + 0.025 Hardness > 180: 0.15		Working guideline status
Phosphorus (P)-Total	mg/L	-	0.005 to 0.015	-	-	< 0.050	< 0.050			Guideline only applies to salmonid species being the dominant fish species. Guideline is for reference only and does not apply to site.		
Potassium (K)-Total	mg/L	-	-	-	-	0.174	0.328					
Rubidium (Rb)-Total	mg/L	-	-	-	-	0.00035	0.00091					
Selenium (Se)-Total	mg/L	-	0.002	-	0.002	< 0.000050	0.000051			Guideline for freshwater aquatic life (water column): Alert concentration is 0.001 mg/L, with separate guidelines for sediment, invertebrate and fish tissue. Refer to BC Water Quality Guidelines for more information on guidelines and sampling guidance.		Guideline for marine aquatic life water column): Alert concentration is 0.001 mg/L, with separate guidelines for sediment, invertebrate and fish tissue. Refer to BC Water Quality Guidelines for more information on guidelines and sampling guidance.
Silicon (Si)-Total	mg/L	-	-	-	-	4.27	5.41					
Silver (Ag)-Total	mg/L	Varies with hardness, see note Guideline = 0.0001	Varies with hardness, see note Guideline = 0.00005	0.003	0.0015	< 0.000010	< 0.000010		Varies with hardness Guideline ranges: Hardness < 100: 0.0001 Hardness > 100: 0.001	Varies with hardness Guideline ranges: Hardness < 100: 0.00005 Hardness > 100: 0.0015		Guideline applies to open coast and estuaries. Guideline is applicable to the EGP site.
Sodium (Na)-Total	mg/L	-	-	-	-	1.43	2.54					
Strontium (Sr)-Total	mg/L	-	-	-	-	0.0107	0.0277					
Sulfur (S)-Total	mg/L	-	-	-	-	0.5	1.4					
Tellurium (Te)-Total	mg/L	-	-	-	-	< 0.00020	< 0.00020					
Thallium (Tl)-Total	mg/L	-	0.00003 5-week field average = <0.000010 (US); 0.00001 (DS)	-	-	< 0.000010	< 0.000010			30-day average, site-specific objective for the lower Columbia River, BC. Guideline is for reference only and does not apply to the EGP site.		
Thorium (Th)-Total	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Tin (Sn)-Total	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Titanium (Ti)-Total	mg/L	-	-	-	-	0.0079	0.0060					
Tungsten (W)-Total	mg/L	-	-	-	-	< 0.00010	0.00013					
Uranium (U)-Total	mg/L	0.0084	0.0015	-	-	0.00058	0.00086			Working guideline status		
Vanadium (V)-Total	mg/L	-	0.02	-	0.060	< 0.00050	< 0.00050					Working guideline status
Zinc (Zn)-Total	mg/L	-	-	0.055	0.053 5-week field averages = 0.0039 (US); 0.0036 (DS)	< 0.0030	0.0043					
Zirconium (Zr)-Total	mg/L	-	-	-	-	< 0.00020	< 0.00020					
Dissolved Metals												
Aluminum (Al)-Dissolved	mg/L	-	-	-	-	< 0.0030	< 0.0030					
Antimony (Sb)-Dissolved	mg/L	-	-	-	-	< 0.0001	< 0.0001					
Arsenic (As)-Dissolved	mg/L	-	-	-	-	0.00064	0.00041					
Barium (Ba)-Dissolved	mg/L	-	-	-	-	0.0009	0.0009					
Beryllium (Be)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Bismuth (Bi)-Dissolved	mg/L	-	-	-	-	< 0.00005	< 0.00005					
Boron (B)-Dissolved	mg/L	-	-	-	-	< 0.010	< 0.010					
Cadmium (Cd)-Dissolved	mg/L	Varies with hardness, see note Guideline = 0.000038	Varies with hardness, see note Guideline = 0.000054	-	-	0.0000062	< 0.000010		Guideline is hardness dependent. Guideline is applicable to water hardness between 7.0 and 450 mg/L. Guideline is calculated with the following formula: Guideline = (1.136672-[ln(hardness)*0.041838]) * e^(0.9151*ln(hardness)-3.6236) Lowest value for guideline is 0.000015 mg/L. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.	Guideline is hardness dependent. Guideline is applicable to hardness between 0 and 450 mg/L. Guideline is calculated with the following formula: Guideline = (1.136672-[ln(hardness)*0.041838]) * e^(0.9151*ln(hardness)-3.6236) Lowest value for guideline is 0.000054. If hardness is below the hardness range, the minimum hardness will be applied in the calculation.		
Calcium (Ca)-Dissolved	mg/L	-	Categorical, see note	-	-	1.97	12.7			Guideline categorizes the sensitivity of a water body to acid inputs based on dissolved calcium concentration. < 4 mg/L are considered most sensitive/vulnerable. 4 - 8 mg/L are considered moderately sensitive/only to acid inputs. Waterbodies with dissolved calcium > 8mg/L are considered to have low sensitivity to acid inputs.		
Cesium (Cs)-Dissolved	mg/L	-	-	-	-	< 0.00001	< 0.00001					
Chromium (Cr)-Dissolved	mg/L	-	-	-	-	< 0.0005	< 0.0005					
Cobalt (Co)-Dissolved	mg/L	-	-	-	-	< 0.0001	< 0.0001					
Copper (Cu)-Dissolved	mg/L	Guideline varies with other parameters, see note Guideline = 0.0052 5-week field average = 0.00096 (US); 0.00094 (DS)	Guideline varies with other parameters, see note Guideline = 0.0018 5-week field average = 0.00096 (US); 0.00094 (DS)	-	-	0.00053	0.00023		Guideline varies with other parameters and is calculated using BC BLMcalculator. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date	Guideline varies with other parameters and is calculated using BC BLMcalculator. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date		
Iron (Fe)-Dissolved	mg/L	0.35	-	-	-	0.022	0.014					
Lead (Pb)-Dissolved	mg/L	-	Guideline varies with DOC and hardness Guideline = 0.00031 5-week field average = <0.000050 (US); <0.00002 (DS)	-	-	< 0.000050	< 0.000050			Guideline varies with DOC and hardness, refer to BC Water Quality Guidelines for more information. Guideline = e^(1.273*ln(hardness)-(ln(DOC)*(0.264*ln(hardness)-0.542))-4.830) where DOC range is 0.5-31.3 mg/L and hardness range is 4.7-351 mg/L		
Lithium (Li)-Dissolved	mg/L	-	-	-	-	< 0.0010	0.0012					
Magnesium (Mg)-Dissolved	mg/L	-	-	-	-	0.261	0.024					
Manganese (Mn)-Dissolved	mg/L	-	-	-	-	0.00121	0.00101					
Mercury (Hg)-Dissolved	mg/L	-	-	-	-	< 0.0000050	< 0.0000050					
Molybdenum (Mo)-Dissolved	mg/L	-	-	-	-	0.00208	0.00060					
Nickel (Ni)-Dissolved	mg/L	Guideline varies with pH, temperature, DOC, and hardness Guideline = 0.0168	Guideline varies with pH, temperature, DOC, and hardness Guideline = 0.0298 5-week field average = 0.00034 (US); 0.00030 (DS)	-	-	< 0.0005	< 0.0005		Guideline varies with other parameters and is calculated using BC BLMcalculator. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date	Guideline varies with other parameters and is calculated using BC BLMcalculator. Simplified model: Temperature, pH, DOC and hardness Detailed model: Temperature, pH, DOC, humic acid content, total calcium, total magnesium, total sodium, total potassium, sulphate, chloride, and alkalinity Guideline calculated using values for parameters above taken at the specific site on each sampling date		
Phosphorus (P)-Dissolved	mg/L	-	-	-	-	< 0.050	< 0.050					
Potassium (K)-Dissolved	mg/L	-	-	-	-	0.172	0.3					
Rubidium (Rb)-Dissolved	mg/L	-	-	-	-	0.0003	0.0004					
Selenium (Se)-Dissolved	mg/L	-	-	-	-	0.001	0.0001					
Silicon (Si)-Dissolved	mg/L	-	-	-	-	4.27	5.41					
Silver (Ag)-Dissolved	mg/L	-	-	-	-	< 0.000010	< 0.000010					
Sodium (Na)-Dissolved	mg/L	-	-	-	-	1.38	2.52					
Strontium (Sr)-Dissolved	mg/L	-	-	-	-	0.0106	0.0274					
Sulfur (S)-Dissolved	mg/L	-	-	-	-	0.49	1.39					
Tellurium (Te)-Dissolved	mg/L	-	-	-	-	< 0.00020	< 0.00020					
Thallium (Tl)-Dissolved	mg/L	-	-	-	-	< 0.000010	< 0.000010					
Thorium (Th)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Tin (Sn)-Dissolved	mg/L	-	-	-	-	< 0.00010	< 0.00010					
Titanium (Ti)-Dissolved	mg/L	-	-	-	-	< 0.00030	< 0.00030					
Tungsten (W)-Dissolved	mg/L	-	-	-	-	< 0.00010	0.00012					
Uranium (U)-Dissolved	mg/L	-	-	-	-	0.000592	0.00257					
Vanadium (V)-Dissolved	mg/L	-	-	-	-	< 0.00050	< 0.00050					
Zinc (Zn)-Dissolved	mg/L	Varies with DOC and hardness Guideline = 0.008	Varies with pH, DOC, hardness Guideline = 0.0048 5-week field average = 0.0016 (US); 0.0038 (DS)	-	-	0.0013	0.0036		Guideline varies with DOC and hardness. Guideline is calculated using the following formula: Guideline = (EXP(0.830 * ln(Hardness)) + 0.24 * (LN(DOC)) * (0.049 * ln(Hardness) - 0.328)) If hardness or DOC is below the hardness or DOC range, the minimum hardness or DOC will be applied in the calculation.	Guideline varies with pH, hardness and Dissolved Organic Carbon (DOC). Guideline is calculated using the following formula: Guideline = (EXP(0.830 * ln(Hardness)) + 0.24 * pHc * (0.049 * ln(Hardness) - 0.328)) * e^(0.526*LN(DOC)) Guideline only applies to water with pH between 6.5 and 9.13, DOC between 0.5 and 43.5 mg/L, and hardness between 4.4 and 438 mg/L. If hardness or DOC is below the hardness or DOC range, the minimum hardness or DOC will be applied in the calculation.		
Zirconium (Zr)-Dissolved	mg/L					< 0.00020	< 0.00020					
Applied Guideline:		British Columbia Approved and Working Water Quality Guidelines (NOV 2023) for Freshwater Aquatic Life (FAL) & Marine Aquatic Life (MAL) (Short-Term (ST) & Long-Term (LT))										
Color Key		Exceeds FAL Short term Guideline	Exceeds FAL LT+ and WAL Guideline	Exceeds WAL Short term Guideline								

[1] BC MOECCS. 2023. BC Water Quality Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from: https://www2.gov.bc.ca/gov/content/environment/air-land-water/water-quality/water-quality-guidelines

[2] BC MOECCS. 2021. BC Working Water Quality Guidelines for the Protection of Aquatic Life, Wildlife & Agriculture. Accessed from: https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water-quality/wqg/bc_wqg_working_water_quality_guidelines.pdf data for cd2

*Note that long-term guidelines apply to averaged data to account for chronic impacts to aquatic life. Ideally, five samples collected at evenly spaced intervals over 30 days is considered to be the minimum number needed to calculate the long-term average of any parameter, though this may vary by parameter and site conditions. Long-term guidelines applied here are for reference only and may not indicate chronic impacts to aquatic life if exceedances occur in the short term.

[3] Background temperature range for East Creek: Dec-Feb: 5.9-8.0C; Mar-Apr: 8.5-10.7C; Jun-present: 10.9-16.2C

[4] Background DOC range for East Creek: Spring: 0.6-1.0 mg/L; Summer: 0.6-1.0 mg/L; Fall: 0.6-1.0 mg/L; Winter: 0.6-1.0 mg/L

For guidelines dependent on other parameters, when hardness, pH or DOC are below the range stated in the guideline, the lowest value in the range is used to calculate the

Parameters Used to Calculate Guidelines

Analyte	Units	Measurement method	Values	
			EAS US1 (Upstream)	EAS DS 1 (Downstream)
pH (field)	pH units	Field pH taken using handheld meters during sampling used in calculations	7.44	7.37
Temperature (field)	°C	Field temperature taken using handheld meters during sampling used in calculations	6.6	7.6
Turbidity (field)	NTU	Field turbidity taken using handheld meters during sampling used in calculations	0.66	0.59
Hardness (as CaCO3) (total)	mg/L	laboratory tested total hardness taken at each respective sample site on the day of sampling used in guideline calculations	3.79	31.8
Dissolved Organic Carbon (DOC)	mg/L	laboratory tested dissolved organic carbon used in calculations	1.31	0.71
Total Alkalinity ($CaCO_3$)	mg/L	laboratory tested total alkalinity used in calculations	5	36.1
Chloride	mg/L	laboratory tested chloride taken at each respective sample site on the day of sampling used in guideline calculations	0.72	0.76

Woodfibre Site Receiving Environment Lab Documentation

ALS Canada Ltd.

CERTIFICATE OF ANALYSIS

Work Order	: **VA24D2628**		
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 03-Dec-2024 18:00
PO	: 11964-Task 20-Phase 3C-4C	Date Analysis Commenced	: 04-Dec-2024
C-O-C number	: ----	Issue Date	: 11-Dec-2024 08:07
Sampler	: AR		
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.

Signatories	*Position*	*Laboratory Department*
	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
	Lab Analyst	Metals, Burnaby, British Columbia
		Metals, Burnaby, British Columbia
	Account Manager Assistant	Administration, Burnaby, British Columbia
	Supervisor - Water Quality Instrumentation	Inorganics, Burnaby, British Columbia

General Comments

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

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

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

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

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

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

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

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Qualifiers

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).

Analytical Results

Sub-Matrix: Water (Matrix: Water)				Client sample ID	EAS US1	EAS DS1	----	----	----
				Client sampling date / time	03-Dec-2024 11:02	03-Dec-2024 10:01	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	VA24D2628-001	VA24D2628-002	----	----	----
					Result	Result	----	----	----
Field Tests									
Conductivity, field	----	EF001/VA	0.10	µS/cm	25.000	84.000	----	----	----
pH, field	----	EF001/VA	0.10	pH units	7.44	7.37	----	----	----
Temperature, field	----	EF001/VA	0.10	°C	6.60	7.60	----	----	----
Physical Tests									
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L	5.91	34.3	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L	5.74	31.8	----	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L	23	59	----	----	----
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L	<3.0	<3.0	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	2.0	mg/L	5.0	36.1	----	----	----
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L	<0.0050	0.0052	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.050	<0.050	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L	0.72	0.76	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.021	0.118	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	0.0276	0.0146	----	----	----
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	0.051	0.062	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0071	0.0058	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	2.57	3.83	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	1.51	0.71	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	EAS US1	EAS DS1	----	----	----
					Client sampling date / time	03-Dec-2024 11:02	03-Dec-2024 10:01	----	----	----
						VA24D2628-001	VA24D2628-002	----	----	----
						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		0.0875	0.0532	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		<0.00010	0.00077	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.00311	0.00412	----	----	----
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		0.0000072	<0.0000100 DLM	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		1.89	11.6	----	----	----
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		0.00055	<0.00050	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.041	0.026	----	----	----
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	0.0011	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		0.249	0.701	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	EAS US1	EAS DS1	----	----	----
					Client sampling date / time	03-Dec-2024 11:02	03-Dec-2024 10:01	----	----	----
						VA24D2628-001	VA24D2628-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.00196	0.00139	----	----	----
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		0.000315	0.00977	----	----	----
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		0.174	0.539	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00025	0.00091	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		<0.000050	0.000051	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		4.07	5.41	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		<0.000010	<0.000010	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		1.43	2.54	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.0107	0.0277	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		0.80	1.20	----	----	----
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		0.00078	0.00042	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	0.00013	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000098	0.00266	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	<0.00050	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	EAS US1	EAS DS1	----	----	----
					Client sampling date / time	03-Dec-2024 11:02	03-Dec-2024 10:01	----	----	----
						VA24D2628-001	VA24D2628-002	----	----	----
						Result	Result	----	----	----
Total Metals										
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		<0.0030	0.0043	----	----	----
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		0.0630	0.0321	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L		<0.00010	0.00063	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L		0.00286	0.00344	----	----	----
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		0.0000082	<0.0000100 DLM	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		1.97	12.7	----	----	----
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		0.00053	0.00023	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L		0.022	0.014	----	----	----
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	0.0012	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		0.241	0.638	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		0.00121	0.00101	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	EAS US1	EAS DS1	----	----	----
					Client sampling date / time	03-Dec-2024 11:02	03-Dec-2024 10:01	----	----	----
						VA24D2628-001	VA24D2628-002	----	----	----
						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		0.000289	0.00895	----	----	----
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		0.172	0.500	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00030	0.00075	----	----	----
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		3.77	5.17	----	----	----
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		1.26	2.19	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		0.0103	0.0270	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		0.54	1.12	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L		<0.00020	<0.00020	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L		<0.000010	<0.000010	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L		<0.00010	<0.00010	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L		<0.00030	<0.00030	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L		<0.00010	0.00012	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L		0.000092	0.00257	----	----	----
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		0.0013	0.0036	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	EAS US1	EAS DS1	----	----	----
					Client sampling date / time	03-Dec-2024 11:02	03-Dec-2024 10:01	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		VA24D2628-001	VA24D2628-002	----	----	----
						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.

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **VA24D2628**	Page	: 1 of 15
Client	: **Triton Environmental Consultants Ltd.**	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 03-Dec-2024 18:00
PO	: 11964-Task 20-Phase 3C-4C	Issue Date	: 11-Dec-2024 08:06
C-O-C number	: ----		
Sampler	: AR		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO: Data Quality Objective.
LOR: Limit of Reporting (detection limit).
RPD: Relative Percent Difference.

Workorder Comments

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

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Matrix Spike outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Matrix Spike (MS) Recoveries								
Total Metals	Anonymous	Anonymous	Thorium, total	7440-29-1	E420	68.3 % MES	70.0-130%	Recovery less than lower data quality objective
Dissolved Metals	Anonymous	Anonymous	Thorium, dissolved	7440-29-1	E421	68.4 % 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).*

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	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) EAS DS1	E298	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	06-Dec-2024	28 days	3 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) EAS US1	E298	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	06-Dec-2024	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE EAS DS1	E235.Br-L	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE EAS US1	E235.Br-L	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE EAS DS1	E235.Cl	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE EAS US1	E235.Cl	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE EAS DS1	E235.F	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Fluoride in Water by IC										
HDPE EAS US1	E235.F	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE EAS DS1	E235.NO3-L	03-Dec-2024	04-Dec-2024	3 days	1 days	✓	04-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE EAS US1	E235.NO3-L	03-Dec-2024	04-Dec-2024	3 days	1 days	✓	04-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE EAS DS1	E235.NO2-L	03-Dec-2024	04-Dec-2024	3 days	1 days	✓	04-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE EAS US1	E235.NO2-L	03-Dec-2024	04-Dec-2024	3 days	1 days	✓	04-Dec-2024	3 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE EAS DS1	E235.SO4	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE EAS US1	E235.SO4	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	04-Dec-2024	28 days	1 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) EAS DS1	E366	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	05-Dec-2024	28 days	2 days	✓
Anions and Nutrients : Total Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) EAS US1	E366	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	05-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
EAS DS1	E372-U	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	05-Dec-2024	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
EAS US1	E372-U	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	05-Dec-2024	28 days	2 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
EAS DS1	E509	03-Dec-2024	11-Dec-2024	28 days	8 days	✓	11-Dec-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
EAS US1	E509	03-Dec-2024	11-Dec-2024	28 days	8 days	✓	11-Dec-2024	28 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
EAS US1	E421	03-Dec-2024	05-Dec-2024	180 days	2 days	✓	06-Dec-2024	180 days	3 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
EAS DS1	E421	03-Dec-2024	05-Dec-2024	180 days	3 days	✓	06-Dec-2024	180 days	3 days	✓
Field Tests : Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial dissolved (hydrochloric acid)										
EAS DS1	EF001	03-Dec-2024	----	----	----		04-Dec-2024	----	1 days	
Field Tests : Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine										
Glass vial dissolved (hydrochloric acid)										
EAS US1	EF001	03-Dec-2024	----	----	----		04-Dec-2024	----	1 days	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid)										
EAS DS1	E358-L	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	05-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) EAS US1	E358-L	03-Dec-2024	04-Dec-2024	28 days	1 days	✓	05-Dec-2024	28 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE EAS DS1	E290	03-Dec-2024	04-Dec-2024	14 days	1 days	✓	04-Dec-2024	14 days	1 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE EAS US1	E290	03-Dec-2024	04-Dec-2024	14 days	1 days	✓	04-Dec-2024	14 days	1 days	✓
Physical Tests : TDS by Gravimetry										
HDPE EAS DS1	E162	03-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓
Physical Tests : TDS by Gravimetry										
HDPE EAS US1	E162	03-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE EAS DS1	E160	03-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓
Physical Tests : TSS by Gravimetry										
HDPE EAS US1	E160	03-Dec-2024	----	----	----		05-Dec-2024	7 days	3 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide) EAS US1	E532	03-Dec-2024	----	----	----		03-Dec-2024	28 days	0 days	✓
Speciated Metals : Total Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - total (sodium hydroxide) EAS DS1	E532	03-Dec-2024	----	----	----		03-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 Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
EAS DS1	E508	03-Dec-2024	10-Dec-2024	28 days	7 days	✓	10-Dec-2024	28 days	7 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
EAS US1	E508	03-Dec-2024	10-Dec-2024	28 days	7 days	✓	10-Dec-2024	28 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
EAS DS1	E420	03-Dec-2024	05-Dec-2024	180 days	2 days	✓	06-Dec-2024	180 days	3 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid)										
EAS US1	E420	03-Dec-2024	05-Dec-2024	180 days	2 days	✓	06-Dec-2024	180 days	3 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
EAS DS1	E395	03-Dec-2024	----	----	----		04-Dec-2024	7 days	1 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
EAS US1	E395	03-Dec-2024	----	----	----		04-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			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1795723	1	13	7.6	5.0	✓
Ammonia by Fluorescence	E298	1796144	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1795726	1	5	20.0	5.0	✓
Chloride in Water by IC	E235.Cl	1795725	1	14	7.1	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1804099	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1795970	1	12	8.3	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1796140	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1795724	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1795727	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1795728	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1795729	1	14	7.1	5.0	✓
TDS by Gravimetry	E162	1798229	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1794495	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1803210	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1795173	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1796141	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1796142	1	16	6.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1795176	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	1798232	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Alkalinity Species by Titration	E290	1795723	1	13	7.6	5.0	✓
Ammonia by Fluorescence	E298	1796144	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1795726	1	5	20.0	5.0	✓
Chloride in Water by IC	E235.Cl	1795725	1	14	7.1	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1804099	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1795970	1	12	8.3	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1796140	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1795724	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1795727	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1795728	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1795729	1	14	7.1	5.0	✓
TDS by Gravimetry	E162	1798229	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1794495	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1803210	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1795173	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1796141	1	16	6.2	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Control Samples (LCS) - Continued							
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1796142	1	16	6.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1795176	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	1798232	1	20	5.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1795723	1	13	7.6	5.0	✓
Ammonia by Fluorescence	E298	1796144	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1795726	1	5	20.0	5.0	✓
Chloride in Water by IC	E235.Cl	1795725	1	14	7.1	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1804099	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1795970	1	12	8.3	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1796140	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1795724	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1795727	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1795728	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1795729	1	14	7.1	5.0	✓
TDS by Gravimetry	E162	1798229	1	20	5.0	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1794495	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1803210	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1795173	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1796141	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1796142	1	16	6.2	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395	1795176	1	12	8.3	5.0	✓
TSS by Gravimetry	E160	1798232	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1796144	1	16	6.2	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1795726	1	5	20.0	5.0	✓
Chloride in Water by IC	E235.Cl	1795725	1	14	7.1	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1804099	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1795970	1	12	8.3	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1796140	1	15	6.6	5.0	✓
Fluoride in Water by IC	E235.F	1795724	1	13	7.6	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	1795727	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1795728	1	19	5.2	5.0	✓
Sulfate in Water by IC	E235.SO4	1795729	1	14	7.1	5.0	✓
Total Hexavalent Chromium (Cr VI) by IC	E532	1794495	1	19	5.2	5.0	✓
Total Mercury in Water by CVAAS	E508	1803210	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1795173	1	20	5.0	5.0	✓
Total Nitrogen by Colourimetry	E366	1796141	1	16	6.2	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	1796142	1	16	6.2	5.0	✓

Matrix: **Water**

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

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Total Sulfide by Colourimetry (Automated Flow)	E395	1795176	1	12	8.3	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 ± 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.
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 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.
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 methlyene blue colourimetric method. Results expressed "as H2S" if reported represent the maximum possible H2S concentration based on the total sulfide concentration in the sample. The H2S calculation converts Total Sulphide as (S2-) and reports it as Total Sulphide as (H2S)
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 CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 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 CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 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, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3,Chloramine	EF001 ALS Environmental - Vancouver	Water	Field Measurement (Client Supplied)	Field pH,EC,Salinity, TDS, Cl2,ClO2,ORP,DO, Turbidity,T,T-P,o-PO4,NH3 or Chloramine measurements provided by client and recorded on ALS report may affect the validity of results.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.

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QUALITY CONTROL REPORT

Work Order	: **VA24D2628**	Page	: 1 of 17
Client	: Triton Environmental Consultants Ltd.	Laboratory	: ALS Environmental - Vancouver
Contact		Account Manager	
Address		Address	
Telephone		Telephone	
Project	: 11964	Date Samples Received	: 03-Dec-2024 18:00
PO	: 11964-Task 20-Phase 3C-4C	Date Analysis Commenced	: 03-Dec-2024
C-O-C number	: ----	Issue Date	: 11-Dec-2024 08:06
Sampler	: AR		
Site	: Water Analysis		
Quote number	: VA23-TRIT100-012 _V2		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

This Quality Control Report contains the following information:

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

Signatories

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

Signatories	*Position*	*Laboratory Department*
	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
		Vancouver Metals, Burnaby, British Columbia
	Account Manager Assistant	Vancouver Administration, Burnaby, British Columbia
	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, Burnaby, British Columbia

General Comments

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

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.
CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.
DQO = Data Quality Objective.
LOR = Limit of Reporting (detection limit).
RPD = Relative Percent Difference
# = Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

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

Laboratory Duplicate (DUP) Report

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

Sub-Matrix: **Water**

					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 1795723)											
VA24D2681-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	50.0	50.1	0.200%	20%	----
Physical Tests (QC Lot: 1798229)											
KS2405096-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	8680	8780	1.17%	20%	----
Physical Tests (QC Lot: 1798232)											
KS2405096-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	11.1	10.1	1.0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1795724)											
FJ2403610-001	Anonymous	Fluoride	16984-48-8	E235.F	0.100	mg/L	1.24	1.17	5.52%	20%	----
Anions and Nutrients (QC Lot: 1795725)											
FJ2403610-001	Anonymous	Chloride	16887-00-6	E235.Cl	2.50	mg/L	<2.50	<2.50	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1795726)											
FJ2403610-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.250	mg/L	<0.250	<0.250	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1795727)											
FJ2403610-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	8.95	8.94	0.0658%	20%	----
Anions and Nutrients (QC Lot: 1795728)											
FJ2403610-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	0.0158	0.0160	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1795729)											
FJ2403610-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	244	244	0.169%	20%	----
Anions and Nutrients (QC Lot: 1796141)											
VA24D2625-001	Anonymous	Nitrogen, total	7727-37-9	E366	0.030	mg/L	0.059	0.059	0.0002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1796142)											
VA24D2625-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0044	0.0049	0.0005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 1796144)											
VA24D2625-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 1796140)											
VA24D2625-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
Total Sulfides (QC Lot: 1795176)											
VA24D2625-001	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: 1795173)											
VA24D2286-002	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0358	0.0406	12.7%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00055	0.00059	0.00004	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: 1795173) - continued											
VA24D2286-002	Anonymous	Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00746	0.00753	0.897%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.121	0.127	4.47%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	0.0000057	0.0000007	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	80.8	85.0	5.02%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000019	0.000022	0.000003	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	0.00050	0.000003	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.228	0.224	1.82%	20%	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00456	0.00451	0.00005	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	1.42	1.42	0.184%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000193	0.000203	0.000010	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0109	0.0111	1.58%	20%	----
		Magnesium, total	7439-95-4	E420	0.100	mg/L	34.0	33.6	1.28%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.578	0.577	0.217%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00117	0.00126	7.61%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.244	0.244	0.154%	20%	----
		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	2.51	2.55	1.70%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00250	0.00244	2.40%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000895	0.000933	4.18%	20%	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	5.80	5.80	0.157%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000036	0.000038	0.000001	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	5.62	5.63	0.253%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.407	0.437	7.21%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	46.2	45.9	0.663%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00127	0.00173	0.00046	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	0.00011	0.00011	0.000003	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.00600	0.00636	5.94%	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: 1795173) - continued											
VA24D2286-002	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: 1803210)											
VA24D2487-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1795970)											
VA24D2487-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0252	0.0261	3.62%	20%	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00024	0.00024	0.000001	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.109	0.110	0.401%	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	0.0000050	mg/L	0.00524	0.00515	1.70%	20%	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	62.8	62.3	0.647%	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	0.00360	0.00360	0.204%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00135	0.00131	0.00004	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	0.0050	0.0050	0.00008	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.100	mg/L	26.0	26.2	1.02%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	0.166	0.164	0.769%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00202	0.00204	1.11%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.0604	0.0604	0.0496%	20%	----
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.100	mg/L	0.618	0.621	0.003	Diff <2x LOR	----
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00055	0.00056	0.000008	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.00265	0.00257	3.01%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	3.33	3.32	0.255%	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	0.566	0.570	0.666%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.214	0.216	0.739%	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: 1795970) - continued											
VA24D2487-001	Anonymous	Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	51.8	53.2	2.74%	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	0.000023	0.000023	0.0000005	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	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00200	0.00199	0.538%	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	0.368	0.367	0.403%	20%	----
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1804099)											
VA24D2487-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 1794495)											
VA24D2553-001	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.00050	mg/L	0.00133	0.00144	0.00011	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: 1795723)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	1.5	----
Physical Tests (QCLot: 1798229)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests (QCLot: 1798232)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients (QCLot: 1795724)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 1795725)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 1795726)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 1795727)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 1795728)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 1795729)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 1796141)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Anions and Nutrients (QCLot: 1796142)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 1796144)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Organic / Inorganic Carbon (QCLot: 1796140)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 1795176)						
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	<0.0015	----
Total Metals (QCLot: 1795173)						
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: 1795173) - 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: 1803210)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 1795970)						
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: 1795970) - 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: 1804099)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1794495)						
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: 1795723)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	106	85.0	115	----
Physical Tests (QCLot: 1798229)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	105	85.0	115	----
Physical Tests (QCLot: 1798232)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	95.8	85.0	115	----
Anions and Nutrients (QCLot: 1795724)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	97.7	90.0	110	----
Anions and Nutrients (QCLot: 1795725)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.6	90.0	110	----
Anions and Nutrients (QCLot: 1795726)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 1795727)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	98.3	90.0	110	----
Anions and Nutrients (QCLot: 1795728)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.0	90.0	110	----
Anions and Nutrients (QCLot: 1795729)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.2	90.0	110	----
Anions and Nutrients (QCLot: 1796141)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	91.2	75.0	125	----
Anions and Nutrients (QCLot: 1796142)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	94.4	80.0	120	----
Anions and Nutrients (QCLot: 1796144)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Organic / Inorganic Carbon (QCLot: 1796140)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	100	80.0	120	----
Total Sulfides (QCLot: 1795176)									
Sulfide, total (as S)	18496-25-8	E395	0.0015	mg/L	0.08 mg/L	99.4	80.0	120	----
Total Metals (QCLot: 1795173)									

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: 1795173) - 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	108	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	106	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	111	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	104	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	109	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	107	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	102	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	101	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	103	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	109	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	109	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	102	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	111	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	103	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	104	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	98.8	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	95.5	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	104	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	103	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	109	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	102	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	109	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	107	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	101	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	98.8	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	119	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 1795173) - 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	98.6	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	106	80.0	120	----
Total Metals (QCLot: 1803210)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	98.1	80.0	120	----
Dissolved Metals (QCLot: 1795970)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	98.5	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	95.6	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	97.2	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	93.8	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	96.3	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	88.8	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	99.8	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	89.9	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	96.9	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	95.0	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	96.1	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	90.5	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	98.1	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	89.1	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	96.6	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	99.8	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	93.5	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	95.3	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	104	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	97.8	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	95.4	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	97.0	80.0	120	----
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	102	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	87.4	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	97.2	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	98.7	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	87.4	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1795970) - continued									
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	95.1	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	98.6	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	97.8	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	94.1	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	99.6	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	98.3	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	101	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	98.0	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	99.5	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	90.6	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	96.3	80.0	120	----
Speciated Metals (QCLot: 1794495)									
Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.0005	mg/L	0.25 mg/L	100	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: 1795724)										
FJ2403610-002	Anonymous	Fluoride	16984-48-8	E235.F	4.99 mg/L	5 mg/L	99.7	75.0	125	----
Anions and Nutrients (QCLot: 1795725)										
FJ2403610-002	Anonymous	Chloride	16887-00-6	E235.Cl	477 mg/L	500 mg/L	95.4	75.0	125	----
Anions and Nutrients (QCLot: 1795726)										
FJ2403610-002	Anonymous	Bromide	24959-67-9	E235.Br-L	2.51 mg/L	2.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 1795727)										
FJ2403610-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 1795728)										
FJ2403610-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	2.36 mg/L	2.5 mg/L	94.3	75.0	125	----
Anions and Nutrients (QCLot: 1795729)										
FJ2403610-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	477 mg/L	500 mg/L	95.4	75.0	125	----
Anions and Nutrients (QCLot: 1796141)										
VA24D2625-002	Anonymous	Nitrogen, total	7727-37-9	E366	0.386 mg/L	0.4 mg/L	96.4	70.0	130	----
Anions and Nutrients (QCLot: 1796142)										
VA24D2625-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0478 mg/L	0.05 mg/L	95.6	70.0	130	----
Anions and Nutrients (QCLot: 1796144)										
VA24D2625-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.103 mg/L	0.1 mg/L	103	75.0	125	----
Organic / Inorganic Carbon (QCLot: 1796140)										
VA24D2625-002	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.26 mg/L	5 mg/L	105	70.0	130	----
Total Sulfides (QCLot: 1795176)										
VA24D2625-002	Anonymous	Sulfide, total (as S)	18496-25-8	E395	0.212 mg/L	0.2 mg/L	106	75.0	125	----
Total Metals (QCLot: 1795173)										
VA24D2288-009	Anonymous	Aluminum, total	7429-90-5	E420	0.208 mg/L	0.2 mg/L	104	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0203 mg/L	0.02 mg/L	102	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0366 mg/L	0.04 mg/L	91.5	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.00886 mg/L	0.01 mg/L	88.6	70.0	130	----
		Boron, total	7440-42-8	E420	0.092 mg/L	0.1 mg/L	92.4	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00397 mg/L	0.004 mg/L	99.3	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.0108 mg/L	0.01 mg/L	108	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0408 mg/L	0.04 mg/L	102	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: 1795173) - continued										
VA24D2288-009	Anonymous	Cobalt, total	7440-48-4	E420	0.0198 mg/L	0.02 mg/L	98.9	70.0	130	----
		Copper, total	7440-50-8	E420	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Iron, total	7439-89-6	E420	2.02 mg/L	2 mg/L	101	70.0	130	----
		Lead, total	7439-92-1	E420	0.0175 mg/L	0.02 mg/L	87.4	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0936 mg/L	0.1 mg/L	93.6	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	0.0212 mg/L	0.02 mg/L	106	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0385 mg/L	0.04 mg/L	96.3	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.5 mg/L	10 mg/L	105	70.0	130	----
		Potassium, total	7440-09-7	E420	4.21 mg/L	4 mg/L	105	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0196 mg/L	0.02 mg/L	98.1	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0428 mg/L	0.04 mg/L	107	70.0	130	----
		Silicon, total	7440-21-3	E420	9.92 mg/L	10 mg/L	99.2	70.0	130	----
		Silver, total	7440-22-4	E420	0.00410 mg/L	0.004 mg/L	102	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	0.0428 mg/L	0.04 mg/L	107	70.0	130	----
		Thallium, total	7440-28-0	E420	0.00361 mg/L	0.004 mg/L	90.2	70.0	130	----
		Thorium, total	7440-29-1	E420	0.0136 mg/L	0.02 mg/L	68.3	70.0	130	MES
		Tin, total	7440-31-5	E420	0.0200 mg/L	0.02 mg/L	100	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0193 mg/L	0.02 mg/L	96.4	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.104 mg/L	0.1 mg/L	104	70.0	130	----
		Zinc, total	7440-66-6	E420	0.387 mg/L	0.4 mg/L	96.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0415 mg/L	0.04 mg/L	104	70.0	130	----
Total Metals (QCLot: 1803210)										
VA24D2487-002	Anonymous	Mercury, total	7439-97-6	E508	0.0000993 mg/L	0 mg/L	99.3	70.0	130	----
Dissolved Metals (QCLot: 1795970)										
VA24D2487-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.182 mg/L	0.2 mg/L	91.3	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0186 mg/L	0.02 mg/L	92.9	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0371 mg/L	0.04 mg/L	92.8	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00935 mg/L	0.01 mg/L	93.5	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.089 mg/L	0.1 mg/L	89.1	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	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	0.00928 mg/L	0.01 mg/L	92.8	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0390 mg/L	0.04 mg/L	97.4	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0187 mg/L	0.02 mg/L	93.7	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: 1795970) - continued										
VA24D2487-002	Anonymous	Copper, dissolved	7440-50-8	E421	0.0185 mg/L	0.02 mg/L	92.6	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.89 mg/L	2 mg/L	94.4	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0189 mg/L	0.02 mg/L	94.7	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0853 mg/L	0.1 mg/L	85.3	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	0.0193 mg/L	0.02 mg/L	96.3	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	ND mg/L	----	ND	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	3.80 mg/L	4 mg/L	94.9	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0189 mg/L	0.02 mg/L	94.6	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0413 mg/L	0.04 mg/L	103	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	9.40 mg/L	10 mg/L	94.0	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00379 mg/L	0.004 mg/L	94.7	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	1.88 mg/L	2 mg/L	94.3	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	0.0398 mg/L	0.04 mg/L	99.5	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00375 mg/L	0.004 mg/L	93.9	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0137 mg/L	0.02 mg/L	68.4	70.0	130	MES
		Tin, dissolved	7440-31-5	E421	0.0190 mg/L	0.02 mg/L	94.8	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	0.0191 mg/L	0.02 mg/L	95.7	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00388 mg/L	0.004 mg/L	97.1	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0988 mg/L	0.1 mg/L	98.8	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.371 mg/L	0.4 mg/L	92.8	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0371 mg/L	0.04 mg/L	92.7	70.0	130	----
Dissolved Metals (QCLot: 1804099)										
VA24D2487-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000964 mg/L	0 mg/L	96.4	70.0	130	----
Speciated Metals (QCLot: 1794495)										
VA24D2553-002	Anonymous	Chromium, hexavalent [Cr VI], total	18540-29-9	E532	0.255 mg/L	0.25 mg/L	102	70.0	130	----

Qualifiers

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

Chain of Custody (COC) / Analytical Request Form

ALS Environmental
www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Number: 17 -

Page 1 of 1

Report To	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:	

Report Format / Distribution

Select Report Format: ☑ ☑ EXCEL ☐ EDD (DIGITAL)
Quality Control (QC) Report with Report ☑ YES ☐ NO
☑ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)

Regular [R] ☑ Standard TAT if received by 3 pm - business days - no surcharges apply

PRIORITY (Business Days)
- 4 day [P4-20%] ☐
- 3 day [P3-25%] ☐
- 2 day [P2-50%] ☐

EMERGENCY
- 1 Business day [E1 - 100%] ☐
- Same Day, Weekend or Statutory holiday [E2 - 200% (Laboratory opening fees may apply)] ☐

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm

For tests that can not be performed according to the service level selected, you will be contacted.

Project Information

ALS Account # / Quote #:	VA23-TRIT100-012
Job #:	11964
PO / AFE:	11964 - Task 20 - Phase 3C-4C
LSD:	

ALS Lab Work Order # (lab use only):

Analysis Request

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

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 (P)	Dissolved metals + mercury (F/P)	Total hexavalent chromium (P)	Total trivalent chromium (P)	TSS	TDS	Nutrients (ammonia, ammonium, total nitrogen, total phosphorus) (P)	Total sulfide (low) (as H2S), Unionized Sulfide (low) (P)	Anions scan (Br, Cl, F, NO2, NO3, SO4)	General parameters (alkalinity)	DOC (F/P)	SAMPLES ON HOLD	Sample is hazardous (please provide further details)	NUMBER OF CONTAINERS
	~~WELL~~ US 1	03-Dec-24	11:02	Water	R	R	R	R	R	R	R	R	R	R	R		N	9
	pH: 7.44 cond: 25 µs temp: 6.6																	
EAS	~~WELL~~ DS 1		10:01	Water	R	R	R	R	R	R	R	R	R	R	R		N	9
	pH: 7.37 cond: 84 µs temp: 7.6																	

Environmental Division
Vancouver
Work Order Reference
VA24D2628

Telephone : +1 604 253 4188

Drinking Water (DW) Samples[1] (client use)
Are samples taken from a Regulated DW System? ☐ ☑ NO
Are samples for human consumption/ use? ☐ ☑ NO

Special Instructions / Specl

-down list below

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen ☐ SIF Observations Yes ☐ No ☐
Ice Packs ☑ Ice Cubes ☐ Custody seal intact Yes ☐ No ☐
Cooling Initiated ☐

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
	9

SHIPMENT RELEASE (client use)

Dec 3 2024 Time: 17:50

INITIAL SHIPMENT RECEPTION (lab use only)

Received by: Date: Time:

FINAL SHIPMENT RECEPTION (lab use only)

Received Date: Dec 3 Time: 6pm

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.

SEPT 2017 FRONT

Woodfibre Site Receiving Environment Field Notes and Logs

FortisBC Eagle Mountain-Woodfibre Gas Pipeline

Water Discharge Authorization Water Quality Monitoring

2024-12-3-Rysdale-7D7AC

Project Component:	Tunnel	**Site Name:**	Receiving Environment - Downstream of Discharge
Inspection Date:	12/03/2024	**Location:**	WLNG
Triton QP:	Aaron Rysdale	**Latitude/Longitude:**	49.669141 -123.248151
Temperature(c):	Low 3 High 7	**Permit:**	PE 110136
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 09:59:19 **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		
TSS	Yes	**Anions**	Yes		
TDS	Yes	**Total Trivalent Chromium**	Yes	**QA Samples:**	Yes
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

Checked sonde and cleaned probe at 12:25, moved at 12:30 into different position within creek to ensure probe is constantly in flowing water. First reading in new position should be 12:44.

Photos

Photo: 1

Location: EAS DS1

Description: Looking upstream

Photo: 2

Location: EAS DS1

Description: Sampling location

Photos

Photo: 3

Location: EAS DS1

Description: Looking downstream, sonde in old position

Photo: 4

Location: EAS DS1

Description: Sonde moved into new position for better immersion in stream.

Photos

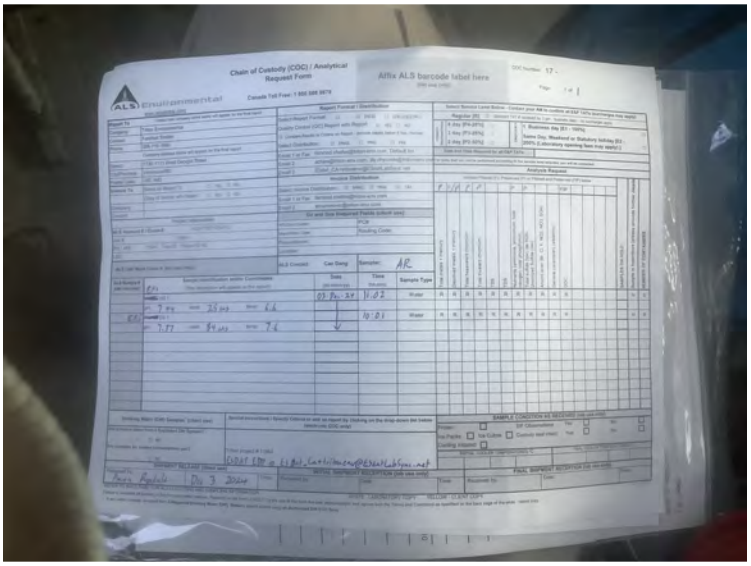

Photo: 5

Location:

Description: Sample COC

Sign Off

Report Prepared By:	Aaron Rysdale	**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

2024-12-3-Rysdale-5232A

Project Component:	Tunnel	**Site Name:**	Receiving Environment - Upstream of Discharge
Inspection Date:	12/03/2024	**Location:**	WLNG
Triton QP:	Aaron Rysdale	**Latitude/Longitude:**	49.669455 -123.25087
Temperature(c):	Low 3 High 7	**Permit:**	PE 110136
Weather Conditions:	Clear	**Ground Conditions:**	Damp

Observations

Time: 11:02:12 **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:**	Yes
Nutrients	Yes	**VOC/VPH**	No		
DOC	Yes	**EPH, PAH, LEPH/HEPH**	No		
		Trout LC50	No		

Logger Maintenance

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

Describe Logger Maintenance

Checked sonde and cleaned probe

Photos

Photo: 1

Location: EAS US1

Description: Looking upstream

Photo: 2

Location: EAS US1

Description: Sampling location

Photos

Photo: 3

Location: EAS US1

Description: Looking downstream, sonde location

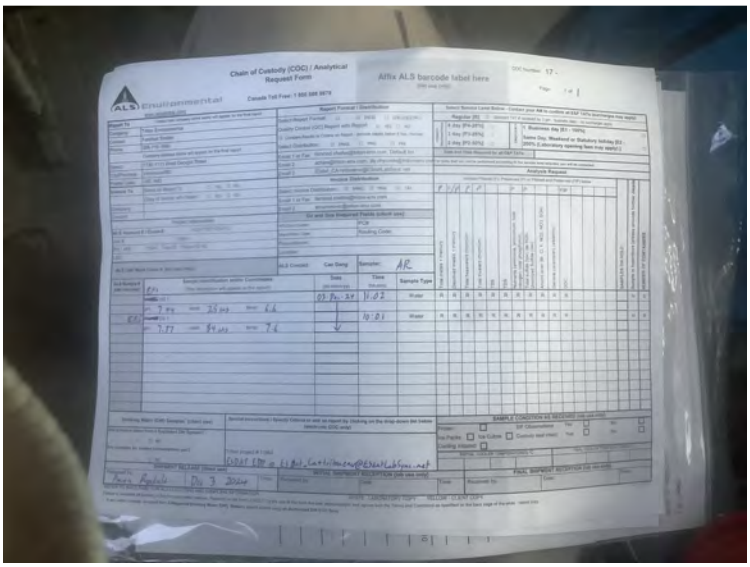

Photo: 4

Location:

Description: Sample COC

Sign Off

Report Prepared By:	Aaron Rysdale	**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)
12/02/2024 0:00	6.5	64.7	0.0	7.4	11.2	3.4	12/02/2024 0:00	6.1	15.7	0.0	7.0	11.3	0.0
12/02/2024 0:15	6.2	67.1	0.0	7.3	11.4	3.3	12/02/2024 0:15	6.1	15.7	0.0	7.0	11.3	0.0
12/02/2024 0:30	6.1	59.8	0.0	7.3	11.5	3.0	12/02/2024 0:30	6.0	15.8	0.0	7.0	11.3	0.0
12/02/2024 0:45	6.0	60.9	0.0	7.1	11.5	3.1	12/02/2024 0:45	6.0	15.8	0.0	7.0	11.3	0.0
12/02/2024 1:00	5.9	35.5	0.0	7.1	11.5	3.0	12/02/2024 1:00	6.0	15.6	0.0	7.0	11.3	0.0
12/02/2024 1:15	5.9	34.5	0.0	7.1	11.5	3.0	12/02/2024 1:15	6.0	15.5	0.0	7.0	11.4	0.0
12/02/2024 1:30	5.8	31.2	0.0	7.0	11.5	3.0	12/02/2024 1:30	5.9	15.3	0.0	7.0	11.4	0.0
12/02/2024 1:45	5.8	30.2	0.0	7.0	11.6	3.0	12/02/2024 1:45	5.9	15.6	0.0	7.0	11.4	0.0
12/02/2024 2:00	6.1	47.8	0.0	6.8	11.5	3.3	12/02/2024 2:00	5.9	15.5	0.0	7.0	11.3	0.0
12/02/2024 2:15	6.9	60.0	0.0	7.1	11.4	3.4	12/02/2024 2:15	5.9	15.3	0.0	7.0	11.4	0.0
12/02/2024 2:30	7.2	77.2	0.0	7.3	11.2	3.4	12/02/2024 2:30	5.9	15.3	0.0	7.0	11.3	0.0
12/02/2024 2:45	7.0	78.0	0.0	7.4	11.2	3.3	12/02/2024 2:45	5.9	15.3	0.0	7.0	11.4	0.0
12/02/2024 3:00	6.5	69.9	0.0	7.4	11.2	3.1	12/02/2024 3:00	5.9	15.2	0.0	7.0	11.4	0.0
12/02/2024 3:15	6.1	69.6	0.0	7.3	11.4	3.2	12/02/2024 3:15	5.8	15.0	0.0	7.0	11.4	0.0
12/02/2024 3:30	5.9	43.0	0.0	7.2	11.5	3.1	12/02/2024 3:30	5.8	15.2	0.0	7.0	11.4	0.0
12/02/2024 3:45	5.8	45.7	0.0	7.2	11.5	3.0	12/02/2024 3:45	5.8	15.2	0.0	7.0	11.4	0.0
12/02/2024 4:00	5.7	30.1	0.0	6.9	11.6	3.0	12/02/2024 4:00	5.8	15.2	0.0	7.0	11.4	0.0
12/02/2024 4:15	6.6	58.1	0.0	7.1	11.5	3.3	12/02/2024 4:15	5.8	15.2	0.0	7.0	11.4	0.0
12/02/2024 4:30	7.0	77.3	0.0	7.3	11.3	3.2	12/02/2024 4:30	5.8	15.2	0.0	7.0	11.4	0.0
12/02/2024 4:45	7.1	78.1	0.0	7.4	11.2	3.2	12/02/2024 4:45	5.8	15.0	0.0	7.0	11.4	0.0
12/02/2024 5:00	7.1	79.2	0.0	7.4	11.2	3.1	12/02/2024 5:00	5.7	14.9	0.0	7.0	11.4	0.0
12/02/2024 5:15	6.6	78.5	0.0	7.5	11.3	3.1	12/02/2024 5:15	5.8	15.0	0.0	7.0	11.4	0.0
12/02/2024 5:30	6.1	59.0	0.0	7.4	11.4	3.0	12/02/2024 5:30	5.8	14.9	0.0	7.0	11.4	0.0
12/02/2024 5:45	5.9	61.6	0.0	7.3	11.5	3.0	12/02/2024 5:45	5.7	14.9	0.0	7.0	11.4	0.0
12/02/2024 6:00	5.7	40.6	0.0	7.2	11.6	2.9	12/02/2024 6:00	5.7	14.8	0.0	7.0	11.4	0.0
12/02/2024 6:15	5.6	41.3	0.0	7.2	11.6	2.9	12/02/2024 6:15	5.7	14.8	0.0	7.0	11.4	0.0
12/02/2024 6:30	6.2	59.0	0.0	7.0	11.6	3.2	12/02/2024 6:30	5.7	14.8	0.0	7.0	11.4	0.0
12/02/2024 6:45	6.7	71.4	0.0	7.3	11.4	3.1	12/02/2024 6:45	5.7	14.7	0.0	7.0	11.4	0.0
12/02/2024 7:00	6.9	78.7	0.0	7.4	11.3	3.0	12/02/2024 7:00	5.7	14.7	0.0	7.0	11.4	0.0
12/02/2024 7:15	6.9	78.9	0.0	7.4	11.3	3.0	12/02/2024 7:15	5.7	14.6	0.0	7.0	11.5	0.0
12/02/2024 7:30	6.9	79.8	0.0	7.4	11.3	2.9	12/02/2024 7:30	5.7	14.5	0.0	7.0	11.4	0.0
12/02/2024 7:45	6.8	80.0	0.0	7.4	11.3	2.8	12/02/2024 7:45	5.7	14.5	0.0	7.0	11.4	0.0
12/02/2024 8:00	6.3	77.4	0.0	7.5	11.3	2.9	12/02/2024 8:00	5.6	14.4	0.0	7.0	11.4	0.0
12/02/2024 8:15	5.9	73.1	0.0	7.4	11.4	2.8	12/02/2024 8:15	5.6	14.4	0.0	7.0	11.4	0.0
12/02/2024 8:30	5.7	46.6	0.0	7.3	11.6	3.0	12/02/2024 8:30	5.6	14.4	0.0	7.0	11.5	0.0
12/02/2024 8:45	5.6	49.6	0.0	7.2	11.6	2.9	12/02/2024 8:45	5.6	14.4	0.0	7.0	11.5	0.0
12/02/2024 9:00	5.5	35.2	0.0	7.1	11.6	2.9	12/02/2024 9:00	5.6	14.3	0.0	7.0	11.5	0.0
12/02/2024 9:15	5.4	35.6	0.0	7.1	11.6	2.9	12/02/2024 9:15	5.6	14.3	0.0	7.0	11.5	0.0
12/02/2024 9:30	5.4	32.5	0.0	7.0	11.7	2.9	12/02/2024 9:30	5.6	14.3	0.0	6.9	11.5	0.0
12/02/2024 9:45	5.4	29.9	0.0	7.1	11.7	2.9	12/02/2024 9:45	5.6	14.2	0.0	7.0	11.5	0.0
12/02/2024 10:00	6.2	67.8	0.0	6.9	11.6	3.0	12/02/2024 10:00		14.2	0.0	7.0	11.5	0.0
12/02/2024 10:15	6.7	75.2	0.0	7.3	11.4	2.9	12/02/2024 10:15	5.6	14.2	0.0	7.0	11.5	0.0
12/02/2024 10:30	6.9	78.9	0.0	7.4	11.3	3.0	12/02/2024 10:30	5.7	14.1	0.0	7.0	11.5	0.1
12/02/2024 10:45	6.9	79.2	0.0	7.4	11.3	2.9	12/02/2024 10:45	5.7	14.2	0.0	7.0	11.5	0.0
12/02/2024 11:00	6.7	71.0	0.0	7.4	11.3	2.8	12/02/2024 11:00	5.8	14.2	0.0	7.0	11.5	0.0
12/02/2024 11:15	6.2	66.4	0.0	7.3	11.4	2.8	12/02/2024 11:15	5.8	14.1	0.0	7.0	11.5	0.0
12/02/2024 11:30	5.9	35.0	0.0	7.2	11.6	3.0	12/02/2024 11:30	5.9	14.3	0.0	7.1	11.4	0.6
12/02/2024 11:45	5.8	35.3	0.0	7.1	11.6	2.9	12/02/2024 11:45	5.9	14.3	0.0	7.0	11.4	0.0
12/02/2024 12:00	5.8	26.1	0.0	6.9	11.6	2.9	12/02/2024 12:00	6.0	14.6	0.0	7.0	11.4	0.0
12/02/2024 12:15	5.8	26.0	0.0	7.0	11.6	2.9	12/02/2024 12:15	6.0	14.6	0.0	7.0	11.4	0.0
12/02/2024 12:30	5.8	24.5	0.0	6.8	11.6	3.0	12/02/2024 12:30	6.1	14.6	0.0	7.0	11.4	0.0
12/02/2024 12:45	5.9	24.3	0.0	6.9	11.6	3.0	12/02/2024 12:45	6.1	14.6	0.0	7.0	11.4	0.0
12/02/2024 13:00	6.0	23.5	0.0	7.0	11.6	3.1	12/02/2024 13:00	6.1	14.9	0.0	6.9	11.4	0.0
12/02/2024 13:15	7.0	60.2	0.0	7.1	11.5	3.0	12/02/2024 13:15	6.2	14.7	0.0	7.0	11.4	0.0
12/02/2024 13:30	7.3	76.3	0.0	7.3	11.2	2.9	12/02/2024 13:30	6.3	15.0	0.0	7.0	11.3	0.0
12/02/2024 13:45	6.9	74.0	0.0	7.3	11.2	2.8	12/02/2024 13:45	6.3	15.1	0.0	7.0	11.3	0.0
12/02/2024 14:00	6.5	40.8	0.0	7.2	11.4	2.9	12/02/2024 14:00	6.3	15.1	0.0	7.0	11.3	0.0
12/02/2024 14:15	6.4	38.0	0.0	7.1	11.4	2.9	12/02/2024 14:15	6.3	15.1	0.0	7.0	11.3	0.0
12/02/2024 14:30	6.5	32.3	0.0	6.9	11.5	3.1	12/02/2024 14:30	6.3	15.1	0.0	7.0	11.3	0.0
12/02/2024 14:45	7.4	70.0	0.0	7.1	11.3	2.9	12/02/2024 14:45	6.4	15.0	0.0	7.0	11.3	0.0
12/02/2024 15:00	7.7	78.9	0.0	7.3	11.1	3.0	12/02/2024 15:00	6.4	14.9	0.0	7.0	11.3	0.0
12/02/2024 15:15	7.8	79.7	0.0	7.4	11.1	3.0	12/02/2024 15:15	6.4	15.0	0.0	7.0	11.3	0.0
12/02/2024 15:30	7.6	67.5	0.0	7.4	11.1	2.9	12/02/2024 15:30	6.4	14.9	0.0	7.0	11.3	0.0
12/02/2024 15:45	7.1	72.0	0.0	7.2	11.1	2.9	12/02/2024 15:45	6.4	15.2	0.0	7.0	11.2	0.0
12/02/2024 16:00	6.6	33.7	0.0	7.1	11.3	2.9	12/02/2024 16:00	6.3	15.0	0.0	7.0	11.3	0.0
12/02/2024 16:15	6.4	33.0	0.0	7.0	11.4	2.9	12/02/2024 16:15	6.3	15.2	0.0	7.1	11.3	0.0
12/02/2024 16:30	6.3	26.6	0.0	7.0	11.4	2.9	12/02/2024 16:30	6.3	15.2	0.0	7.0	11.3	0.0
12/02/2024 16:45	6.2	26.3	0.0	6.9	11.5	2.9	12/02/2024 16:45	6.2	15.0	0.0	7.0	11.3	0.0
12/02/2024 17:00	6.1	24.9	0.0	6.8	11.5	3.0	12/02/2024 17:00	6.2	14.8	0.0	7.0	11.3	0.0
12/02/2024 17:15	6.1	24.0	0.0	6.8	11.5	3.0	12/02/2024 17:15	6.2	14.9	0.0	7.0	11.3	0.0
12/02/2024 17:30	7.0	59.3	0.0	6.8	11.4	3.0	12/02/2024 17:30	6.2	14.6	0.0	6.9	11.3	0.0
12/02/2024 17:45	7.5	72.7	0.0	7.3	11.2	3.0	12/02/2024 17:45	6.2	14.6	0.0	7.0	11.3	0.0
12/02/2024 18:00	7.6	79.6	0.0	7.4	11.1	2.9	12/02/2024 18:00	6.1	14.8	0.0	7.0	11.3	0.0
12/02/2024 18:15	7.0	66.5	0.0	7.2	11.1	2.9	12/02/2024 18:15	6.1	14.7	0.0	6.9	11.3	0.0
12/02/2024 18:30	6.5	35.8	0.0	7.2	11.3	2.9	12/02/2024 18:30	6.1	14.6	0.0	7.0	11.3	0.0
12/02/2024 18:45	6.2	33.2	0.0	7.0	11.4	2.9	12/02/2024 18:45	6.1	14.7	0.0	6.9	11.3	0.0
12/02/2024 19:00	6.1	25.7	0.0	6.9	11.5	2.9	12/02/2024 19:00	6.1	14.6	0.0	7.0	11.3	0.0
12/02/2024 19:15	6.0	26.1	0.0	6.9	11.5	2.9	12/02/2024 19:15	6.1	14.6	0.0	7.0	11.3	0.0
12/02/2024 19:30	6.1	33.0	0.0	6.8	11.5	3.2	12/02/2024 19:30	6.1	14.6	0.0	7.0	11.3	0.0
12/02/2024 19:45	7.1	58.7	0.0	7.1	11.5	3.0	12/02/2024 19:45	6.0	14.6	0.0	7.0	11.3	0.0
12/02/2024 20:00	7.4	78.9	0.0	7.3	11.2	3.0	12/02/2024 20:00	6.0	14.5	0.0	7.0	11.3	0.0
12/02/2024 20:15	7.5	80.2	0.0	7.4	11.1	3.0	12/02/2024 20:15	6.0	14.3	0.0	7.0	11.4	0.0
12/02/2024 20:30	7.4	75.3	0.0	7.4	11.1	3.0	12/02/2024 20:30	5.9	14.4	0.0	6.8	11.4	0.0
12/02/2024 20:45	6.8	68.3	0.0	7.2	11.1	2.9	12/02/2024 20:45	5.9	14.5	0.0	7.0	11.4	0.0
12/02/2024 21:00	6.3	40.7	0.0	7.1	11.4	2.9	12/02/2024 21:00	5.9	14.3	0.0	7.0	11.4	0.0
12/02/2024 21:15	6.0	34.4	0.0	7.0	11.5	2.9	12/02/2024 21:15	5.9	14.5	0.0	7.0	11.4	0.0
12/02/2024 21:30	5.9	27.1	0.0	6.9	11.6	2.9	12/02/2024 21:30	5.9	14.3	0.0	7.0	11.4	0.0
12/02/2024 21:45	5.8	26.3	0.0	6.9	11.6	2.9	12/02/2024 21:45	5.9	14.3	0.0	7.0	11.4	0.0
12/02/2024 22:00	5.8	25.2	0.0	6.8	11.6	3.0	12/02/2024 22:00	5.9	14.5	0.0	7.0	11.4	0.0
12/02/2024 22:15	6.7	57.1	0.0	7.0	11.6	3.1	12/02/2024 22:15	5.8	14.5	0.0	7.0	11.4	0.0
12/02/2024 22:30	7.1	77.3	0.0	7.3	11.3	3.0	12/02/2024 22:30	5.8	14.2	0.0	7.0	11.4	0.0
12/02/2024 22:45	7.2	79.7	0.0	7.4	11.2	3.0	12/02/2024 22:45	5.8	14.4	0.0	7.0	11.4	0.0
12/02/2024 23:00	7.2	78.0	0.0	7.4	11.2	3.0	12/02/2024 23:00	5.8	14.2	0.0	7.0	11.4	0.0
12/02/2024 23:15	7.2	79.5	0.0	7.4	11.2	3.0	12/02/2024 23:15	5.8	14.3	0.0	6.9	11.4	0.0
12/02/2024 23:30	7.0	78.1	0.0	7.5	11.2	2.9	12/02/2024 23:30	5.8	14.2	0.0	7.0	11.4	0.0
12/02/2024 23:45	6.5	75.4	0.0	7.4	11.2	2.8	12/02/2024 23:45	5.8	14.2	0.0	7.0	11.4	0.0
12/03/2024 0:00	6.0	41.3	0.0	7.3	11.5	2.9	12/03/2024 0:00	5.8	14.2	0.0	7.0	11.4	0.0

12/03/2024 0:15	5.8	40.6	0.0	7.2	11.5	2.9	12/03/2024 0:15	5.8	14.2	0.0	7.0	11.4	0.0
12/03/2024 0:30	5.7	36.0	0.0	7.2	11.6	2.9	12/03/2024 0:30	5.7	14.3	0.0	7.0	11.5	0.0
12/03/2024 0:45	5.6	31.9	0.0	7.1	11.6	2.9	12/03/2024 0:45	5.7	14.4	0.0	7.0	11.4	0.0
12/03/2024 1:00	5.6	26.5	0.0	6.9	11.7	2.9	12/03/2024 1:00	5.7	14.3	0.0	7.0	11.4	0.0
12/03/2024 1:15	5.5	24.7	0.0	6.9	11.7	2.9	12/03/2024 1:15	5.7	14.2	0.0	7.0	11.5	0.0
12/03/2024 1:30	5.5	25.2	0.0	6.9	11.7	2.9	12/03/2024 1:30	5.7	14.2	0.0	7.0	11.4	0.0
12/03/2024 1:45	5.8	42.9	0.0	6.7	11.7	3.0	12/03/2024 1:45	5.7	14.2	0.0	7.0	11.4	0.0
12/03/2024 2:00	6.7	71.1	0.0	7.1	11.5	3.0	12/03/2024 2:00	5.7	14.1	0.0	7.0	11.5	0.0
12/03/2024 2:15	7.0	76.9	0.0	7.3	11.3	3.0	12/03/2024 2:15	5.7	14.1	0.0	7.0	11.5	0.0
12/03/2024 2:30	7.1	80.9	0.0	7.4	11.2	3.0	12/03/2024 2:30	5.7	14.0	0.0	7.0	11.5	0.0
12/03/2024 2:45	7.1	81.1	0.0	7.4	11.2	2.9	12/03/2024 2:45	5.7	14.0	0.0	7.0	11.4	0.0
12/03/2024 3:00	6.6	75.7	0.0	7.5	11.3	2.8	12/03/2024 3:00	5.6	13.9	0.0	7.0	11.5	0.0
12/03/2024 3:15	6.1	72.1	0.0	7.3	11.4	2.8	12/03/2024 3:15	5.6	14.0	0.0	6.9	11.5	0.0
12/03/2024 3:30	5.8	42.5	0.0	7.2	11.5	3.0	12/03/2024 3:30	5.6	13.8	0.0	7.0	11.5	0.0
12/03/2024 3:45	5.6	42.7	0.0	7.1	11.6	2.9	12/03/2024 3:45	5.6	13.9	0.0	7.0	11.5	0.0
12/03/2024 4:00	5.5	31.6	0.0	7.0	11.7	2.9	12/03/2024 4:00	5.6	14.1	0.0	7.0	11.5	0.0
12/03/2024 4:15	5.4	30.0	0.0	7.1	11.7	2.9	12/03/2024 4:15	5.6	14.0	0.0	7.0	11.5	0.0
12/03/2024 4:30	5.4	27.4	0.0	6.9	11.7	2.8	12/03/2024 4:30	5.6	14.0	0.0	6.9	11.5	0.0
12/03/2024 4:45	5.4	25.2	0.0	6.9	11.7	2.9	12/03/2024 4:45	5.6	13.9	0.0	7.0	11.5	0.0
12/03/2024 5:00	6.1	62.6	0.0	6.8	11.7	3.1	12/03/2024 5:00	5.6	13.7	0.0	7.0	11.5	0.0
12/03/2024 5:15	6.7	71.2	0.0	7.3	11.5	3.0	12/03/2024 5:15	5.6	13.9	0.0	7.0	11.5	0.0
12/03/2024 5:30	6.9	80.7	0.0	7.4	11.3	2.9	12/03/2024 5:30	5.6	13.8	0.0	7.0	11.5	0.0
12/03/2024 5:45	7.0	80.6	0.0	7.4	11.2	2.9	12/03/2024 5:45	5.6	13.7	0.0	6.9	11.5	0.0
12/03/2024 6:00	6.7	78.9	0.0	7.4	11.3	2.9	12/03/2024 6:00	5.6	13.8	0.0	7.0	11.5	0.0
12/03/2024 6:15	6.1	72.6	0.0	7.4	11.4	2.8	12/03/2024 6:15	5.6	13.9	0.0	7.0	11.5	0.0
12/03/2024 6:30	5.8	43.4	0.0	7.3	11.5	2.9	12/03/2024 6:30	5.6	13.7	0.0	7.0	11.5	0.0
12/03/2024 6:45	5.6	44.9	0.0	7.2	11.6	2.8	12/03/2024 6:45	5.7	13.8	0.0	7.0	11.5	0.0
12/03/2024 7:00	5.5	31.8	0.0	7.0	11.7	2.9	12/03/2024 7:00	5.7	13.8	0.0	7.0	11.4	0.0
12/03/2024 7:15	5.5	31.6	0.0	7.1	11.7	2.9	12/03/2024 7:15	5.7	13.7	0.0	7.0	11.4	0.0
12/03/2024 7:30	5.4	28.0	0.0	7.0	11.7	2.9	12/03/2024 7:30	5.7	13.8	0.0	6.9	11.5	0.0
12/03/2024 7:45	5.5	25.9	0.0	6.9	11.7	3.2	12/03/2024 7:45	5.7	13.7	0.0	7.0	11.4	0.0
12/03/2024 8:00	6.3	58.7	0.0	7.1	11.6	3.0	12/03/2024 8:00	5.7	13.8	0.0	7.0	11.4	0.0
12/03/2024 8:15	6.8	73.4	0.0	7.3	11.4	3.0	12/03/2024 8:15	5.6	13.6	0.0	7.0	11.4	0.0
12/03/2024 8:30	7.0	80.7	0.0	7.4	11.3	3.0	12/03/2024 8:30	5.6	13.8	0.0	7.0	11.4	0.0
12/03/2024 8:45	7.0	81.3	0.0	7.4	11.2	2.9	12/03/2024 8:45	5.6	13.7	0.0	7.0	11.4	0.0
12/03/2024 9:00	6.6	74.7	0.0	7.4	11.3	2.8	12/03/2024 9:00	5.6	13.8	0.0	7.0	11.5	0.0
12/03/2024 9:15	6.1	71.3	0.0	7.4	11.4	2.8	12/03/2024 9:15	5.6	13.8	0.0	7.0	11.5	0.0
12/03/2024 9:30	5.8	42.7	0.0	7.2	11.6	2.8	12/03/2024 9:30	5.7	13.6	0.0	7.0	11.5	0.0
12/03/2024 9:45	5.6	45.1	0.0	7.1	11.6	2.8	12/03/2024 9:45	5.7	13.6	0.0	7.0	11.5	0.0
12/03/2024 10:00	5.5	30.9	0.0	7.0	11.7	2.9	12/03/2024 10:00	5.7	13.8	0.0	7.0	11.5	0.0
12/03/2024 10:15	5.5	32.7	0.0	7.1	11.7	2.8	12/03/2024 10:15	5.8	13.7	0.0	7.0	11.5	0.0
12/03/2024 10:30	5.5	27.4	0.0	6.9	11.7	2.9	12/03/2024 10:30	5.8	13.6	0.0	7.0	11.5	0.0
12/03/2024 10:45	5.6	25.4	0.0	6.9	11.7	3.2	12/03/2024 10:45	5.9	13.6	0.0	7.0	11.5	0.0
12/03/2024 11:00	6.6	66.9	0.0	6.9	11.6	3.6	12/03/2024 11:00	5.9	13.7	0.0	7.0	11.5	0.0
12/03/2024 11:15	7.1	75.4	0.0	7.3	11.3	3.2	12/03/2024 11:15	5.9	13.7	0.0	7.0	11.4	0.0
12/03/2024 11:30	7.3	80.8	0.0	7.4	11.2	3.0	12/03/2024 11:30	5.9	13.6	0.0	7.0	11.4	0.0
12/03/2024 11:45	7.4	81.3	0.0	7.4	11.2	2.9	12/03/2024 11:45	6.0	13.6	0.0	7.0	11.4	0.0
12/03/2024 12:00	7.4	79.1	0.0	7.5	11.2	2.9	12/03/2024 12:00	6.1	13.7	0.0	7.0	11.4	0.0
12/03/2024 12:15	6.9	79.6	0.0	7.4	11.2	2.8	12/03/2024 12:15	6.1	13.5	0.0	7.0	11.4	0.0
12/03/2024 12:30	6.5	47.2	0.0	7.3	11.4	2.9	12/03/2024 12:30	6.2	13.8	0.0	7.0	11.4	0.0
12/03/2024 12:45	6.4	46.3	0.0	7.2	11.4	2.8	12/03/2024 12:45	6.2	13.8	0.0	7.0	11.3	0.0
12/03/2024 13:00	6.2	33.6	0.0	7.1	11.5	2.9	12/03/2024 13:00	6.3	13.6	0.0	7.0	11.3	0.0
12/03/2024 13:15	6.2	31.5	0.0	7.1	11.5	2.9	12/03/2024 13:15	6.3	13.9	0.0	7.0	11.3	0.0
12/03/2024 13:30		0.1	0.0			6.0	12/03/2024 13:30	6.4	13.9	0.0	7.0	11.3	0.0
12/03/2024 13:45	6.3	20.6	0.0	6.8	11.5	3.2	12/03/2024 13:45	6.5	13.9	0.0	7.0	11.3	0.0
12/03/2024 14:00	6.8	55.2	0.0	6.8	11.4	3.4	12/03/2024 14:00	6.5	14.0	0.0	7.0	11.2	0.0
12/03/2024 14:15	7.8	83.3	0.0	7.5	11.1	3.1	12/03/2024 14:15	6.5	14.0	0.0	7.0	11.2	0.0
12/03/2024 14:30	8.0	84.0	0.0	7.5	11.0	2.9	12/03/2024 14:30	6.5	13.9	0.0	7.0	11.2	0.0
12/03/2024 14:45	7.3	50.2	0.0	7.6	11.1	3.0	12/03/2024 14:45	6.6	13.9	0.0	7.0	11.2	0.0
12/03/2024 15:00	6.8	28.3	0.0	7.2	11.3	2.9	12/03/2024 15:00	6.6	13.9	0.0	7.0	11.2	0.0
12/03/2024 15:15	6.7	27.9	0.0	7.1	11.3	2.9	12/03/2024 15:15	6.6	13.9	0.0	7.0	11.2	0.0
12/03/2024 15:30	6.6	22.6	0.0	7.0	11.4	3.0	12/03/2024 15:30	6.6	13.8	0.0	7.0	11.2	0.0
12/03/2024 15:45	6.5	21.7	0.0	6.8	11.4	2.9	12/03/2024 15:45	6.6	13.9	0.0	7.0	11.2	0.0
12/03/2024 16:00	7.7	81.1	0.0	7.3	11.1	3.3	12/03/2024 16:00	6.6	13.9	0.0	7.0	11.2	0.0
12/03/2024 16:15	8.0	84.6	0.0	7.5	11.0	3.6	12/03/2024 16:15	6.6	13.9	0.0	7.0	11.2	0.0
12/03/2024 16:30	8.1	85.1	0.0	7.6	11.0	2.9	12/03/2024 16:30	6.6	13.9	0.0	7.0	11.2	0.0
12/03/2024 16:45	8.1	83.8	0.0	7.6	11.0	2.9	12/03/2024 16:45	6.6	13.9	0.0	7.0	11.2	0.0
12/03/2024 17:00	7.0	35.3	0.0	7.4	11.1	2.9	12/03/2024 17:00		13.9	0.0	7.0	11.2	0.0
12/03/2024 17:15	6.6	25.6	0.0	7.1	11.3	2.9	12/03/2024 17:15	6.6	13.9	0.0	7.0	11.2	0.0
12/03/2024 17:30	6.5	22.9	0.0	7.0	11.4	2.9	12/03/2024 17:30	6.5	13.9	0.0	7.0	11.2	0.0
12/03/2024 17:45	6.4	22.2	0.0	6.9	11.4	2.9	12/03/2024 17:45	6.5	13.9	0.0	7.0	11.2	0.0
12/03/2024 18:00	6.4	21.6	0.0	6.8	11.4	2.9	12/03/2024 18:00	6.5	13.8	0.0	6.9	11.2	0.0
12/03/2024 18:15	6.3	21.5	0.0	6.7	11.5	3.0	12/03/2024 18:15	6.5	13.9	0.0	7.0	11.2	0.0
12/03/2024 18:30	7.8	84.5	0.0	7.5	11.0	3.0	12/03/2024 18:30	6.5	13.9	0.0	7.0	11.2	0.0
12/03/2024 18:45	8.0	85.2	0.0	7.5	11.0	3.4	12/03/2024 18:45	6.4	13.9	0.0	7.0	11.2	0.0
12/03/2024 19:00	7.3	64.3	0.0	7.6	11.1	3.6	12/03/2024 19:00	6.4	13.9	0.0	7.0	11.2	0.0
12/03/2024 19:15	6.7	30.6	0.0	7.4	11.2	2.9	12/03/2024 19:15	6.4	13.9	0.0	7.0	11.2	0.0
12/03/2024 19:30	6.4	25.3	0.0	7.1	11.4	2.9	12/03/2024 19:30	6.4	13.9	0.0	7.0	11.2	0.0
12/03/2024 19:45	6.3	23.9	0.0	7.0	11.4	2.9	12/03/2024 19:45	6.4	13.8	0.0	7.0	11.2	0.0
12/03/2024 20:00	6.3	22.8	0.0	6.9	11.5	2.9	12/03/2024 20:00		13.9	0.0	7.0	11.2	0.0
12/03/2024 20:15	7.8	84.6	0.0	7.5	11.1	4.4	12/03/2024 20:15	6.4	13.9	0.0	7.0	11.2	0.0
12/03/2024 20:30	7.9	85.5	0.0	7.5	11.0	3.0	12/03/2024 20:30	6.4	13.9	0.0	7.0	11.2	0.0
12/03/2024 20:45	7.9	85.7	0.0	7.6	11.0	4.8	12/03/2024 20:45	6.4	13.9	0.0	7.0	11.2	0.0
12/03/2024 21:00	7.9	85.9	0.0	7.6	11.0	3.2	12/03/2024 21:00	6.4	13.9	0.0	7.0	11.2	0.0
12/03/2024 21:15	7.4	76.0	0.0	7.6	11.0	2.8	12/03/2024 21:15	6.4	13.9	0.0	7.0	11.2	0.0
12/03/2024 21:30	6.9	61.4	0.0	7.6	11.0	2.8	12/03/2024 21:30	6.3	13.9	0.0	7.0	11.2	0.0
12/03/2024 21:45	6.5	38.5	0.0	7.5	11.2	2.8	12/03/2024 21:45	6.3	13.9	0.0	7.0	11.2	0.0
12/03/2024 22:00	6.3	29.5	0.0	7.3	11.4	2.9	12/03/2024 22:00	6.3	13.9	0.0	7.0	11.2	0.0
12/03/2024 22:15	6.2	24.3	0.0	7.1	11.4	2.9	12/03/2024 22:15	6.3	14.0	0.0	7.0	11.2	0.0
12/03/2024 22:30	6.2	22.5	0.0	7.0	11.5	2.9	12/03/2024 22:30	6.3	14.0	0.0	7.0	11.2	0.0
12/03/2024 22:45	6.2	22.1	0.0	6.8	11.5	2.9	12/03/2024 22:45	6.3	13.9	0.0	7.0	11.2	0.0
12/03/2024 23:00	6.1	21.5	0.0	6.9	11.5	2.9	12/03/2024 23:00	6.3	14.0	0.0	7.0	11.2	0.0
12/03/2024 23:15	7.5	84.2	0.0	7.4	11.2	3.0	12/03/2024 23:15	6.3	14.0	0.0	7.0	11.3	0.0
12/03/2024 23:30	7.7	85.7	0.0	7.5	11.1	3.0	12/03/2024 23:30	6.3	13.9	0.0	7.0	11.3	0.0
12/03/2024 23:45	7.8	86.0	0.0	7.6	11.1	3.0	12/03/2024 23:45	6.3	13.9	0.0	7.0	11.3	0.0
12/04/2024 0:00	7.8	86.4	0.0	7.6	11.1	3.0	12/04/2024 0:00	6.3	14.0	0.0	7.0	11.3	0.0
12/04/2024 0:15	7.8	86.5	0.0	7.6	11.1	3.0	12/04/2024 0:15	6.3	13.9	0.0	7.0	11.3	0.0
12/04/2024 0:30	7.6	76.6	0.0	7.6	11.1	3.0	12/04/2024 0:30	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 0:45	6.6	36.0	0.0	7.5	11.2	2.9	12/04/2024 0:45	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 1:00	6.3	26.9	0.0	7.2	11.4	4.2	12/04/2024 1:00	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 1:15	6.2	24.8	0.0	7.0	11.4	2.9	12/04/2024 1:15	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 1:30	6.1	22.8	0.0	6.9	11.5	2.9	12/04/2024 1:30	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 1:45	6.1	22.3	0.0	6.8	11.5	2.9	12/04/2024 1:45	6.2	13.9	0.0	6.9	11.3	0.0

12/04/2024 2:00	6.1	21.8	0.0	6.9	11.5	3.0	12/04/2024 2:00	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 2:15	6.1	21.6	0.0	6.8	11.5	2.9	12/04/2024 2:15	6.2	13.9	0.0	6.9	11.3	0.0
12/04/2024 2:30	6.1	21.2	0.0	6.8	11.6	2.9	12/04/2024 2:30	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 2:45	6.9	74.9	0.0	7.0	11.4	3.1	12/04/2024 2:45	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 3:00	7.6	85.5	0.0	7.5	11.1	3.3	12/04/2024 3:00	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 3:15	7.7	86.1	0.0	7.5	11.1	3.4	12/04/2024 3:15	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 3:30	7.7	86.3	0.0	7.6	11.1	3.5	12/04/2024 3:30	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 3:45	7.6	85.9	0.0	7.6	11.1	2.8	12/04/2024 3:45	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 4:00	6.6	42.5	0.0	7.6	11.2	2.9	12/04/2024 4:00	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 4:15	6.3	29.1	0.0	7.3	11.3	2.9	12/04/2024 4:15	6.2	13.9	0.0	7.0	11.3	0.0
12/04/2024 4:30	6.1	26.1	0.0	7.1	11.5	2.9	12/04/2024 4:30	6.2	13.8	0.0	7.0	11.3	0.0
12/04/2024 4:45	6.1	23.3	0.0	6.9	11.5	2.9	12/04/2024 4:45	6.2	13.8	0.0	7.0	11.3	0.0
12/04/2024 5:00	6.0	22.5	0.0	6.9	11.5	2.9	12/04/2024 5:00		13.9	0.0	7.0	11.3	0.0
12/04/2024 5:15	6.0	21.9	0.0	6.8	11.5	2.9	12/04/2024 5:15	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 5:30	6.0	21.4	0.0	6.8	11.6	2.9	12/04/2024 5:30	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 5:45	6.0	21.4	0.0	6.7	11.6	2.9	12/04/2024 5:45	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 6:00	7.4	85.3	0.0	7.4	11.2	3.0	12/04/2024 6:00	6.1	13.9	0.0	7.0	11.3	0.0
12/04/2024 6:15	7.6	86.1	0.0	7.5	11.1	3.0	12/04/2024 6:15	6.1	13.9	0.0	7.0	11.3	0.0
12/04/2024 6:30	7.6	86.5	0.0	7.6	11.1	3.0	12/04/2024 6:30	6.1	13.9	0.0	7.0	11.3	0.0
12/04/2024 6:45	7.7	86.7	0.0	7.6	11.1	3.1	12/04/2024 6:45	6.1	13.9	0.0	7.0	11.3	0.0
12/04/2024 7:00	7.2	71.9	0.0	7.6	11.1	2.8	12/04/2024 7:00		13.8	0.0	7.0	11.3	0.0
12/04/2024 7:15	6.4	32.3	0.0	7.5	11.3	2.9	12/04/2024 7:15	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 7:30	6.1	25.7	0.0	7.1	11.5	2.9	12/04/2024 7:30	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 7:45	6.0	24.0	0.0	7.0	11.5	2.9	12/04/2024 7:45	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 8:00	6.0	23.2	0.0	6.9	11.5	2.9	12/04/2024 8:00	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 8:15	5.9	22.1	0.0	6.8	11.5	2.9	12/04/2024 8:15	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 8:30	5.9	21.5	0.0	6.8	11.6	2.9	12/04/2024 8:30	6.1	13.8	0.0	6.9	11.3	0.0
12/04/2024 8:45	5.9	21.3	0.0	6.8	11.6	2.9	12/04/2024 8:45	6.1	13.8	0.0	6.9	11.3	0.0
12/04/2024 9:00	7.0	81.5	0.0	7.2	11.3	3.0	12/04/2024 9:00	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 9:15	7.5	85.9	0.0	7.5	11.1	3.0	12/04/2024 9:15	6.1	13.8	0.0	6.9	11.3	0.0
12/04/2024 9:30	7.0	64.0	0.0	7.6	11.2	2.8	12/04/2024 9:30	6.1	13.8	0.0	7.0	11.3	0.0
12/04/2024 9:45	6.3	31.0	0.0	7.4	11.3	2.9	12/04/2024 9:45	6.1	13.7	0.0	7.0	11.3	0.0
12/04/2024 10:00	6.1	25.5	0.0	7.1	11.5	2.9	12/04/2024 10:00	6.1	13.7	0.0	7.0	11.3	0.0
12/04/2024 10:15	6.0	23.1	0.0	6.9	11.5	2.9	12/04/2024 10:15	6.2	13.7	0.0	7.0	11.3	0.0
12/04/2024 10:30	7.4	85.1	0.0	7.4	11.2	3.2	12/04/2024 10:30	6.2	13.7	0.0	7.0	11.3	0.0
12/04/2024 10:45	7.6	86.4	0.0	7.6	11.1	4.7	12/04/2024 10:45	6.3	13.7	0.0	7.0	11.3	0.0
12/04/2024 11:00	7.7	86.9	0.0	7.6	11.1	3.0	12/04/2024 11:00	6.3	13.7	0.0	7.0	11.3	0.0
12/04/2024 11:15	7.8	86.4	0.0	7.6	11.1	2.9	12/04/2024 11:15	6.4	13.7	0.0	7.0	11.3	0.0
12/04/2024 11:30	7.0	51.2	0.0	7.6	11.1	2.9	12/04/2024 11:30	6.4	13.7	0.0	7.0	11.3	0.0
12/04/2024 11:45	6.6	30.3	0.0	7.4	11.3	2.9	12/04/2024 11:45	6.5	13.7	0.0	7.0	11.2	0.0
12/04/2024 12:00	6.5	24.2	0.0	7.1		2.9	12/04/2024 12:00	6.5	13.7	0.0	7.0	11.3	0.0
12/04/2024 12:15	6.5	23.1	0.0	7.0	11.4	2.9	12/04/2024 12:15	6.6	13.7	0.0	7.0	11.2	0.0
12/04/2024 12:30	6.6	22.0	0.0	6.9	11.4	2.9	12/04/2024 12:30	6.7	13.7	0.0	7.0	11.2	0.0
12/04/2024 12:45	6.6	21.6	0.0	6.8	11.4	2.9	12/04/2024 12:45	6.7	13.7	0.0	7.0	11.2	0.0
12/04/2024 13:00	8.0	85.7	0.0	7.5	11.0	3.1	12/04/2024 13:00	6.8	13.7	0.0	7.0	11.1	0.0
12/04/2024 13:15	8.2	86.6	0.0	7.6	10.9	3.0	12/04/2024 13:15	6.9	13.7	0.0	7.0	11.1	0.0
12/04/2024 13:30	8.3	87.1	0.0	7.6	10.9	3.4	12/04/2024 13:30	7.0	13.7	0.0	7.0	11.1	0.0
12/04/2024 13:45	8.4	86.9	0.0	7.6	10.9	2.9	12/04/2024 13:45	7.0	13.8	0.0	7.0	11.1	0.0
12/04/2024 14:00	7.6	52.8	0.0	7.6	10.9	2.9	12/04/2024 14:00	7.0	13.8	0.0	7.0	11.1	0.0
12/04/2024 14:15	7.2	29.7	0.0	7.3	11.1	2.9	12/04/2024 14:15	7.1	13.8	0.0	7.0	11.1	0.0
12/04/2024 14:30	7.1	25.2	0.0	7.2	11.2	2.9	12/04/2024 14:30	7.1	13.8	0.0	7.0	11.1	0.0
12/04/2024 14:45	7.1	23.2	0.0	7.0	11.2	2.9	12/04/2024 14:45	7.1	13.8	0.0	7.0	11.1	0.0
12/04/2024 15:00	8.3	84.8	0.0	7.4	10.9	3.5	12/04/2024 15:00	7.2	13.8	0.0	7.0	11.0	0.0
12/04/2024 15:15	8.2	67.3	0.0	7.6	10.9	2.9	12/04/2024 15:15	7.2	13.8	0.0	7.0	11.0	0.0
12/04/2024 15:30	7.5	34.9	0.0	7.4	11.0	2.9	12/04/2024 15:30	7.2	13.7	0.0	7.0	11.0	0.0
12/04/2024 15:45	7.3	26.7	0.0	7.2	11.1	2.9	12/04/2024 15:45	7.2	13.8	0.0	7.0	11.0	0.0
12/04/2024 16:00	7.1	22.6	0.0	7.0	11.2	2.9	12/04/2024 16:00	7.1	13.8	0.0	7.0	11.0	0.0
12/04/2024 16:15	7.1	22.6	0.0	6.9	11.2	3.0	12/04/2024 16:15	7.1	13.8	0.0	7.0	11.0	0.0
12/04/2024 16:30	7.0	21.6	0.0	6.9	11.2	2.9	12/04/2024 16:30	7.0	13.8	0.0	7.0	11.0	0.0
12/04/2024 16:45	8.3	87.3	0.0	7.4	10.9	4.5	12/04/2024 16:45	7.0	13.8	0.0	6.9	11.0	0.0
12/04/2024 17:00	8.5	88.6	0.0	7.6	10.8	3.1	12/04/2024 17:00	7.0	13.9	0.0	7.0	11.0	0.0
12/04/2024 17:15	8.6	89.0	0.0	7.6	10.8	3.3	12/04/2024 17:15	6.9	13.8	0.0	7.0	11.0	0.6
12/04/2024 17:30	8.3	79.5	0.0	7.6	10.8	2.9	12/04/2024 17:30	6.9	13.9	0.0	6.9	11.0	0.0
12/04/2024 17:45	7.4	38.0	0.0	7.5	10.9	2.9	12/04/2024 17:45	6.9	13.8	0.0	7.0	11.0	0.0
12/04/2024 18:00	7.0	27.2	0.0	7.1	11.1	2.9	12/04/2024 18:00	6.8	13.9	0.0	7.0	11.0	0.0
12/04/2024 18:15	6.9	24.8	0.0	7.0	11.2	2.9	12/04/2024 18:15	6.8	13.9	0.0	6.9	11.0	0.0
12/04/2024 18:30	6.8	23.1	0.0	6.9	11.3	2.9	12/04/2024 18:30	6.8	13.8	0.0	7.0	11.1	0.0
12/04/2024 18:45	6.7	22.7	0.0	6.8	11.3	3.0	12/04/2024 18:45	6.8	13.8	0.0	7.0	11.0	0.0
12/04/2024 19:00	6.7	21.9	0.0	6.8	11.3	3.1	12/04/2024 19:00	6.8	13.8	0.0	7.0	11.1	0.0
12/04/2024 19:15	7.6	76.2	0.0	7.1	11.2	4.1	12/04/2024 19:15	6.8	13.8	0.0	7.0	11.1	0.0
12/04/2024 19:30	8.1	84.9	0.0	7.5	10.9	2.9	12/04/2024 19:30	6.8	13.8	0.0	7.0	11.1	0.0
12/04/2024 19:45	7.2	39.6	0.0	7.6	11.0	2.9	12/04/2024 19:45	6.8	13.8	0.0	7.0	11.1	0.0
12/04/2024 20:00	8.1	86.8	0.0	7.5	10.9	2.9	12/04/2024 20:00	6.7	13.8	0.0	7.0	11.1	0.0
12/04/2024 20:15	8.3	88.5	0.0	7.6	10.9	2.9	12/04/2024 20:15	6.7	13.8	0.0	7.0	11.1	0.0
12/04/2024 20:30	8.3	88.9	0.0	7.6	10.9	3.3	12/04/2024 20:30	6.7	13.8	0.0	6.9	11.1	0.0
12/04/2024 20:45	8.3	89.3	0.0	7.6	10.9	3.0	12/04/2024 20:45	6.7	13.7	0.0	7.0	11.1	0.0
12/04/2024 21:00	8.3	89.6	0.0	7.6	10.9	3.0	12/04/2024 21:00	6.7	13.7	0.0	7.0	11.1	0.0
12/04/2024 21:15	7.7	64.8	0.0	7.6	10.9	2.9	12/04/2024 21:15	6.7	13.7	0.0	7.0	11.1	0.0
12/04/2024 21:30	7.0	39.3	0.0	7.4	11.0	2.9	12/04/2024 21:30	6.6	13.7	0.0	7.0	11.1	0.0
12/04/2024 21:45	6.8	28.3	0.0	7.2	11.2	2.9	12/04/2024 21:45	6.6	13.7	0.0	7.0	11.1	0.0
12/04/2024 22:00	6.6	25.1	0.0	7.0	11.3	2.9	12/04/2024 22:00	6.6	13.7	0.0	7.0	11.1	0.0
12/04/2024 22:15	6.6	23.5	0.0	6.9	11.3	2.9	12/04/2024 22:15	6.6	13.7	0.0	7.0	11.1	0.0
12/04/2024 22:30	6.5	22.7	0.0	6.9	11.3	2.9	12/04/2024 22:30	6.6	13.7	0.0	7.0	11.1	0.0
12/04/2024 22:45	6.5	22.0	0.0	6.8	11.4	2.9	12/04/2024 22:45	6.6	13.7	0.0	7.0	11.1	0.0
12/04/2024 23:00	6.4	21.7	0.0	6.8	11.4	2.9	12/04/2024 23:00	6.5	13.7	0.0	7.0	11.1	0.0
12/04/2024 23:15	7.6	84.5	0.0	7.3	11.1	3.0	12/04/2024 23:15	6.5	13.7	0.0	7.0	11.1	0.0
12/04/2024 23:30	8.0	88.5	0.0	7.5	11.0	2.9	12/04/2024 23:30	6.5	13.7	0.0	7.0	11.1	0.0
12/04/2024 23:45	8.1	88.8	0.0	7.6	11.0	3.0	12/04/2024 23:45	6.5	13.7	0.0	7.0	11.1	0.0
12/05/2024 0:00	8.1	89.3	0.0	7.6	10.9	4.0	12/05/2024 0:00	6.5	13.7	0.0	7.0	11.1	0.0
12/05/2024 0:15	7.8	80.1	0.0	7.6	11.0	2.8	12/05/2024 0:15	6.5	13.7	0.0	7.0	11.1	0.0
12/05/2024 0:30	6.9	44.1	0.0	7.5	11.1	2.9	12/05/2024 0:30	6.5	13.7	0.0	7.0	11.2	0.0
12/05/2024 0:45	6.6	28.2	0.0	7.3	11.2	2.9	12/05/2024 0:45	6.5	13.7	0.0	7.0	11.2	0.0
12/05/2024 1:00	6.5	25.0	0.0	7.0	11.3	2.9	12/05/2024 1:00	6.5	13.7	0.0	7.0	11.2	0.0
12/05/2024 1:15	6.4	23.2	0.0	7.0	11.4	2.9	12/05/2024 1:15	6.5	13.7	0.0	7.0	11.2	0.0
12/05/2024 1:30	6.4	22.5	0.0	6.9	11.4	2.9	12/05/2024 1:30	6.5	13.7	0.0	7.0	11.2	0.0
12/05/2024 1:45	6.3	22.4	0.0	6.8	11.4	2.9	12/05/2024 1:45	6.5	13.7	0.0	7.0	11.2	0.0
12/05/2024 2:00	6.3	21.6	0.0	6.8	11.4	2.9	12/05/2024 2:00	6.4	13.7	0.0	7.0	11.2	0.0
12/05/2024 2:15	7.2	73.9	0.0	7.2	11.3	3.3	12/05/2024 2:15	6.4	13.7	0.0	7.0	11.2	0.0
12/05/2024 2:30	7.8	88.4	0.0	7.5	11.0	3.0	12/05/2024 2:30	6.4	13.7	0.0	7.0	11.2	0.0
12/05/2024 2:45	7.9	89.0	0.0	7.6	11.0	3.0	12/05/2024 2:45	6.4	13.7	0.0	7.0	11.2	0.0
12/05/2024 3:00	7.9	89.5	0.0	7.6	11.0	3.0	12/05/2024 3:00	6.4	13.7	0.0	7.0	11.2	0.0
12/05/2024 3:15	7.9	88.6	0.0	7.6	11.0	2.9	12/05/2024 3:15	6.4	13.7	0.0	7.0	11.2	0.0
12/05/2024 3:30	7.0	51.4	0.0	7.6	11.1	2.8	12/05/2024 3:30	6.3	13.8	0.0	7.0	11.2	0.0

12/05/2024 3:45	6.5	30.5	0.0	7.4	11.3	2.9	12/05/2024 3:45	6.3	13.7	0.0	7.0	11.2	0.0
12/05/2024 4:00	6.4	25.8	0.0	7.1	11.4	2.9	12/05/2024 4:00	6.3	13.7	0.0	6.9	11.2	0.0
12/05/2024 4:15	6.3	24.2	0.0	7.0	11.4	2.9	12/05/2024 4:15	6.3	13.7	0.0	7.0	11.2	0.0
12/05/2024 4:30	6.2	22.7	0.0	6.9	11.5	2.8	12/05/2024 4:30	6.3	13.7	0.0	7.0	11.2	0.0
12/05/2024 4:45	6.2	22.4	0.0	6.9	11.5	2.9	12/05/2024 4:45	6.3	13.7	0.0	7.0	11.2	0.0
12/05/2024 5:00	6.2	21.8	0.0	6.8	11.5	2.9	12/05/2024 5:00	6.3	13.7	0.0	7.0	11.2	0.0
12/05/2024 5:15	7.6	88.5	0.0	7.5	11.1	3.0	12/05/2024 5:15	6.3	13.7	0.0	7.0	11.2	0.0
12/05/2024 5:30	7.8	89.6	0.0	7.6	11.1	3.0	12/05/2024 5:30	6.3	13.7	0.0	7.0	11.2	0.0
12/05/2024 5:45	7.8	89.8	0.0	7.6	11.0	3.2	12/05/2024 5:45	6.2	13.7	0.0	7.0	11.2	0.0
12/05/2024 6:00	7.8	89.2	0.0	7.6	11.0	2.9	12/05/2024 6:00	6.2	13.7	0.0	6.9	11.2	0.0
12/05/2024 6:15	6.9	44.8	0.0	7.6	11.1	2.8	12/05/2024 6:15	6.2	13.7	0.0	6.9	11.2	0.0
12/05/2024 6:30	6.4	33.4	0.0	7.4	11.3	2.9	12/05/2024 6:30	6.2	13.7	0.0	7.0	11.2	0.0
12/05/2024 6:45	6.2	26.2	0.0	7.1	11.4	2.8	12/05/2024 6:45	6.2	13.7	0.0	7.0	11.2	0.0
12/05/2024 7:00	6.1	25.2	0.0	7.0	11.5	2.9	12/05/2024 7:00	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 7:15	6.1	23.3	0.0	6.9	11.5	2.9	12/05/2024 7:15	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 7:30	6.0	22.5	0.0	6.9	11.5	2.9	12/05/2024 7:30	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 7:45	6.0	22.3	0.0	6.8	11.5	2.9	12/05/2024 7:45	6.1	13.7	0.0	7.0	11.3	0.0
12/05/2024 8:00	6.0	21.7	0.0	6.8	11.5	2.9	12/05/2024 8:00	6.1	13.7	0.0	7.0	11.3	0.0
12/05/2024 8:15	7.3	87.5	0.0	7.4	11.2	3.0	12/05/2024 8:15	6.1	13.7	0.0	7.0	11.3	0.0
12/05/2024 8:30	7.6	89.8	0.0	7.5	11.1	3.0	12/05/2024 8:30	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 8:45	7.4	80.7	0.0	7.6	11.2	2.8	12/05/2024 8:45	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 9:00	6.6	41.4	0.0	7.5	11.2	2.8	12/05/2024 9:00	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 9:15	6.2	27.7	0.0	7.2	11.4	2.9	12/05/2024 9:15	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 9:30	6.1	24.4	0.0	7.0	11.5	2.9	12/05/2024 9:30	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 9:45	7.3	86.6	0.0	7.4	11.2	2.9	12/05/2024 9:45	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 10:00	7.6	89.8	0.0	7.5	11.1	3.0	12/05/2024 10:00	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 10:15	7.7	90.2	0.0	7.6	11.1	3.0	12/05/2024 10:15	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 10:30	7.8	90.5	0.0	7.6	11.1	3.0	12/05/2024 10:30	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 10:45	7.4	77.8	0.0	7.6	11.1	3.0	12/05/2024 10:45	6.2	13.6	0.0	7.0	11.3	0.0
12/05/2024 11:00	6.6	38.3	0.0	7.5	11.2	2.8	12/05/2024 11:00	6.2	13.7	0.0	7.0	11.3	0.0
12/05/2024 11:15	6.3	27.5	0.0	7.2	11.4	2.9	12/05/2024 11:15	6.3	13.7	0.0	7.0	11.3	0.0
12/05/2024 11:30	6.2	25.5	0.0	7.1	11.5	2.9	12/05/2024 11:30	6.3	13.7	0.0	7.0	11.3	0.0
12/05/2024 11:45	6.2	23.1	0.0	6.9	11.5	2.9	12/05/2024 11:45	6.3	13.7	0.0	7.0	11.3	0.0
12/05/2024 12:00	6.2	22.4	0.0	6.9	11.5	3.0	12/05/2024 12:00	6.4	13.6	0.0	7.0	11.3	0.0
12/05/2024 12:15	6.3	22.0	0.0	6.9	11.5	2.9	12/05/2024 12:15	6.4	13.6	0.0	7.0	11.3	0.0
12/05/2024 12:30	6.3	21.8	0.0	6.8	11.5	3.3	12/05/2024 12:30	6.5	13.7	0.0	7.0	11.3	0.0
12/05/2024 12:45	7.6	85.8	0.0	7.3	11.2	3.0	12/05/2024 12:45	6.6	13.6	0.0	7.0	11.2	0.0
12/05/2024 13:00	8.0	89.7	0.0	7.5	11.0	3.1	12/05/2024 13:00	6.7	13.6	0.0	7.0	11.2	0.0
12/05/2024 13:15	8.1	90.0	0.0	7.6	11.0	3.1	12/05/2024 13:15	6.7	13.7	0.0	7.0	11.2	0.0
12/05/2024 13:30	8.2	90.2	0.0	7.6	11.0	2.9	12/05/2024 13:30	6.7	13.7	0.0	7.0	11.2	0.0
12/05/2024 13:45	8.0	87.1	0.0	7.6	11.0	2.8	12/05/2024 13:45	6.8	13.7	0.0	7.0	11.2	0.0
12/05/2024 14:00	7.2	45.2	0.0	7.5	11.0	2.8	12/05/2024 14:00	6.8	13.7	0.0	7.0	11.2	0.0
12/05/2024 14:15	6.9	29.4	0.0	7.3	11.2	2.9	12/05/2024 14:15	6.8	13.7	0.0	7.0	11.2	0.0
12/05/2024 14:30	6.8	25.6	0.0	7.1	11.3	2.8	12/05/2024 14:30	6.8	13.7	0.0	7.0	11.2	0.0
12/05/2024 14:45	6.7	24.0	0.0	7.0	11.3	3.0	12/05/2024 14:45	6.8	13.8	0.0	7.0	11.2	0.0
12/05/2024 15:00	6.7	22.9	0.0	6.9	11.3	2.9	12/05/2024 15:00	6.8	13.7	0.0	7.0	11.2	0.0
12/05/2024 15:15	6.7	22.2	0.0	6.8	11.4	2.9	12/05/2024 15:15	6.8	13.8	0.0	7.0	11.1	0.0
12/05/2024 15:30	6.7	21.8	0.0	6.8	11.4	2.9	12/05/2024 15:30	6.8	13.8	0.0	7.0	11.1	0.0
12/05/2024 15:45	6.7	21.7	0.0	6.8	11.4	2.9	12/05/2024 15:45	6.8	13.8	0.0	7.0	11.2	0.0
12/05/2024 16:00	7.9	87.7	0.0	7.3	11.0	4.9	12/05/2024 16:00	6.9	13.8	0.0	7.0	11.1	0.0
12/05/2024 16:15	8.2	89.5	0.0	7.5	10.9	3.5	12/05/2024 16:15	6.9	13.8	0.0	7.0	11.1	0.0
12/05/2024 16:30	8.3	90.5	0.0	7.6	10.9	3.4	12/05/2024 16:30	6.9	13.8	0.0	7.0	11.1	0.0
12/05/2024 16:45	8.4	90.6	0.0	7.6	10.9	3.2	12/05/2024 16:45	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 17:00	7.8	73.8	0.0	7.6	10.9	2.9	12/05/2024 17:00	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 17:15	7.2	32.6	0.0	7.5	11.1	2.9	12/05/2024 17:15	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 17:30	6.9	29.4	0.0	7.2	11.2	2.9	12/05/2024 17:30	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 17:45	6.8	25.0	0.0	7.0	11.3	2.9	12/05/2024 17:45	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 18:00	6.8	24.0	0.0	7.0	11.3	3.0	12/05/2024 18:00	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 18:15	6.8	23.2	0.0	6.9	11.3	2.9	12/05/2024 18:15	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 18:30	7.9	86.3	0.0	7.3	11.1	3.1	12/05/2024 18:30	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 18:45	8.3	90.3	0.0	7.6	10.9	3.2	12/05/2024 18:45	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 19:00	8.3	89.0	0.0	7.6	10.9	3.0	12/05/2024 19:00	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 19:15	7.6	56.7	0.0	7.5	10.9	2.9	12/05/2024 19:15	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 19:30	7.1	34.6	0.0	7.4	11.1	2.9	12/05/2024 19:30	6.9	13.9	0.0	7.0	11.0	0.0
12/05/2024 19:45	6.9	26.3	0.0	7.2	11.2	2.9	12/05/2024 19:45	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 20:00	7.7	80.8	0.0	7.2	11.1	3.1	12/05/2024 20:00	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 20:15	8.3	90.3	0.0	7.6	10.9	3.0	12/05/2024 20:15	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 20:30	8.4	91.0	0.0	7.6	10.9	3.0	12/05/2024 20:30	6.9	13.9	0.0	7.0	11.1	0.0
12/05/2024 20:45	8.4	91.4	0.0	7.6	10.9	3.1	12/05/2024 20:45	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 21:00	8.4	91.7	0.0	7.6	10.9	3.5	12/05/2024 21:00	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 21:15	8.1	78.5	0.0	7.6	10.9	2.8	12/05/2024 21:15	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 21:30	7.4	44.5	0.0	7.5	11.0	2.9	12/05/2024 21:30	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 21:45	7.1	32.6	0.0	7.3	11.2	3.0	12/05/2024 21:45	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 22:00	7.0	26.6	0.0	7.1	11.3	2.9	12/05/2024 22:00	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 22:15	6.9	24.8	0.0	6.9	11.3	2.9	12/05/2024 22:15	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 22:30	6.9	24.1	0.0	6.9	11.3	2.9	12/05/2024 22:30	7.0	13.9	0.0	7.0	11.0	0.0
12/05/2024 22:45	6.9	23.0	0.0	6.9	11.3	2.9	12/05/2024 22:45	7.0	13.9	0.0	7.0	11.0	0.0
12/05/2024 23:00	6.8	22.7	0.0	6.8	11.3	2.9	12/05/2024 23:00	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 23:15	7.7	79.8	0.0	7.2	11.2	3.2	12/05/2024 23:15	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 23:30	8.3	90.4	0.0	7.5	10.9	3.0	12/05/2024 23:30	7.0	13.9	0.0	7.0	11.1	0.0
12/05/2024 23:45	8.4	91.0	0.0	7.6	10.9	3.0	12/05/2024 23:45	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 0:00	8.4	91.5	0.0	7.6	10.9	3.1	12/06/2024 0:00	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 0:15	8.3	89.4	0.0	7.6	10.9	2.9	12/06/2024 0:15	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 0:30	7.5	55.9	0.0	7.5	11.0	2.8	12/06/2024 0:30	7.0	13.9	0.0	7.0	11.1	0.0
12/06/2024 0:45	7.2	30.4	0.0	7.3	11.1	2.9	12/06/2024 0:45	7.0	13.9	0.0	7.0	11.1	0.0
12/06/2024 1:00	7.0	26.7	0.0	7.1	11.2	2.9	12/06/2024 1:00	7.0	13.9	0.0	7.0	11.1	0.0
12/06/2024 1:15	6.9	25.0	0.0	7.0	11.2	2.9	12/06/2024 1:15	7.0	13.9	0.0	7.0	11.1	0.0
12/06/2024 1:30	6.9	23.3	0.0	6.9	11.3	2.9	12/06/2024 1:30	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 1:45	6.9	22.8	0.0	6.9	11.3	2.9	12/06/2024 1:45	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 2:00	6.9	22.4	0.0	6.9	11.3	2.9	12/06/2024 2:00	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 2:15	6.9	22.2	0.0	6.8	11.3	2.9	12/06/2024 2:15	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 2:30	8.1	89.3	0.0	7.5	11.0	3.1	12/06/2024 2:30	7.0	13.9	0.0	7.0	11.1	0.0
12/06/2024 2:45	8.4	90.7	0.0	7.6	10.9	3.4	12/06/2024 2:45	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 3:00	8.4	91.3	0.0	7.6	10.9	2.9	12/06/2024 3:00	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 3:15	8.5	91.6	0.0	7.6	10.9	2.9	12/06/2024 3:15	7.0	13.9	0.0	7.0	11.1	0.0
12/06/2024 3:30	8.0	62.1	0.0	7.6	10.9	2.9	12/06/2024 3:30	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 3:45	7.3	34.8	0.0	7.4	11.0	2.9	12/06/2024 3:45	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 4:00	7.1	26.7	0.0	7.1	11.2	2.9	12/06/2024 4:00	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 4:15	7.0	24.9	0.0	7.0	11.2	2.9	12/06/2024 4:15	7.0	13.9	0.0	7.0	11.1	0.0
12/06/2024 4:30	7.0	22.9	0.0	6.9	11.3	2.9	12/06/2024 4:30	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 4:45	6.9	22.7	0.0	6.8	11.3	2.9	12/06/2024 4:45	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 5:00	6.9	22.2	0.0	6.8	11.3	2.9	12/06/2024 5:00	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 5:15	6.9	22.0	0.0	6.7	11.3	2.9	12/06/2024 5:15	7.0	13.9	0.0	7.0	11.0	0.0

12/06/2024 5:30	8.2	90.2	0.0	7.5	10.9	3.0	12/06/2024 5:30	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 5:45	8.4	91.3	0.0	7.6	10.9	3.1	12/06/2024 5:45	7.0	13.8	0.0	7.0	11.0	0.0
12/06/2024 6:00	8.5	91.6	0.0	7.6	10.9	3.1	12/06/2024 6:00	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 6:15	8.5	92.0	0.0	7.6	10.9	2.9	12/06/2024 6:15	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 6:30	7.7	43.0	0.0	7.5	11.0	2.9	12/06/2024 6:30	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 6:45	7.2	29.9	0.0	7.2	11.1	2.9	12/06/2024 6:45	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 7:00	7.1	24.4	0.0	7.0	11.2	2.9	12/06/2024 7:00	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 7:15	7.0	23.5	0.0	6.9	11.2	2.9	12/06/2024 7:15	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 7:30	7.0	22.6	0.0	6.8	11.3	2.9	12/06/2024 7:30	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 7:45	6.9	22.3	0.0	6.8	11.3	3.0	12/06/2024 7:45	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 8:00	6.9	21.9	0.0	6.8	11.3	2.9	12/06/2024 8:00		13.9	0.0	7.0	11.0	0.0
12/06/2024 8:15	6.9	21.8	0.0	6.8	11.3	3.0	12/06/2024 8:15	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 8:30	8.0	87.4	0.0	7.3	11.0	3.1	12/06/2024 8:30	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 8:45	8.4	90.5	0.0	7.6	10.9	3.0	12/06/2024 8:45	7.0	13.9	0.0	7.0	11.0	0.0
12/06/2024 9:00	8.5	91.7	0.0	7.6	10.9	3.0	12/06/2024 9:00	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 9:15	8.5	92.0	0.0	7.6	10.9	3.0	12/06/2024 9:15	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 9:30	8.3	83.8	0.0	7.6	10.9	2.8	12/06/2024 9:30	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 9:45	7.4	33.9	0.0	7.3	11.0	2.9	12/06/2024 9:45	7.1	13.8	0.0	7.0	11.0	0.0
12/06/2024 10:00	7.2	25.2	0.0	7.1	11.2	2.9	12/06/2024 10:00	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 10:15	7.1	23.9	0.0	6.9	11.2	2.9	12/06/2024 10:15	7.1	13.9	0.0	7.0	11.0	0.1
12/06/2024 10:30	7.0	22.7	0.0	6.9	11.2	2.9	12/06/2024 10:30	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 10:45	7.0	22.4	0.0	6.8	11.2	2.9	12/06/2024 10:45	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 11:00	7.0	21.8	0.0	6.8	11.2	2.9	12/06/2024 11:00	7.1	13.9	0.0	7.0	11.0	0.0
12/06/2024 11:15	7.0	21.7	0.0	6.8	11.2	2.9	12/06/2024 11:15	7.1	13.8	0.0	7.0	11.0	0.0
12/06/2024 11:30	8.1	87.6	0.0	7.3	11.0	3.0	12/06/2024 11:30	7.2	13.8	0.0	7.0	11.0	0.0
12/06/2024 11:45	8.5	91.3	0.0	7.6	10.8	2.9	12/06/2024 11:45	7.2	13.8	0.0	7.0	11.0	0.4
12/06/2024 12:00	8.6	92.1	0.0	7.6	10.8	3.0	12/06/2024 12:00	7.2	13.8	0.0	7.0	11.0	0.0
12/06/2024 12:15	8.6	92.0	0.0	7.6	10.8	3.1	12/06/2024 12:15	7.2	13.9	0.0	7.0	11.0	0.0
12/06/2024 12:30	8.0	51.5	0.0	7.6	10.9	2.8	12/06/2024 12:30	7.3	13.9	0.0	7.0	11.0	0.0
12/06/2024 12:45	7.5	31.1	0.0	7.2	11.0	3.0	12/06/2024 12:45	7.3	13.9	0.0	7.0	11.0	0.0
12/06/2024 13:00	7.3	24.3	0.0	7.0	11.1	3.0	12/06/2024 13:00	7.3	13.8	0.0	7.0	11.0	0.0
12/06/2024 13:15	7.3	23.5	0.0	6.9	11.1	2.9	12/06/2024 13:15	7.3	13.9	0.0	7.0	10.9	0.0
12/06/2024 13:30	7.2	22.4	0.0	6.9	11.1	2.9	12/06/2024 13:30	7.3	13.9	0.0	7.0	10.9	0.0
12/06/2024 13:45	7.2	22.2	0.0	6.8	11.2	2.9	12/06/2024 13:45	7.3	13.9	0.0	7.0	11.0	0.0
12/06/2024 14:00	7.8	71.0	0.0	7.0	11.1	3.4	12/06/2024 14:00	7.3	13.9	0.0	7.0	10.9	0.0
12/06/2024 14:15	8.6	91.4	0.0	7.5	10.8	3.7	12/06/2024 14:15	7.3	14.0	0.0	7.0	11.0	0.0
12/06/2024 14:30	8.7	92.2	0.0	7.6	10.8	3.3	12/06/2024 14:30	7.3	14.0	0.0	7.0	10.9	0.0
12/06/2024 14:45	8.7	92.4	0.0	7.6	10.7	3.1	12/06/2024 14:45	7.3	14.0	0.0	7.0	10.9	0.0
12/06/2024 15:00	8.6	89.6	0.0	7.6	10.7	2.9	12/06/2024 15:00	7.3	14.0	0.0	7.0	10.9	0.0
12/06/2024 15:15	7.7	36.3	0.0	7.4	10.9	3.0	12/06/2024 15:15	7.3	14.0	0.0	7.0	10.9	0.0
12/06/2024 15:30	7.4	26.2	0.0	7.1	11.0	3.0	12/06/2024 15:30	7.3	14.0	0.0	7.0	10.9	0.1
12/06/2024 15:45	7.3	24.4	0.0	6.9	11.1	2.9	12/06/2024 15:45	7.3	13.9	0.0	7.0	10.9	0.0
12/06/2024 16:00	7.3	22.9	0.0	6.9	11.1	3.0	12/06/2024 16:00	7.3	13.9	0.0	7.0	10.9	0.0
12/06/2024 16:15	7.3	22.7	0.0	6.8	11.1	2.9	12/06/2024 16:15	7.3	14.0	0.0	7.0	10.9	0.0
12/06/2024 16:30	7.2	22.2	0.0	6.8	11.1	2.9	12/06/2024 16:30	7.3	14.0	0.0	7.0	10.9	0.0
12/06/2024 16:45	7.2	22.1	0.0	6.8	11.1	3.0	12/06/2024 16:45	7.3	14.0	0.0	7.0	10.9	0.0
12/06/2024 17:00	7.2	21.8	0.0	6.8	11.1	2.9	12/06/2024 17:00	7.3	14.0	0.0	7.0	10.9	0.0
12/06/2024 17:15	8.1	84.2	0.0	7.2	10.9	3.2	12/06/2024 17:15	7.3	14.0	0.0	7.0	10.9	0.0
12/06/2024 17:30	8.6	91.4	0.0	7.6	10.8	3.0	12/06/2024 17:30	7.4	14.1	0.0	7.0	10.9	0.0
12/06/2024 17:45	8.7	92.2	0.0	7.6	10.7	3.0	12/06/2024 17:45	7.4	14.1	0.0	7.0	10.9	0.0
12/06/2024 18:00	8.7	92.7	0.0	7.6	10.7	3.3	12/06/2024 18:00	7.4	14.1	0.0	7.0	10.8	0.0
12/06/2024 18:15	8.7	91.8	0.0	7.6	10.7	2.9	12/06/2024 18:15	7.4	14.2	0.0	7.0	10.8	0.0
12/06/2024 18:30	7.8	36.7	0.0	7.4	10.9	2.9	12/06/2024 18:30	7.4	14.2	0.0	7.0	10.8	0.0
12/06/2024 18:45	7.5	27.2	0.0	7.1	11.0	2.9	12/06/2024 18:45	7.4	14.2	0.0	7.0	10.8	0.0
12/06/2024 19:00	7.4	24.0	0.0	7.0	11.0	2.9	12/06/2024 19:00	7.4	14.2	0.0	7.0	10.8	0.0
12/06/2024 19:15	7.3	23.5	0.0	6.9	11.1	2.9	12/06/2024 19:15	7.4	14.2	0.0	7.0	10.8	0.0
12/06/2024 19:30	7.3	22.7	0.0	6.9	11.1	2.9	12/06/2024 19:30	7.4	14.1	0.0	7.0	10.8	0.0
12/06/2024 19:45	7.3	22.7	0.0	6.8	11.1	2.9	12/06/2024 19:45	7.4	14.2	0.0	7.0	10.8	0.1
12/06/2024 20:00	7.3	22.4	0.0	6.8	11.0	3.0	12/06/2024 20:00	7.4	14.3	0.0	7.0	10.8	0.0
12/06/2024 20:15	7.3	22.4	0.0	6.8	11.1	3.0	12/06/2024 20:15	7.4	15.2	0.0	7.0	10.8	0.0
12/06/2024 20:30	8.5	88.1	0.0	7.5	10.8	3.2	12/06/2024 20:30	7.4	23.6	0.0	7.0	10.8	1.0
12/06/2024 20:45	8.6	88.1	0.0	7.5	10.7	3.3	12/06/2024 20:45	7.4	40.3	0.0	7.2	10.8	11.8
12/06/2024 21:00	8.7	88.8	0.0	7.6	10.7	3.4	12/06/2024 21:00	7.4	49.2	0.0	7.3	10.8	27.0
12/06/2024 21:15	8.7	91.6	0.0	7.6	10.7	5.1	12/06/2024 21:15	7.4	46.8	0.0	7.3	10.8	45.1
12/06/2024 21:30	8.2	69.4	0.0	7.6	10.7	12.6	12/06/2024 21:30	7.4	59.9	0.0	7.4	10.8	65.0
12/06/2024 21:45	7.5	49.3	0.0	7.1	11.0	18.7	12/06/2024 21:45	7.4	72.8	0.0	7.6	10.8	328.5
12/06/2024 22:00	7.4	55.1	0.0	7.0	11.1	52.7	12/06/2024 22:00	7.4	77.7	0.0	7.8	10.8	556.2
12/06/2024 22:15	7.4	69.8	0.0	7.1	11.1	236.8	12/06/2024 22:15	7.4	73.4	0.0	7.9	10.8	757.6
12/06/2024 22:30	7.3	75.7	0.0	7.2	11.1	497.0	12/06/2024 22:30	7.4	65.8	0.0	7.8	10.8	342.4
12/06/2024 22:45	8.1	96.8	0.0	7.4	10.9	315.7	12/06/2024 22:45	7.5	65.2	0.0	7.6	10.8	185.8
12/06/2024 23:00	8.2	92.5	0.0	7.5	10.8	227.9	12/06/2024 23:00	7.4	71.6	0.0	7.7	10.8	168.8
12/06/2024 23:15	8.2	93.2	0.0	7.5	10.8	148.9	12/06/2024 23:15	7.5	74.7	0.0	7.6	10.8	133.7
12/06/2024 23:30	8.2	94.9	0.0	7.5	10.9	111.3	12/06/2024 23:30	7.5	81.4	0.0	7.6	10.8	83.3
12/06/2024 23:45	7.5	78.0	0.0	7.2	11.0	119.6	12/06/2024 23:45	7.5	96.0	0.1	7.7	10.8	95.8
12/07/2024 0:00	7.4	91.5	0.0	7.2	11.1	124.1	12/07/2024 0:00	7.4	100.1	0.1	7.7	10.9	105.0
12/07/2024 0:15	7.4	100.0	0.0	7.2	11.1	170.7	12/07/2024 0:15	7.4	101.8	0.1	7.7	10.9	74.9
12/07/2024 0:30	7.4	102.9	0.0	7.2	11.1	130.3	12/07/2024 0:30	7.4	102.8	0.1	7.7	10.9	73.4
12/07/2024 0:45	7.3	104.2	0.0	7.2	11.1	85.7	12/07/2024 0:45	7.4	103.0	0.1	7.7	10.9	68.1
12/07/2024 1:00	7.3	105.3	0.0	7.2	11.1	79.0	12/07/2024 1:00	7.4	101.9	0.1	7.7	10.9	52.3
12/07/2024 1:15	7.3	103.8	0.0	7.2	11.1	74.7	12/07/2024 1:15	7.4	99.5	0.1	7.7	10.9	36.0
12/07/2024 1:30	7.3	101.7	0.0	7.2	11.1	54.7	12/07/2024 1:30	7.4	97.2	0.1	7.7	10.9	33.4
12/07/2024 1:45	7.7	106.6	0.0	7.3	11.0	48.1	12/07/2024 1:45	7.4	93.5	0.0	7.7	10.9	35.2
12/07/2024 2:00	7.8	103.0	0.0	7.3	11.0	46.5	12/07/2024 2:00	7.4	88.3	0.0	7.7	10.9	28.6
12/07/2024 2:15	7.8	98.5	0.0	7.3	11.0	29.5	12/07/2024 2:15	7.4	84.7	0.0	7.6	10.9	20.9
12/07/2024 2:30	7.8	95.0	0.0	7.3	11.0	31.2	12/07/2024 2:30	7.4	81.7	0.0	7.6	10.9	24.1
12/07/2024 2:45	7.4	82.9	0.0	7.1	11.1	31.0	12/07/2024 2:45	7.4	76.9	0.0	7.6	10.9	21.7
12/07/2024 3:00	7.4	77.7	0.0	7.1	11.1	35.7	12/07/2024 3:00	7.4	72.1	0.0	7.5	10.9	24.5
12/07/2024 3:15	7.4	72.9	0.0	7.0	11.1	29.2	12/07/2024 3:15	7.4	69.0	0.0	7.5	10.9	23.0
12/07/2024 3:30	7.4	69.6	0.0	7.0	11.1	29.3	12/07/2024 3:30	7.4	65.3	0.0	7.5	10.9	21.4
12/07/2024 3:45	7.4	66.1	0.0	7.0	11.1	38.5	12/07/2024 3:45	7.4	62.5	0.0	7.5	10.9	24.1
12/07/2024 4:00	7.4	63.2	0.0	7.0	11.1	32.7	12/07/2024 4:00	7.4	59.7	0.0	7.5	10.9	21.3
12/07/2024 4:15	7.4	60.6	0.0	7.0	11.1	48.1	12/07/2024 4:15	7.5	56.0	0.0	7.4	10.9	21.3
12/07/2024 4:30	7.4	57.3	0.0	6.9	11.1	29.7	12/07/2024 4:30	7.5	51.3	0.0	7.4	10.9	10.8
12/07/2024 4:45	7.5	52.5	0.0	6.9	11.1	27.2	12/07/2024 4:45	7.5	46.6	0.0	7.3	10.9	7.1
12/07/2024 5:00	7.7	58.7	0.0	7.1	11.0	15.8	12/07/2024 5:00	7.5	43.6	0.0	7.3	10.8	6.6
12/07/2024 5:15	7.8	57.3	0.0	7.1	11.0	14.2	12/07/2024 5:15	7.5	41.9	0.0	7.2	10.9	11.3
12/07/2024 5:30	7.7	51.9	0.0	7.1	11.0	14.4	12/07/2024 5:30	7.5	40.0	0.0	7.2	10.8	4.4
12/07/2024 5:45	7.8	53.9	0.0	7.1	11.0	14.7	12/07/2024 5:45	7.5	38.5	0.0	7.3	10.8	4.3
12/07/2024 6:00	7.5	40.3	0.0	6.8	11.1	10.2	12/07/2024 6:00	7.5	37.0	0.0	7.2	10.8	3.2
12/07/2024 6:15	7.5	38.8	0.0	6.8	11.0	8.9	12/07/2024 6:15	7.6	35.7	0.0	7.2	10.8	3.7
12/07/2024 6:30	7.6	37.3	0.0	6.7	11.0	10.5	12/07/2024 6:30	7.6	34.7	0.0	7.2	10.8	1.8
12/07/2024 6:45	7.6	36.2	0.0	6.8	11.0	7.5	12/07/2024 6:45	7.6	34.3	0.0	7.1	10.8	2.2
12/07/2024 7:00	7.6	35.9	0.0	6.7	11.0	9.8	12/07/2024 7:00	7.6	34.7	0.0	7.1	10.8	2.2

12/07/2024 7:15	7.6	35.9	0.0	6.7	11.0	8.8	12/07/2024 7:15	7.6	34.3	0.0	7.1	10.8	2.1
12/07/2024 7:30	7.6	35.5	0.0	6.7	11.0	6.2	12/07/2024 7:30	7.6	33.9	0.0	7.1	10.8	1.6
12/07/2024 7:45	7.6	35.2	0.0	6.7	11.0	6.2	12/07/2024 7:45	7.6	33.8	0.0	7.2	10.8	2.0
12/07/2024 8:00	7.9	49.1	0.0	7.0	10.9	7.3	12/07/2024 8:00	7.6	33.3	0.0	7.2	10.8	1.6
12/07/2024 8:15	7.9	49.0	0.0	7.1	10.9	7.7	12/07/2024 8:15	7.6	32.8	0.0	7.1	10.8	2.2
12/07/2024 8:30	7.9	48.9	0.0	7.1	10.9	7.1	12/07/2024 8:30	7.6	32.4	0.0	7.0	10.8	1.8
12/07/2024 8:45	7.9	48.7	0.0	7.1	10.9	5.0	12/07/2024 8:45	7.6	32.4	0.0	7.1	10.8	1.3
12/07/2024 9:00	7.6	33.8	0.0	6.8	11.0	8.1	12/07/2024 9:00	7.6	32.1	0.0	7.1	10.8	1.0
12/07/2024 9:15	7.6	33.4	0.0	6.7	11.0	5.2	12/07/2024 9:15	7.6	33.0	0.0	7.1	10.8	1.4
12/07/2024 9:30	7.6	34.3	0.0	6.7	11.0	5.6	12/07/2024 9:30	7.7	34.8	0.0	7.0	10.8	4.0
12/07/2024 9:45	7.7	35.4	0.0	6.7	11.0	7.3	12/07/2024 9:45	7.7	34.8	0.0	7.1	10.8	2.4
12/07/2024 10:00	7.7	35.6	0.0	6.7	11.0	9.4	12/07/2024 10:00	7.7	35.7	0.0	7.1	10.8	2.5
12/07/2024 10:15	7.7	36.2	0.0	6.7	11.0	6.0	12/07/2024 10:15	7.7	35.3	0.0	7.1	10.8	1.8
12/07/2024 10:30	7.7	35.8	0.0	6.8	11.0	9.2	12/07/2024 10:30	7.7	35.0	0.0	7.2	10.7	1.6
12/07/2024 10:45	7.7	35.7	0.0	6.8	11.0	7.3	12/07/2024 10:45	7.8	34.4	0.0	7.1	10.7	2.2
12/07/2024 11:00	8.1	49.9	0.0	7.0	10.9	6.0	12/07/2024 11:00	7.8	33.1	0.0	7.2	10.7	1.0
12/07/2024 11:15	8.1	49.0	0.0	7.1	10.9	8.4	12/07/2024 11:15	7.8	34.5	0.0	7.1	10.7	2.3
12/07/2024 11:30	8.1	49.8	0.0	7.1	10.9	8.3	12/07/2024 11:30	7.8	35.5	0.0	7.1	10.7	5.4
12/07/2024 11:45	8.1	49.5	0.0	7.1	10.9	7.7	12/07/2024 11:45	7.9	35.0	0.0	7.2	10.7	3.8
12/07/2024 12:00	7.9	35.6	0.0	6.8	10.9	8.3	12/07/2024 12:00	7.9	35.1	0.0	7.2	10.7	3.5
12/07/2024 12:15	8.0	35.3	0.0	6.8	10.9	8.7	12/07/2024 12:15	8.0	35.1	0.0	7.2	10.7	2.4
12/07/2024 12:30	8.0	35.3	0.0	6.8	10.9	7.0	12/07/2024 12:30	8.0	36.5	0.0	7.2	10.7	4.0
12/07/2024 12:45	8.0	36.2	0.0	6.8	10.9	8.9	12/07/2024 12:45	8.0	39.4	0.0	7.3	10.7	11.6
12/07/2024 13:00	8.1	38.7	0.0	6.8	10.9	14.5	12/07/2024 13:00	8.1	40.3	0.0	7.2	10.7	13.4
12/07/2024 13:15	8.1	39.2	0.0	6.8	10.9	19.3	12/07/2024 13:15	8.1	40.8	0.0	7.2	10.7	10.0
12/07/2024 13:30	8.3	52.1	0.0	7.0	10.8	14.3	12/07/2024 13:30	8.1	40.8	0.0	7.2	10.7	10.4
12/07/2024 13:45	8.3	52.3	0.0	7.1	10.8	10.1	12/07/2024 13:45	8.1	39.6	0.0	7.2	10.7	6.0
12/07/2024 14:00	8.3	50.8	0.0	7.1	10.8	7.6	12/07/2024 14:00	8.1	37.4	0.0	7.2	10.7	4.7
12/07/2024 14:15	8.3	49.4	0.0	7.1	10.8	7.6	12/07/2024 14:15	8.0	35.0	0.0	7.2	10.7	2.3
12/07/2024 14:30	8.3	46.2	0.0	7.1	10.8	9.0	12/07/2024 14:30	8.0	32.7	0.0	7.2	10.7	2.3
12/07/2024 14:45	8.0	33.4	0.0	6.8	10.9	5.0	12/07/2024 14:45	8.0	30.8	0.0	7.1	10.7	1.6
12/07/2024 15:00	8.0	31.9	0.0	6.8	10.9	5.5	12/07/2024 15:00	8.0	29.2	0.0	7.2	10.7	1.0
12/07/2024 15:15	8.0	30.6	0.0	6.7	10.9	8.0	12/07/2024 15:15	8.0	27.8	0.0	7.0	10.7	1.0
12/07/2024 15:30	8.0	29.5	0.0	6.8	10.9	6.2	12/07/2024 15:30	8.0	26.7	0.0	7.1	10.7	1.0
12/07/2024 15:45	8.0	28.7	0.0	6.7	10.9	5.4	12/07/2024 15:45	8.0	25.9	0.0	7.1	10.7	0.7
12/07/2024 16:00	8.0	28.0	0.0	6.7	10.9	5.8	12/07/2024 16:00	8.0	25.2	0.0	7.0	10.7	0.3
12/07/2024 16:15	8.2	41.6	0.0	6.9	10.9	4.3	12/07/2024 16:15	8.0	24.5	0.0	6.9	10.7	0.7
12/07/2024 16:30	8.3	42.1	0.0	7.1	10.8	3.9	12/07/2024 16:30	7.9	24.6	0.0	7.1	10.7	0.3
12/07/2024 16:45	8.2	42.1	0.0	7.0	10.8	3.7	12/07/2024 16:45	7.9	24.2	0.0	7.1	10.7	0.5
12/07/2024 17:00	8.0	26.8	0.0	6.8	10.9	4.7	12/07/2024 17:00	7.9	23.7	0.0	7.1	10.7	0.3
12/07/2024 17:15	7.9	26.3	0.0	6.7	10.9	4.8	12/07/2024 17:15	7.9	23.3	0.0	7.1	10.7	0.7
12/07/2024 17:30	7.9	26.0	0.0	6.7	10.9	5.4	12/07/2024 17:30	7.9	23.1	0.0	7.1	10.7	0.3
12/07/2024 17:45	7.9	25.7	0.0	6.7	10.9	4.0	12/07/2024 17:45	7.9	22.8	0.0	7.0	10.7	0.3
12/07/2024 18:00	7.9	25.6	0.0	6.7	10.9	4.1	12/07/2024 18:00	7.8	22.7	0.0	7.0	10.7	0.3
12/07/2024 18:15	7.8	25.4	0.0	6.7	10.9	3.8	12/07/2024 18:15	7.8	22.5	0.0	7.0	10.7	0.2
12/07/2024 18:30	7.8	25.2	0.0	6.7	11.0	4.2	12/07/2024 18:30	7.8	22.3	0.0	7.1	10.8	0.3
12/07/2024 18:45	8.1	42.5	0.0	7.0	10.9	3.6	12/07/2024 18:45	7.8	22.2	0.0	7.1	10.8	0.5
12/07/2024 19:00	8.1	42.7	0.0	7.1	10.9	4.6	12/07/2024 19:00	7.7	22.1	0.0	7.0	10.8	0.8
12/07/2024 19:15	8.1	42.8	0.0	7.1	10.9	3.6	12/07/2024 19:15	7.7	21.9	0.0	6.9	10.8	0.6
12/07/2024 19:30	7.8	24.9	0.0	6.7	11.0	3.8	12/07/2024 19:30	7.7	21.8	0.0	7.0	10.8	0.6
12/07/2024 19:45	7.8	24.7	0.0	6.7	11.0	4.5	12/07/2024 19:45	7.7	21.7	0.0	7.0	10.8	1.7
12/07/2024 20:00	7.8	24.6	0.0	6.7	11.0	3.9	12/07/2024 20:00	7.7	21.5	0.0	7.0	10.8	0.2
12/07/2024 20:15	7.8	24.4	0.0	6.7	11.0	3.5	12/07/2024 20:15	7.7	21.3	0.0	7.1	10.8	0.5
12/07/2024 20:30	7.7	24.3	0.0	6.7	11.0	4.8	12/07/2024 20:30	7.7	21.4	0.0	7.0	10.8	0.4
12/07/2024 20:45	7.7	24.2	0.0	6.6	11.0	3.6	12/07/2024 20:45	7.7	21.2	0.0	7.0	10.8	0.3
12/07/2024 21:00	8.0	43.1	0.0	7.0	10.9	4.1	12/07/2024 21:00	7.7	21.2	0.0	7.0	10.8	0.2
12/07/2024 21:15	8.1	44.4	0.0	7.1	10.9	3.7	12/07/2024 21:15	7.7	21.2	0.0	7.0	10.8	2.4
12/07/2024 21:30	8.1	44.8	0.0	7.1	10.9	3.4	12/07/2024 21:30	7.7	21.1	0.0	7.0	10.8	0.9
12/07/2024 21:45	8.1	45.0	0.0	7.1	10.9	3.4	12/07/2024 21:45	7.7	21.0	0.0	7.0	10.8	1.8
12/07/2024 22:00	8.1	44.9	0.0	7.1	10.9	3.6	12/07/2024 22:00	7.7	21.0	0.0	7.1	10.8	1.2
12/07/2024 22:15	7.7	24.3	0.0	6.7	11.0	4.1	12/07/2024 22:15	7.7	20.9	0.0	7.1	10.8	0.1
12/07/2024 22:30	7.7	24.1	0.0	6.7	11.0	4.0	12/07/2024 22:30	7.7	21.0	0.0	7.1	10.8	0.3
12/07/2024 22:45	7.7	24.0	0.0	6.6	11.0	3.6	12/07/2024 22:45	7.7	21.2	0.0	7.0	10.8	0.2
12/07/2024 23:00	7.7	24.1	0.0	6.7	11.0	3.9	12/07/2024 23:00	7.7	21.3	0.0	6.8	10.8	0.1
12/07/2024 23:15	7.7	24.2	0.0	6.6	11.0	3.9	12/07/2024 23:15	7.6	22.3	0.0	7.1	10.8	0.4
12/07/2024 23:30	7.7	24.5	0.0	6.7	11.0	4.5	12/07/2024 23:30	7.6	23.8	0.0	7.1	10.8	0.4
12/07/2024 23:45	7.6	25.4	0.0	6.6	11.0	3.8	12/07/2024 23:45	7.6	24.9	0.0	7.0	10.8	0.7
12/08/2024 0:00	7.6	26.2	0.0	6.7	11.0	4.7	12/08/2024 0:00	7.6	26.9	0.0	7.1	10.8	1.2
12/08/2024 0:15	7.6	27.3	0.0	6.7	11.0	4.5	12/08/2024 0:15	7.5	28.7	0.0	7.2	10.8	2.4
12/08/2024 0:30	8.0	49.4	0.0	7.1	10.9	4.5	12/08/2024 0:30	7.5	30.9	0.0	7.2	10.8	3.8
12/08/2024 0:45	8.0	50.1	0.0	7.1	10.9	7.9	12/08/2024 0:45	7.5	32.0	0.0	7.3	10.8	9.7
12/08/2024 1:00	7.9	49.9	0.0	7.2	10.9	11.5	12/08/2024 1:00	7.4	37.4	0.0	7.3	10.9	14.4
12/08/2024 1:15	7.8	51.4	0.0	7.1	11.0	11.9	12/08/2024 1:15	7.3	43.6	0.0	7.4	10.9	55.9
12/08/2024 1:30	7.4	39.0	0.0	6.9	11.1	28.2	12/08/2024 1:30	7.2	50.3	0.0	7.5	10.9	64.7
12/08/2024 1:45	7.3	44.8	0.0	6.9	11.1	67.2	12/08/2024 1:45	7.0	56.1	0.0	7.6	11.0	87.9
12/08/2024 2:00	7.2	50.4	0.0	7.0	11.2	60.3	12/08/2024 2:00	7.0	56.8	0.0	7.6	11.0	65.0
12/08/2024 2:15	7.2	51.5	0.0	6.9	11.2	63.2	12/08/2024 2:15	7.0	53.8	0.0	7.5	11.0	34.4
12/08/2024 2:30	7.2	48.8	0.0	6.9	11.2	36.4	12/08/2024 2:30	7.0	50.8	0.0	7.5	11.0	15.1
12/08/2024 2:45	7.2	46.2	0.0	6.9	11.2	23.3	12/08/2024 2:45	7.0	47.8	0.0	7.5	11.0	11.3
12/08/2024 3:00	7.2	43.7	0.0	6.9	11.2	11.8	12/08/2024 3:00	7.1	45.0	0.0	7.4	11.0	6.6
12/08/2024 3:15	7.5	53.1	0.0	7.1	11.1	9.3	12/08/2024 3:15	7.1	41.8	0.0	7.4	11.0	5.3
12/08/2024 3:30	7.5	50.7	0.0	7.1	11.1	9.9	12/08/2024 3:30	7.1	38.8	0.0	7.3	11.0	3.9
12/08/2024 3:45	7.5	48.6	0.0	7.2	11.1	7.3	12/08/2024 3:45	7.2	35.8	0.0	7.3	11.0	2.9
12/08/2024 4:00	7.5	46.3	0.0	7.1	11.1	9.6	12/08/2024 4:00	7.2	33.3	0.0	7.3	11.0	2.3
12/08/2024 4:15	7.5	44.4	0.0	7.1	11.1	5.0	12/08/2024 4:15	7.2	31.2	0.0	7.2	10.9	1.9
12/08/2024 4:30	7.5	42.8	0.0	7.0	11.1	5.8	12/08/2024 4:30	7.2	29.5	0.0	7.2	10.9	1.5
12/08/2024 4:45	7.5	41.6	0.0	7.0	11.1	5.9	12/08/2024 4:45	7.2	28.2	0.0	7.2	10.9	1.2
12/08/2024 5:00	7.3	29.2	0.0	6.9	11.1	5.4	12/08/2024 5:00		27.3	0.0	7.2	10.9	1.0
12/08/2024 5:15	7.3	28.2	0.0	6.7	11.1	5.1	12/08/2024 5:15	7.2	26.4	0.0	7.1	10.9	0.8
12/08/2024 5:30	7.3	27.6	0.0	6.7	11.2	5.7	12/08/2024 5:30	7.3	25.6	0.0	6.9	10.9	0.9
12/08/2024 5:45	7.3	26.9	0.0	6.7	11.1	4.9	12/08/2024 5:45	7.3	25.0	0.0	7.1	10.9	0.5
12/08/2024 6:00	7.3	26.5	0.0	6.7	11.1	4.5	12/08/2024 6:00	7.3	24.4	0.0	7.1	10.9	0.5
12/08/2024 6:15	7.3	26.1	0.0	6.7	11.1	4.2	12/08/2024 6:15	7.3	24.0	0.0	7.1	10.9	0.4
12/08/2024 6:30	7.3	25.8	0.0	6.6	11.1	4.6	12/08/2024 6:30	7.3	23.7	0.0	7.1	10.9	0.3
12/08/2024 6:45	7.6	39.1	0.0	7.0	11.1	3.8	12/08/2024 6:45	7.3	23.4	0.0	7.1	10.9	0.4
12/08/2024 7:00	7.6	39.4	0.0	7.0	11.1	5.3	12/08/2024 7:00	7.3	23.1	0.0	7.1	10.9	1.2
12/08/2024 7:15	7.6	39.5	0.0	7.0	11.1	3.5	12/08/2024 7:15	7.3	22.9	0.0	7.1	10.9	0.6
12/08/2024 7:30	7.6	39.6	0.0	7.0	11.1	3.6	12/08/2024 7:30	7.3	22.7	0.0	7.1	10.9	0.4
12/08/2024 7:45	7.3	25.0	0.0	6.7	11.1	6.1	12/08/2024 7:45	7.3	22.5	0.0	7.1	10.9	0.1
12/08/2024 8:00	7.3	24.7	0.0	6.7	11.1	3.7	12/08/2024 8:00	7.3	22.3	0.0	7.0	10.9	0.7
12/08/2024 8:15	7.3	24.5	0.0	6.6	11.1	4.0	12/08/2024 8:15	7.3	22.0	0.0	7.0	11.0	0.8
12/08/2024 8:30	7.3	24.4	0.0	6.6	11.2	4.2	12/08/2024 8:30	7.3	21.9	0.0	7.1	10.9	0.4
12/08/2024 8:45	7.3	24.3	0.0	6.6	11.2	4.3	12/08/2024 8:45	7.3	21.9	0.0	7.0	11.0	1.8

12/08/2024 9:00	7.3	24.2	0.0	6.6	11.1	3.8	12/08/2024 9:00	7.3	21.5	0.0	7.1	11.0	0.3
12/08/2024 9:15	7.3	24.0	0.0	6.6	11.2	3.8	12/08/2024 9:15	7.3	21.3	0.0	7.1	10.9	1.2
12/08/2024 9:30	7.3	23.9	0.0	6.7	11.2	4.1	12/08/2024 9:30	7.3	21.2	0.0	7.1	11.0	0.7
12/08/2024 9:45	7.5	34.7	0.0	6.9	11.1	4.3	12/08/2024 9:45	7.3	21.1	0.0	7.1	11.0	1.7
12/08/2024 10:00	7.6	40.8	0.0	7.0	11.1	3.7	12/08/2024 10:00	7.3	20.9	0.0	7.1	11.0	0.3
12/08/2024 10:15	7.3	23.6	0.0	6.6	11.2	6.6	12/08/2024 10:15	7.3	20.8	0.0	7.1	10.9	0.8
12/08/2024 10:30	7.3	23.6	0.0	6.7	11.2	3.6	12/08/2024 10:30	7.3	20.6	0.0	7.1	11.0	0.3
12/08/2024 10:45	7.5	35.1	0.0	6.9	11.1	3.7	12/08/2024 10:45	7.3	20.6	0.0	7.1	11.0	0.2
12/08/2024 11:00	7.6	41.5	0.0	7.0	11.1	3.7	12/08/2024 11:00	7.3	20.5	0.0	7.1	11.0	0.2
12/08/2024 11:15	7.7	41.8	0.0	7.1	11.1	3.6	12/08/2024 11:15	7.3	20.4	0.0	7.1	11.0	0.5
12/08/2024 11:30	7.7	42.2	0.0	7.1	11.1	3.7	12/08/2024 11:30	7.3	20.3	0.0	7.1	11.0	0.1
12/08/2024 11:45	7.5	23.6	0.0	6.7	11.1	4.7	12/08/2024 11:45	7.4	20.3	0.0	7.1	11.0	0.4
12/08/2024 12:00	7.5	23.3	0.0	6.7	11.1	3.9	12/08/2024 12:00	7.4	20.1	0.0	7.1	11.0	0.6
12/08/2024 12:15	7.6	23.1	0.0	6.6	11.1	5.5	12/08/2024 12:15	7.5	20.1	0.0	7.0	11.0	0.1
12/08/2024 12:30	7.6	23.0	0.0	6.7	11.1	3.6	12/08/2024 12:30	7.6	19.9	0.0	7.1	10.9	0.7
12/08/2024 12:45	7.7	22.9	0.0	6.6	11.1	4.0	12/08/2024 12:45	7.6	19.7	0.0	7.1	10.9	0.5
12/08/2024 13:00	8.0	41.8	0.0	6.9	11.0	3.5	12/08/2024 13:00	7.7	19.6	0.0	7.0	10.9	0.1
12/08/2024 13:15	8.1	42.6	0.0	7.1	11.0	3.6	12/08/2024 13:15	7.7	19.7	0.0	7.0	10.9	0.2
12/08/2024 13:30	8.1	43.4	0.0	7.1	11.0	4.1	12/08/2024 13:30	7.7	19.6	0.0	6.9	10.9	0.1
12/08/2024 13:45	7.9	23.9	0.0	6.9	11.0	3.5	12/08/2024 13:45	7.8	19.6	0.0	7.1	10.9	0.2
12/08/2024 14:00	7.8	22.9	0.0	6.7	11.0	4.0	12/08/2024 14:00		19.5	0.0	7.0	10.9	0.1
12/08/2024 14:15	7.8	22.8	0.0	6.7	11.0	6.4	12/08/2024 14:15	7.8	19.4	0.0	7.1	10.9	0.2
12/08/2024 14:30	7.8	22.8	0.0	6.7	11.0	5.8	12/08/2024 14:30	7.8	19.3	0.0	7.0	10.8	0.2
12/08/2024 14:45	8.2	43.7	0.0	7.1	11.0	3.7	12/08/2024 14:45	7.8	19.2	0.0	7.0	10.8	0.3
12/08/2024 15:00	8.2	44.1	0.0	7.1	11.0	3.8	12/08/2024 15:00	7.8	19.1	0.0	7.0	10.8	0.3
12/08/2024 15:15	8.2	44.2	0.0	7.1	10.9	3.5	12/08/2024 15:15	7.8	19.1	0.0	7.0	10.8	0.1
12/08/2024 15:30	7.9	23.1	0.0	6.7	11.0	3.7	12/08/2024 15:30	7.8	19.1	0.0	7.0	10.9	0.2
12/08/2024 15:45	7.8	22.8	0.0	6.7	11.1	4.2	12/08/2024 15:45	7.8	19.1	0.0	7.1	10.9	0.0
12/08/2024 16:00	7.8	22.7	0.0	6.7	11.1	3.5	12/08/2024 16:00	7.7	19.0	0.0	7.0	10.9	0.1
12/08/2024 16:15	7.8	32.7	0.0	6.6	11.1	3.7	12/08/2024 16:15	7.7	19.0	0.0	6.8	10.9	0.1
12/08/2024 16:30	8.1	44.8	0.0	7.1	11.0	4.4	12/08/2024 16:30	7.7	19.0	0.0	6.9	10.9	0.3
12/08/2024 16:45	7.7	22.9	0.0	6.7	11.1	3.4	12/08/2024 16:45	7.7	19.1	0.0	7.0	10.9	0.1
12/08/2024 17:00	7.7	22.8	0.0	6.7	11.1	3.4	12/08/2024 17:00	7.6	19.2	0.0	7.0	10.9	0.0
12/08/2024 17:15	7.7	23.3	0.0	6.6	11.1	3.6	12/08/2024 17:15	7.6	19.2	0.0	7.0	10.9	0.2
12/08/2024 17:30	8.1	46.0	0.0	7.1	11.0	3.4	12/08/2024 17:30	7.6	19.2	0.0	7.0	10.9	0.2
12/08/2024 17:45	8.1	46.5	0.0	7.1	11.0	3.4	12/08/2024 17:45	7.6	19.1	0.0	6.8	10.9	0.2
12/08/2024 18:00	7.7	24.2	0.0	6.9	11.1	4.1	12/08/2024 18:00	7.5	19.1	0.0	7.0	10.9	0.1
12/08/2024 18:15	7.5	23.1	0.0	6.7	11.2	4.0	12/08/2024 18:15	7.5	19.2	0.0	7.0	10.9	0.1
12/08/2024 18:30	7.5	23.0	0.0	6.7	11.2	3.6	12/08/2024 18:30	7.5	19.2	0.0	7.1	10.9	0.0
12/08/2024 18:45	7.5	22.9	0.0	6.7	11.2	3.4	12/08/2024 18:45	7.5	19.2	0.0	7.0	10.9	0.1
12/08/2024 19:00	7.5	22.9	0.0	6.7	11.2	3.7	12/08/2024 19:00	7.5	19.2	0.0	7.1	10.9	0.1
12/08/2024 19:15	7.8	44.0	0.0	6.9	11.1	3.3	12/08/2024 19:15	7.5	19.3	0.0	7.0	10.9	0.0
12/08/2024 19:30	7.5	23.0	0.0	6.7	11.2	4.2	12/08/2024 19:30	7.5	19.2	0.0	6.8	10.9	0.0
12/08/2024 19:45	7.9	46.2	0.0	7.1	11.1	3.6	12/08/2024 19:45	7.4	19.3	0.0	7.0	11.0	0.1
12/08/2024 20:00	7.9	46.9	0.0	7.1	11.0	3.5	12/08/2024 20:00	7.4	19.3	0.0	6.9	11.0	0.0
12/08/2024 20:15	7.9	47.2	0.0	7.1	11.1	3.0	12/08/2024 20:15	7.4	19.3	0.0	7.0	11.0	0.0
12/08/2024 20:30	7.9	47.5	0.0	7.2	11.1	3.3	12/08/2024 20:30	7.4	19.3	0.0	7.0	11.0	0.1
12/08/2024 20:45	7.9	47.8	0.0	7.2	11.1	3.3	12/08/2024 20:45	7.4	19.2	0.0	7.1	11.0	0.0
12/08/2024 21:00	7.4	23.6	0.0	6.8	11.2	3.2	12/08/2024 21:00	7.4	19.2	0.0	7.0	11.0	0.1
12/08/2024 21:15	7.4	23.3	0.0	6.7	11.2	3.3	12/08/2024 21:15	7.3	19.2	0.0	7.0	11.0	0.1
12/08/2024 21:30	7.4	23.1	0.0	6.7	11.2	3.2	12/08/2024 21:30	7.3	19.2	0.0	7.0	11.0	0.0
12/08/2024 21:45	7.4	23.0	0.0	6.7	11.2	3.8	12/08/2024 21:45	7.3	19.2	0.0	7.0	11.0	0.1
12/08/2024 22:00	7.4	22.9	0.0	6.7	11.2	3.5	12/08/2024 22:00	7.3	19.1	0.0	7.0	11.0	0.0
12/08/2024 22:15	7.4	22.9	0.0	6.6	11.2	3.6	12/08/2024 22:15	7.3	19.0	0.0	7.0	11.0	0.1
12/08/2024 22:30	7.3	22.9	0.0	6.7	11.2	3.8	12/08/2024 22:30	7.3	19.0	0.0	7.0	11.0	0.0
12/08/2024 22:45	7.3	22.9	0.0	6.7	11.2	3.4	12/08/2024 22:45	7.3	19.0	0.0	7.0	11.0	0.1
12/08/2024 23:00	7.8	48.8	0.0	7.1	11.1	3.3	12/08/2024 23:00	7.3	19.0	0.0	7.0	11.0	0.0
12/08/2024 23:15	7.8	49.4	0.0	7.1	11.1	4.6	12/08/2024 23:15	7.3	19.0	0.0	7.0	11.0	0.1
12/08/2024 23:30	7.9	50.6	0.0	7.2	11.1	3.2	12/08/2024 23:30	7.3	19.0	0.0	6.9	11.0	0.0
12/08/2024 23:45	7.9	50.9	0.0	7.2	11.1	3.1	12/08/2024 23:45	7.3	19.0	0.0	7.0	11.0	0.0